Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

October 6, 2004
NOC-AE-04001799
10CFR50.90

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN-499
Response to Request for Additional Information Regarding a
License Amendment Request for Approval of a Change in Analytical Methodology

Reference: Letter, T. J. Jordan to NRC Document Control Desk, "License Amendment Request for Approval of a Change in Analytical Methodology," dated May 13, 2003 (NOC-AE-03001450)

The referenced letter proposed to amend Operating Licenses NPF-76 and NPF-80 for the South Texas Project to allow the use of a revised methodology described in WCAP-14882-S1-P for the loss of normal feedwater/loss of offsite power transient analysis. STP Nuclear Operating Company (STPNOC) had determined that the proposed change required prior NRC approval as a departure from a methodology as described in 10CFR50.59(c)(2)(viii). During their review, the NRC staff requested additional information to allow the completion of their review. Responses to part of that requested information are provided in the attachments to this letter. The remaining responses will be provided in a separate letter in late October 2004.

Because Attachment 1 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 NRC and addresses with specificity the considerations listed in Section 10CFR 2.390(b)(4). Accordingly, it is respectfully requested that the information that is proprietary to Westinghouse be withheld from public disclosure in accordance with 10CFR2.390. Attachment 2 to this letter provides a non-proprietary version of the responses.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference the Westinghouse authorization letter (CAW-04-1900) 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.

AP01

STI: 31796740

If there are any questions regarding the additional information, please contact John Conly at (361) 972-7336 or me at (361) 972-7902.

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

Executed on October 6, 2004

T. J. Jordan
Vice President
Engineering & Technical Services

jtc

Attachments:
1. Response to Request of Additional Information (Proprietary)
2. Response to Request of Additional Information (Non-Proprietary)
3. Application for Withholding Proprietary Information from Public Disclosure

cc: without proprietary Attachment
(paper copy)

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ATTACHMENT 1

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (PROPRIETARY)

ATTACHMENT 2

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (NON-PROPRIETARY)

Response to Request for Additional Information
(Non-Proprietary)

1. The licensee states that the proposed analytical methods will be used for analyses of long-term heatup events such as loss of normal feedwater, loss of offsite power, and feedwater line break events. Please list all of the transient and accident analyses for which the proposed RETRAN thick metal mass heat transfer model and NOTRUMP - based steam generator mass calculation methods will be applied.

   Response:

   The proposed RETRAN thick metal mass heat transfer model and NOTRUMP-based steam generator mass calculation methods will only be applied to the analyses of long-term heatup events listed in the WCAP. These events are the loss of normal feedwater, loss of offsite power, and feedwater line break events.

2. WCAP-14882-S1-P, "RETRAN-02 Modeling and Qualification For Westinghouse Pressurized Water Reactors Non-LOCA Safety Analyses, Supplement 1 - Thick Metal Mass Heat Transfer Model and NOTRUMP-Based Steam Generator Mass Calculation Method," Revision 0, provides the technical basis for the proposed analytical methods. This WCAP provides discussions and analyses which are generic. Please justify the application of these methodologies for South Texas Units 1 and 2. Are there any restrictions or limitations associated with the application of these proposed analytical methods for South Texas Units 1 and 2?

   Response:

   The thick metal model discussed in WCAP-14882-S1-P uses the generic nodalization model for the reactor coolant system (RCS) discussed in WCAP-14882-P-A and applied to a wide range of plants, including Westinghouse-designed 2-loop, 3-loop and 4-loop plants, Framatome-designed 3-loop plants and adapted for CE-designed plants. Given that the approved RCS nodalization was used and given that a limited number of RCS nodes were credited in the thick metal model, the model is an acceptable model to be used in the South Texas Unit 1 and 2 safety analyses. The nodalization from WCAP-14882-P-A has been used consistently in the safety analyses, however future models may subdivide the hot leg into a 3-node arrangement to allow for more accurate interaction with the pressurizer. In the case that a 3-node hot leg would be used with the thick metal model discussed in WCAP-14882-S1-P, the hot leg metal masses would be appropriately distributed across the three nodes. Restrictions and limitations associated with the application of the thick metal model are those identified in WCAP-14882-P-A and to those accidents identified in the response to question #1.

