

PROPRIETARY



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

August 31, 2010

U7-C-STP-NRC-100198

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 No. PROJ0772
Response to Request for Additional Information

Reference: Letter from Tekia Govan to Mark McBurnett, "Request for Additional Information Regarding South Texas Project Nuclear Operating Company Topical Report WCAP-17065-P, Revision 0, Westinghouse Advanced Boiling Water Reactor Subcompartment Analysis Using GOTHIC," August 3, 2010 (ML102150358, Non-public)

Attached are the responses to NRC staff questions included in the referenced letter. Attachments 1 and 2 complete the response to this letter and address the following questions:

RAI-1
RAI-2

As part of the response to RAI-1, two identical, proprietary compact discs (CDs) providing the requested digitized values are enclosed with this letter. When separated from the enclosed CDs, this letter, including Attachments 1, 2, and 3, is non-proprietary.

The enclosed CDs are for use by the NRC solely in connection with NRC review of WCAP-17065-P. These CDs are not in a format that meets pre-flight requirements. Since these CDs are proprietary in their entirety, no non-proprietary versions are provided. The NRC may not use these CDs for any other purpose, and may not make copies of these CDs. The information on the CDs may not be made available in the Public Document Room or in the Agency Document Access and Management Systems (ADAMS), either externally or internally. Upon completion of NRC review, proprietary information from, or derived from, the CDs should be irretrievably deleted from any computer outside the control of Westinghouse.

Attachment 3 contains the application for withholding of proprietary information and affidavit

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in accordance with 10 CFR 2.390. Correspondence with respect to the copyright or proprietary aspects of this information or the supporting Westinghouse Affidavit should reference letter CAW-10-2932 and should be addressed to: B. F. Maurer, Manager, ABWR Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

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 8/31/10



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

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Attachments:

1. RAI-1
2. RAI-2
3. Application for Withholding of Proprietary Information

Enclosure:

Digitized Data for RAI-1 (two identical copies on CD)

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

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U. S. Nuclear Regulatory Commission
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Rockville, MD 20852-2738

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Eli Smith
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Peter G. Nemeth
Crain, Caton & James, P.C.

Richard Peña
Kevin Pollo
L. D. Blaylock
CPS Energy

RAI-1**QUESTION:**

In order to perform subcompartment confirmatory analyses, please provide both mass and energy release rates data and the complete list of geometrical data used in the GOTHIC analysis, including the list of all of the thermal-hydraulic options used in the STP ABWR analysis. A copy of the GOTHIC input used for the sub-compartment licensing calculations is also being requested.

RESPONSE:

The mass and energy release rate data used in the GOTHIC analysis are provided in the enclosed CD titled "Mass and Energy Release Data for RAI-1 WCAP-17065". The data in this CD are proprietary.

The geometrical data used in the GOTHIC analysis are provided in Appendix A to WCAP-17065. These include such steam tunnel parameters as: volumes, heights, and base elevations. These also include such vent path parameters as: flow areas, hydraulic diameters, and inertial lengths. This represents all of the relevant geometrical data that would be needed to perform a subcompartment confirmatory analysis.

The thermal-hydraulic options such as choked flow modeling, compressibility, drop-to-liquid conversion, and drop size, which would be needed to perform a confirmatory analysis, are also provided in Appendix A to WCAP-17065.

The GOTHIC subcompartment calculations in support of WCAP-17065, which would include all of the GOTHIC input used for the sub-compartment licensing calculations, can be made available in the Westinghouse Reading Room for NRC review.

RAI-2**QUESTION:**

The April 29, 2010, Topical Report for ABWR subcompartment analysis discusses the use of GOTHIC and the subcompartment methodology for plants other than ABWR. For example, Section 7.0 Conclusions discusses "The first application of this new subcompartment design analysis methodology is expected to be for the ABWR; however this methodology could be used for subcompartment design analyses for any plant." The application of this methodology has not been justified for plants other than the ABWR.

Please revise the April 29, 2010 Topical Report to make clear that it is only applicable to subcompartment analysis for ABWR.

RESPONSE:

The April 29, 2010 Topical Report, WCAP-17065-P Revision 0, titled "Westinghouse ABWR Subcompartment Analysis Methodology Using GOTHIC", is requesting NRC approval to apply the GOTHIC methodology for subcompartment analysis for only the ABWR.

