



Westinghouse
Electric Corporation

Water Reactor
Divisions

Nuclear Technology Division

Box 355
Pittsburgh Pennsylvania 15230

December 10, 1982

AW-82-72

Dr. Cecil O. Thomas, Chief
Standardization and Special Projects Branch
Division of System Integration
U.S. Nuclear Regulatory Commission
Phillips Building
7920 Norfolk Avenue
Bethesda, Maryland 20014

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

SUBJECT: Response to Questions on WCAP-9863

REF: Westinghouse Letter No. NS-EPR 2690, Rahe to Thomas, dated
December 10, 1982

Dear Dr. Thomas:

The proprietary material transmitted by the reference letter is in response to questions on the subject WCAP.

The affidavit that justified the material previously submitted, AW-76-8 dated July 19, 1976, is equally applicable to this material and was approved by the Commission by letter Stolz to Wiesemann, dated November 9, 1977.

Accordingly, withholding the subject information from public disclosure is requested in accordance with the previously submitted affidavit and application for withholding, AW-76-8.

Correspondence with respect to this application for withholding or the accompanying affidavit should reference AW-82-72, and should be addressed to the undersigned.

Very truly yours,

Robert A. Wiesemann, Manager
Regulatory & Legislative Affairs

/kk
Attachment

cc: E. C. Shomaker, Esq.
Office of the Executive Legal Director, NRC

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared Robert A. Wiesemann, 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 Corporation ("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:

Robert A. Wiesemann
Robert A. Wiesemann, Manager
Licensing Programs

Sworn to and subscribed
before me this 11th day
of August 1976.

James J. [Signature]
Notary Public

REC'D
LIC
LIC COMMISSION EXPIRES APR. 15, 1978

- (1) I am Manager, Licensing Programs, in the Pressurized Water Reactor Systems Division, of Westinghouse Electric Corporation 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 or rule-making proceedings, and am authorized to apply for its withholding on behalf of the Westinghouse Water Reactor Divisions.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.790 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 Nuclear Energy Systems 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 2.790 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.
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- (g) It is not the property of Westinghouse, but must be treated as proprietary by Westinghouse according to agreements with the owner.

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 which 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 in 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.
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- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.790, it is to be received in confidence by the Commission.
- (iv) The information is not available in public sources 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 the attachment to Westinghouse letter number NS-CE-1139, Eichelddinger to Stolz, dated July 19, 1976, concerning supplemental information for use in the Augmented Startup and Cycle 1 Physics Program. The letter and attachment are being submitted as part of the above mentioned program in response to concerns of the Advisory Committee on Reactor Safeguards with the new Westinghouse PWR's, which are rated at higher power densities than currently operating Westinghouse reactors.

This information enables Westinghouse to:

- (a) Justify the Westinghouse design correlations.
- (b) Assist its customers to obtain licenses.
- (c) Provide greater flexibility to customers assuring them of safe reliable operation.
- (d) Optimize performance while maintaining a high level of fuel integrity.

- (e) Justify operation at a reduced peaking factor with a wider target band than normal.
- (f) Justify full power operation and meet warranties.

Further, the information gained from the Augmented Startup and Cycle 1 Physics Program is of commercial value and is sold for considerable sums of money as follows:

- (a) Westinghouse uses the information to perform and justify analyses which are sold to customers.
- (b) Westinghouse uses the information to sell to its customers for the purpose of meeting NRC requirements for full power licensing.
- (c) Westinghouse could sell testing services based on the experience gained and the analytical methods developed using this information.

Public disclosure of this information concerning the Augmented Startup program is likely to cause substantial harm to the competitive position of Westinghouse by allowing its competitors to develop similar analysis methods and models at a much reduced cost.

The analyses performed, their methods and evaluation represent a considerable amount of highly qualified development effort, which has been underway for many years. If a competitor were able to use the results of the analyses in the attached document, to normalize or verify their own methods or models, the development effort and monetary expenditure required to achieve an equivalent capability would be significantly reduced. In total, a substantial amount of money and effort has been expended by Westinghouse which could only be duplicated by a competitor if he were to invest similar sums of money and provided he had the appropriate talent available.

Further the deponent sayeth not.

Response to Questions on WCAP-9863/9864

- 1) Assuming a correct measurement of the test bank, and therefore, a correct measurement of the reference bank, the capability of discerning an error in the test bank predictions, in terms of $(\frac{T_m - T_p}{T_p}) \times 100$, can only be affected by some change in the [

] + a, c

] + a, c

Based on the foregoing discussion, prediction errors in T_p of $\pm 10\%$, $\pm 15\%$ or $\pm 20\%$, and prediction errors in R_p of $\pm 5\%$ or $\pm 10\%$ are expected to change the capability of correctly discerning values of

$$\left(\frac{T_m - T_p}{T_p} \right) \times 100 \text{ by less than } [\quad]^{+a,c}.$$

2) The measurement error in test bank worth, in terms of $\left(\frac{T_m - T_p}{T_p}\right) \times 100$, is

An example of this is the Four-Loop data presented in the reference report, Table 4.3. The first measurement of the reference bank worth yielded a value

These data provide information helpful in determining the existence of a significant experimental bias.

3) An apparent difference between T_m and T_p , as indicated by a non-zero value of $(\frac{T_m - T_p}{T_p}) \times 100$ for a test bank, can have some contribution due to [

] +a,c



This relationship is [

] +a,c

4) If T_p contains [

]^{+a,c}

The error in T_m could be [

]^{+a,c}

5) A value of 10% for $(\frac{R_m - R_D}{R_D}) \times 100$ can indicate that [

] ^{a,c} the

resultant impact on $(\frac{T_m - T_D}{T_D}) \times 100$ will be [

] ^{a,c}

a,c

(1) Henderson, W. B., "Results of the Control Rod Worth Program," WCAP-9217 (Proprietary), WCAP-9218 (Non-proprietary), October, 1977.

One further note is made with respect to the discussion of large measurement errors. Rod Swap affords the designer a diagnosis luxury that is rare in the measurement world -- [

] ^{a,c} Any diagnosis of a Rod Swap test can refer to this secondary comparison to ensure consistency with the reference bank reactivity measurement. For this reason the hypothetical measurement error of 10%, which is very unlikely to begin with, is even more unlikely to go undetected. The consequence of this unlikely scenario happening, as discussed above, would be an increased likelihood of triggering a designer review.