3. Various versions of the RETRAN code have been reviewed and approved by the NRC staff. The staff generic safety evaluation reports (SERs) and technical evaluation reports (TERs) for the various RETRAN versions include a number of limitations, restrictions and items identified as requiring additional user justification regarding the use of RETRAN. As part of the staff's review of the Westinghouse RETRAN model (WCAP-14882-P-A), Westinghouse addressed these items through RAI responses which are documented in Appendix B of WCAP-14882-P-A. Do the proposed analytical modeling changes invalidate any of the responses to the RETRAN limitations, restrictions and items identified as requiring additional user justification in Appendix B of WCAP-14882-P-A?

   Response:

   No. As part of the creation of the thick metal model as discussed in WCAP-14882-S1-P, the RETRAN limitations, restrictions, and items identified requiring user justification in Appendix B were examined. This included such things as performing time step sensitivities, heat transfer coefficients sensitivities, etc., to ensure that the model is conservative in its application to the heatup transients previously identified. Again, for conservatism, a limited number of RCS nodes/RCS sections were considered.

Thick-Metal Mass Heat Transfer Model

4. Section 2.0 of WCAP-14882-S1-P, Revision 0, states that the simplified thick-metal mass heat transfer model used in the steam line break mass and energy release calculations would overestimate the heat transfer to the thick-metal and is inappropriate for use in the proposed application. Please discuss how the simplified thick-metal heat transfer model is different from the thick-metal mass model to be used in the heatup event calculations.

   Response:

   The primary difference is in the sub-nodalization applied to the metal lumps in the thick metal model. In the case of the steam line break mass and energy release calculations, the intent is to maximize the primary RCS heatup to thereby maximize the secondary side mass and energy release. Therefore, one node is assumed for each metal lump, which acts to rapidly transfer the energy in the thick metal masses to the RCS coolant. Conversely, since the intent of the thick metal model discussed in WCAP-14882-S1-P is to credit the thick metal masses to retard the heatup of the primary coolant, each thick metal node has sub-nodes such that the heat transfer from the coolant to the thick metal is conservatively minimized. In both instances, the model used is conservative in its intended application. The details of the thick metal model are presented in the approved LOFTRAN Thick Metal Mass Heat Transfer Models report (WCAP-7907-S1-P), which is referenced in WCAP-14882-S1-P.

5. Please discuss how the thick-metal mass heat transfer model is incorporated into RETRAN. Is any information written into the source code (hard-wired into the code) or is all information entered via user input options? Provide a listing and descriptions of the RETRAN input parameters needed to implement the thick-metal mass heat transfer model and discuss how any numerical values are calculated. Is this work performed under a quality assurance program?

Response:

To be provided later.

6. Heat transfer from the coolant to the RCS metal mass is modeled using the [ ]^{a,c} Please justify the application of the [ ]^{a,c} for each of the [ ]^{a,c} RCS metal mass regions included in the thick-metal mass heat transfer model and listed in Section 2.0 of WCAP-14882-S1-P, Revision 0.

Response:

RETRAN automatically applies an appropriate heat transfer correlation as warranted by the analysis conditions (e.g., at relatively high Reynold's numbers the [ ]^{a,c} correlation is used and at low Reynold's numbers the [ ]^{a,c} correlation is used). A review of the cases with natural circulation identified that RETRAN used the [ ]^{a,c} for all the regions. Additionally, the overall model is conservative in that only a portion of the RCS is modeled.

7. Heat transfer from the coolant to the RCS metal mass is modeled using the [ ]^{a,c} The form of this equation used in the LOFTRAN thick-metal mass heat transfer model (WCAP-7907-S1-P, Revision 1) applies an [

]^{a,c}

Response:

To be provided later.