In response to this RAI, WCAP-17065-P will be revised as shown in the markup below of Revision 0 of that report with gray shading highlighting the changes.

1 INTRODUCTION AND BACKGROUND

A subcompartment design analysis methodology that uses the GOTHIC code is described in this report. Westinghouse is planning to use GOTHIC for future containment analysis work. Using a single code for containment analyses will simplify code maintenance and user qualification activities. Furthermore, TMD has modeling limitations that do not exist in GOTHIC.

The GOTHIC code qualification report (Reference 4) compares model results to a number of tests that represent conditions similar to those that would be observed in a typical subcompartment analysis. This provides a significant level of confidence that GOTHIC is a suitable tool for performing subcompartment analyses. To provide an additional level of confidence, Westinghouse performed a benchmark comparison to the approved TMD subcompartment analysis methodology using GOTHIC and TMD models of the ABWR steam tunnel subcompartment configuration that is described in the ABWR DCD.

The purpose of this report is to document and demonstrate the Westinghouse implementation of the GOTHIC subcompartment analysis methodology for the ABWR. This document provides:

7 CONCLUSIONS

A new analysis code/methodology is required to perform future ABWR subcompartment design analyses. The GOTHIC code has been selected to perform these analyses.

This Licensing Topical Report provides a description of the methodology intended to be used to perform the ABWR subcompartment design analyses with GOTHIC. The methodology is consistent with the SRP requirements listed in Section 6.2.1.2 of NUREG-0800.

The GOTHIC code qualification report (Reference 4) provides a comparison of the code results to subcompartment test data. The good comparison that is presented in the report demonstrates that the code contains the required modeling capabilities needed to perform subcompartment design analyses.

A benchmark transient comparison with the U.S. NRC approved subcompartment analysis code TMD further qualifies the application of the GOTHIC subcompartment design analysis methodology. The GOTHIC model results compare very well to the TMD benchmark analysis results.

The first application of this new subcompartment design analysis methodology is expected to be for the ABWR; ~~however, this methodology could be used for subcompartment design analyses for any plant.~~ The results from a representative GOTHIC ABWR steam tunnel model are provided to demonstrate the application of the methodology for the ABWR.



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WEC-STP-2010-0031

CAW-10-2932

August 30, 2010

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Mass & Energy Release Data for RAI-1 WCAP-17065-P (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-10-2932 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.

The subject document was prepared and classified as Westinghouse Proprietary Class 2. Westinghouse requests that the document be considered proprietary in its entirety. As such, a non-proprietary version will not be issued.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by South Texas Project Nuclear Operating Company.

Correspondence with respect to the proprietary aspects of this application for withholding or the accompanying affidavit should reference CAW-10-2932 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,

A handwritten signature in black ink, appearing to read 'B. F. Maurer'.

B. F. Maurer, Manager
ABWR Licensing

Enclosures

cc: T. Govan (NRC TWFN 6 D38M)

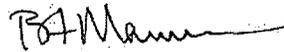
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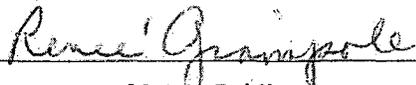
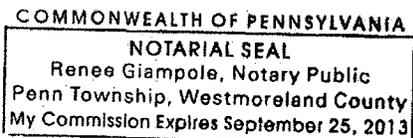
COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared B. F. Maurer, 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:



B. F. Maurer, Manager
ABWR Licensing

Sworn to and subscribed before me
this 30th day of August 2010


Notary Public

- (1) I am Manager, ABWR 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 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 "Mass & Energy Release Data for RAI-1 WCAP-17065 (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 in response to the NRC's request for additional information related to their review of WCAP-17065.

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

- (a) Assist the customer in obtaining NRC review of the Westinghouse subcompartment analysis methodology as applied to ABWR plant designs.

Further this information has substantial commercial value as follows:

- (a) Westinghouse plans to sell the use of this information to its customers for purposes of plant specific subcompartment analysis methodology development for ABWR licensing basis applications.
- (b) Its use by a competitor would improve their competitive position in the design and licensing of a similar product for ABWR setpoint methodology.
- (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 technical evaluations 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 is the proprietary version of a document furnished to the NRC in connection with requests for generic and/or plant specific review and approval. The document is to be considered proprietary in its entirety.

COPYRIGHT NOTICE

The report transmitted herewith bears a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in this report which is necessary for its internal use in connection with generic and plant specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.