8. Section 2.0 of WCAP-14882-S1-P, Revision 0, states that the RETRAN thick-metal mass heat transfer model includes [ ] [a,c] RCS regions, with the metal mass associated with each region [ ] [a,c] The LOFTRAN thick-metal mass heat transfer model (WCAP-7907-S1-P, Revision 1) incorporates the same RCS regions, but each region can contain [ ] [a,c]

   a. Please clarify the definition of node and subnode as used in the RETRAN topical report WCAP-14882-S1-P, Revision 0. Are they consistent with the terms metal sections and lumps as used in the LOFTRAN topical report WCAP-7907-S1-P, Revision 1?

      Response:

      To be provided later.

   b. Please discuss the sensitivity studies performed to determine that this noding configuration option for the RETRAN model are acceptable.

      Response:

      To be provided later.

   c. As described in the LOFTRAN topical report WCAP-7907-S1-P, each metal section can be modeled as [ ] [a,c] Please describe the geometric configurations available in the RETRAN model.

      Response:

      To be provided later.

   d. Please discuss the approach used to determine which geometry should be applied to a particular metal section, the number of metal sections which should be modeled in each region, and the number of lumps to use in each metal section.

      Response:

      To be provided later.

   e. Please provide the South Texas specific input deck for the RETRAN thick-metal mass heat transfer model. The information requested in RAI 5 above will be used to interpret this model input.

Response:

To be provided later.

9. In the RETRAN thick-metal mass heat transfer model, [ ] [a,c] Please provide a discussion of the sensitivity studies performed and the results obtained which justify the use of all [ ] [a,c] materials.

Response:

Sensitivity studies have indicated an insignificant difference in the results.

10. Section 2.0 of WCAP-14882-S1-P, Revision 0, states that the RETRAN thick-metal mass heat transfer model uses material properties (e.g., density, thermal conductivity, specific heat capacity) that vary with temperature, whereas the LOFTRAN thick-metal mass heat transfer model (WCAP-7907-S1-P, Revision 1) incorporates [ ] [a,c] of the metal. Please provide a table of the material property values as a function of temperature, and discuss how these values are incorporated into the RETRAN thick-metal mass heat transfer model. Include a reference for the material property values.

Response:

To be provided later.

11. Section 3.3 of the LOFTRAN thick-metal mass heat transfer model topical report (WCAP-7907-S1-P, Revision 1) discusses the initialization calculations performed for the LOFTRAN thick-metal mass heat transfer model. Please provide a discussion of the initialization assumptions and calculations performed for the RETRAN thick-metal mass heat transfer model.

Response:

The fluid temperature of the volume in contact with the conductor (i.e., metal) is used to define the steady-state conditions of the thick metal mass.

12. At some point in the calculation, the RCS metal mass could "saturate" such that no further energy can be transferred to the metal. Please discuss how this situation is accounted for in the RETRAN thick-metal mass heat transfer model.

Response:

When the RCS metal mass temperature approaches the temperature of the RCS fluid at that corresponding location, the heat transfer to the metal mass is reduced. When the conditions are such that the RCS metal mass "saturates," no additional heat is transferred to the metal mass.

13. Please discuss how the RETRAN thick-metal mass heat transfer model accounts for a feedwater line break that involves two-phase discharge. Include a discussion of the impacts on the results of interest for this type of break including RCS pressure, Pressurizer water level and DNBR.

Response:

Heat transfer to the thick metal mass only occurs on the primary and the primary conditions are currently limited to subcooled conditions. Likewise for the "other" heatup events analyzed, there is no two-phase flow in the primary system throughout the events. Therefore, there is nothing specific to the feedline break event that would affect the thick-metal mass model.

14. WCAP-14882-S1-P, Revision 0 provides the technical basis for the proposed RETRAN thick-metal mass heat transfer model. This topical report does not provide any information regarding verification or validation of the proposed RETRAN thick-metal mass heat transfer model. Please provide a discussion of the work performed to verify that the model performs as expected and that the amount of energy transferred to and absorbed by the RCS metal is accurate and realistic. Include results of any comparisons made to test data or other benchmarking, and demonstrate that the RETRAN thick-metal mass heat transfer model is not overestimating heat transfer to the RCS metal.

Response:

To be provided later.

15. The RETRAN thick-metal mass heat transfer model accounts for convection and conduction heat transfer. Other heat transfer mechanisms exist (radiation heat transfer) that could influence the energy transferred to the RCS metal and the RCS metal temperatures. Please discuss how any other heat transfer mechanisms impact the results of the RETRAN thick-metal mass heat transfer model.

Response:

Radiation heat transfer is not modeled since the effect would be small in comparison to the energy lost to the containment atmosphere.

The effect of heat losses from the RCS to the containment environment is conservatively ignored in the non-LOCA analyses.

16. Are heat losses from the pressurizer modeled as part of the RETRAN thick-metal mass heat transfer model? Modeling these heat losses would be non-conservative for the heatup events for which the thick-metal mass heat transfer model is being applied. If such losses are modeled and credited, please quantify the conservatism associated with this approach.

Response:

[ ]a,c

NOTRUMP-Based Steam Generator Mass Calculation Method

17. The licensee states that WCAP-9230 was submitted to the NRC along with, and makes reference to, WCAP-9236, and has since been accepted by the NRC as an approved methodology for analyzing feedwater line break transients on many plant-specific licensing applications. Please provide a reference to a similar license amendment request where this methodology has been accepted by the staff. This would assist the staff in its review.

Response:

To be provided later.

18. Both the licensees submittal and WCAP-14882-S1-P, Revision 0 reference WCAP-9236, "NOTRUMP, A Nodal Transient Steam Generator and General Network Code," dated February 1978. NOTRUMP was reviewed and approved by the staff in 1985 under WCAP-10079-P-A, "NOTRUMP, A Nodal Transient Small Break and General Network Code." Why is WCAP-9236 referenced rather than the approved WCAP-10079-P-A?

Response:

To be provided later.

19. Section 3.1 of WCAP-14882-S1-P, Revision 0, states that the application of the steam generator masses in the RETRAN analysis is similar to the method currently employed in the analyses of secondary-side transients using the LOFTRAN computer code. Please provide a reference to the staff approval of the application of this methodology using LOFTRAN.

    Response:

    To be provided later.

20. Section 3.1 of WCAP-14882-S1-P, Revision 0, states that using the NOTRUMP code will result in more realistic but conservative secondary side steam generator water masses. Please discuss how this methodology remains conservative.

    Response:

    To be provided later.

21. Please discuss how the following elements are addressed in the NOTRUMP-Based Steam Generator Mass Calculation Method:

    a. Heat transfer between the primary and the secondary side once the steam generator tubes begin to uncover.

       Response:

       The NOTRUMP-based steam generator mass calculations are used to define the mass in the steam generators at the time of reactor trip, which is well before steam generator tube bundle uncovery occurs. In the RETRAN model, when the steam generator tubes are uncovered, the heat transfer from the primary to the secondary degrades.

    b. Steam superheating once the steam generator tubes begin to uncover.

       Response:

       Again, this is beyond the point where the NOTRUMP-based steam generator mass calculations are used.

    c. Steam generator secondary side water level/inventory calculation after the low water level trip is reached.

Response:

The water level indication is not tracked following receipt of the low water level trip. The mass inventory is strictly a mass balance calculation.

d. Feedwater line break discharge quality and the associated impact on the transient.

Response:

The feedwater line discharge quality calculated by RETRAN is nearly identical to NOTRUMP before the feedring uncovers. Following feedring uncovery and reactor trip, the RETRAN-calculated discharge quality is more conservative than NOTRUMP since the RETRAN-calculated discharge quality is lower. This maximizes the mass discharge out of the break and thereby maximizes the RCS heatup.

22. Figures 3-1 to 3-3 of WCAP-14882-S1-P, Revision 0 illustrate the nodalization of the plant-specific Westinghouse NOTRUMP steam generator model, and Table 3-1 provides a description of the fluid node composition. Was this steam generator model previously reviewed and approved by the staff as part of the NOTRUMP model review? Also, please discuss any plant-specific changes incorporated for application of the model to South Texas Units 1 and 2.

Response:

To be provided later.

23. Section 3.2 of WCAP-14882-S1-P, Revision 0, states that the plant-specific NOTRUMP steam generator model has been benchmarked against a Westinghouse thermal-hydraulic steam generator steady-state performance code, which has been extensively compared to actual plant data. Please provide the name of this code, and discuss the types of actual plant data used for the comparisons. Also, discuss the NOTRUMP steam generator model performance and comparisons to any available plant data under transient conditions.

Response:

The steam generator steady-state performance code is the GENF computer code which has been used by Westinghouse for years to define steam generator design and performance characteristics. The types of actual plant/test data that the code has been compared against includes [ ]
a,c as well as ensuring that both primary and secondary side volumes/dimensions are verified.

24. Table 3.2 of WCAP-14882-S1-P, Revision 0, provides a comparison of the NOTRUMP model results with a Westinghouse thermal-hydraulic steam generator steady-state performance code. The comparisons are made for key system parameters for one steady state data point only, and certainly the differences between the two codes are small. Please provide similar comparisons which cover the expected range of application of the NOTRUMP code for the purpose described in this License Amendment Request. Also, please provide the technical basis for acceptance of the calculated differences between the two codes.

Response:

To be provided later.

25. Section 3.3 of WCAP-14882-S1-P, Revision 0, discusses the method used to calculate and apply the NOTRUMP steam generator masses to RETRAN. Initially, the RETRAN steam generator mass is initialized [

]a,c

a. Please discuss the use of computational time steps for this methodology and how transient time differences between the two computer codes are accounted for.

Response:

To be provided later.

b. Figure 3-10 provides a plot of total steam generator mass, and shows a linear decrease over time. Are the NOTRUMP steam generator masses calculated at only two state points (initial conditions and low-low level reactor trip setpoint)? If so, please justify any assumptions on steam generator mass for times between these two state points, and for times after the reactor trip.

Response:

To be provided later.

c. Please discuss how the NOTRUMP steam generator masses (liquid, steam and total) are input to the RETRAN model. Please provide a sample of the RETRAN input.

Response:

To be provided later.

d. The report states that the [ ]a,c in the RETRAN steam generator model could be used as an alternative method for increasing the mass on the secondary side of the steam generator. Please discuss how this would be accomplished and the modeling changes necessary to implement this method. Would the expected results be the same as for [ ]a,c

Response:

To be provided later.

e. Figures 3-5 to 3-10 are labeled as being for a LOAC event. The text of Section 3.3 states that these figures are for a loss of feedwater event. Please clarify.

Response:

To be provided later.

f. Please discuss the significance of the [ ]a,c Why is this different from the NOTRUMP results?

Response:

To be provided later.

g. Please discuss the modeling changes made to the RETRAN steam generator level trip function to compensate for changes in the steam generator volume / mass, and to allow this trip function to activate on mass rather than level. Discuss how these changes are verified to be functioning properly.

Response:

To be provided later.

26. The licensee provides results for the Loss of Normal Feedwater Flow event reanalysis which incorporates the proposed methodology changes. To remove some of the conservatism in the steam generator water mass, the NOTRUMP steam generator water mass calculation increases the initial secondary side steam generator water level. This is demonstrated in revised UFSAR Figure 15.2-10, as the transient is initialized with

approximately [ ]^{a,c} of additional mass. Table 15.2-1 provides the sequence of events for the reanalysis, and shows that the low-low steam generator water level trip occurs approximately 10 seconds earlier than in the previous RETRAN analysis (without the higher initial steam generator mass). Please discuss why the low-low steam generator water level trip occurs earlier in the updated analysis with a higher initial steam generator mass.

Response:

It occurs earlier because in addition to [

]^{a,c}

27. Please provide similar discussions and results of the reanalyses for the other events for which the methodology of WCAP-14882-S1-P will be applied. Include results which demonstrate that the acceptance criteria for these events, as listed NUREG-0800, "Standard Review Plan" will be satisfied.

Response:

The only other event that the models described in WCAP-14883-S1-P will be utilized for is the feedline break event, which results in the same type of transient as the loss of normal feedwater event; that is, the initial SG mass decreases until the low-low SG water level reactor trip setpoint (modeled as a total mass value) is reached.

28. Energy discharged from a feedwater line break into containment can lead to heatup and subsequent flashing in the steam generator level instrumentation reference legs. Please discuss how this effect and the associated false high steam generator level indication is accounted for in the NOTRUMP - based steam generator water level calculation.

Response:

The effects of the energy discharge from the feedwater line break into containment and on the SG instrumentation reference legs are accounted for in the uncertainty calculations for the low-low SG water level reactor trip setpoint. An allowance is specifically included for the effects of reference leg heatup. The safety analyses typically use a low-low steam generator water level setpoint corresponding to 0% of span for this reason. The plant value would then be defined to include instrumentation uncertainties, adverse environmental effects, and any reference leg heatup effects. This is the reason that the safety analyses typically have two different setpoints, one for the loss of normal feedwater events where an adverse environment does not exist, and one for the feedline

break event where an adverse environment can affect the indicated low-low steam generator water level setpoint.

29. We understand that analyses using a stand alone NOTRUMP model of the South Texas steam generators will be used to determine the steam generator water mass that will be present when a low level reactor trip occurs. This mass will then be used to set the reactor trip logic in the RETRAN model that will be used to analyze plant response to loss of feedwater, loss of offsite power and feedwater line breaks. The NOTRUMP computer code has many options for calculating bubble rise in the fluid nodes and drift flux in the flow links. These models will affect the water mass calculated to be in a steam generator. Please identify which models will be used to determine steam generator water mass for analysis of loss of feedwater, loss of offsite power and feedwater line breaks. Justify that these models have been verified to be accurate for the conditions that would occur within the South Texas steam generators during these events.

Response:

To be provided later.

30. For analysis of feedwater line breaks using NOTRUMP, please discuss the models used to predict break flow and liquid entrainment from the broken steam generator. Justify that the models are conservative for determining the low level trip water mass to be input into RETRAN. Provide a comparison of the break flow rate predicted by NOTRUMP to that predicted by RETRAN.

Response:

To be provided later.

31. We understand that the RETRAN model of the South Texas steam generators utilizes homogeneous mixing below the steam separators and assumes perfect separation of above the steam separators. The feedwater lines are below the steam separators so that the fluid entering a postulated broken feedwater line would be in the homogeneous flow condition. The assumption of homogeneous flow would be conservative for calculating reactor system overheating following a feedwater line beak. We also understand that break flow is calculated using the [ ]^{a,c} options which are also conservative. Please verify that the staff's understanding is correct or discuss the conservatism of other models that are used.

Response:

To be provided later.

ATTACHMENT 3

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Westinghouse

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

U.S. Nuclear Regulatory Commission
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Our ref: CAW-04-1900

September 28, 2004

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: NOTRUMP/Thick Metal Mass Program: Westinghouse Reponses to NRC Requests for Additional Information (RAIs) – Phase I (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-04-1900 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 STP Nuclear Operating Company.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-04-1900, 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, NRC
E. Peyton, NRC

bcc: J. A. Gresham (ECE 4-7A) 1L
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)

CAW-04-1900

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 28th day
of September, 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 NOTRUMP/Thick Metal Mass Program: Westinghouse Reponses to NRC Requests for Additional Information (RAIs) – Phase I (Proprietary), dated September 2004 being transmitted by STP Nuclear Operating Company 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 South Texas Project Nuclear Operating Company is expected to be applicable for other licensee submittals in response to certain NRC requirements for justification of licensing new or updated methodologies.

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

(a) Provide information in support of licensing new or updated methodologies.

(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 licensing new or updated methodologies.

(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, analysis, 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).