



Westinghouse
Electric Corporation

Water Reactor
Divisions

Box 300
Pittsburgh Pennsylvania 15230

September 17, 1982
AW-82-55

Mr. Carl H. Berlinger, Chief
Core Performance Branch
Division of Systems Integration
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Phillips Building
7920 Norfolk Avenue
Bethesda, Maryland 20014

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

SUBJECT: Westinghouse Position on Regulatory Guide 1.92, "Combining Modal Responses and Spatial Components in Seismic Response Analysis" for Fuel Assembly Structural Analysis

REF: Westinghouse Letter No. NS-EPR-2658, Rahe to Meyer, dated September 17, 1982

Dear Mr. Berlinger:

The proprietary material transmitted by the reference letter establishes the Westinghouse position regarding Regulatory Guide 1.92 as it applies to Westinghouse fuel assembly structural analysis, and is of the same technical type as previously submitted concerning the Westinghouse Optimized Fuel Assembly Testing/Analyses Program (Reference: NS-TMA-2057, dated March 30, 1979). Further, the affidavit submitted to justify the material previously submitted, AW-78-23, is equally applicable to this material.

Accordingly, withholding the subject information from public disclosure is requested in accordance with the previously submitted affidavit and application for withholding, AW-78-23, dated March 21, 1978, a copy of which is attached.

Correspondence with respect to this application for withholding or the accompanying affidavit should reference AW-82-55, and should be addressed to the undersigned.

Very truly yours,


Robert A. Wiesemann, Manager
Regulatory & Legislative Affairs

/bek
Attachment

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

8210260351 820917
PDR TOPRP EMVWEST
C PDR

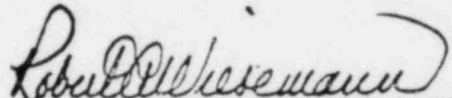
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

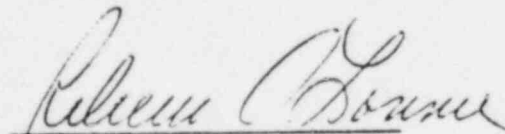
SS

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, Manager
Licensing Programs

Sworn to and subscribed
before me this 10 day
of March 1978.


Notary Public

RECORDED

19

1 217 66

1978

AW-79-23

- (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 rulemaking 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.

Criteria and Standards Utilized

In determining whether information in a document or report is proprietary, the following criteria and standards are utilized by Westinghouse. Information is proprietary if any one of the following are met:

- (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 of a similar product.
- (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

AW-78-23

- (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.
 - (g) It is not the property of Westinghouse, but must be treated as proprietary by Westinghouse according to agreements with the owner.
- (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 are the copies of slides utilized by Westinghouse in its presentation to the NRC at the March 21, 1978 meeting concerning the Westinghouse optimized fuel assembly. The letter and the copies of slides are being submitted in preliminary form to the Commission for review and comment on the Westinghouse optimized fuel assembly in advance of a formal submittal for NRC approval.

Public disclosure of this information is likely to cause substantial harm to the competitive position of Westinghouse as it would reveal the description of the approved design, the comparison of the improved design with the standard design, the nature of the tests conducted, the test conditions, the test results and the conclusions of the testing program.

all of which is recognized by the Staff to be of competitive value and because of the large amount of effort and money expended by Westinghouse over a period of several years in carrying out this particular development program. Further, it would enable competitors to use the information for commercial purposes and also to meet NRC requirements for licensing documentation, each without purchasing the right from Westinghouse to use the information.

Information regarding its development programs is valuable to Westinghouse because:

- (a) Information resulting from its development programs 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.

AW-78-23

- (e) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

Being an innovative concept, this information might not be discovered by the competitors of Westinghouse independently. To duplicate this information, competitors would first have to be similarly inspired and would then have to expend an effort similar to that of Westinghouse to develop the design.

Further the deponent sayeth not.

WESTINGHOUSE POSITION ON REGULATORY GUIDE 1.92
AS IT APPLIES TO FUEL ASSEMBLY STRUCTURAL ANALYSIS

The reactor core is analyzed as a decoupled system with respect to the two lateral orthogonal directions and the input forcing function is obtained from a separate reactor pressure vessel and internal analysis. The maximum horizontal input motion congruent with the core principal axis is used to determine the fuel dynamic loads. Since the simultaneous applications of two orthogonal grid loads would improve the grid load strength, the present method of evaluating the grid based on the maximum unidirectional impact load is conservative. The mechanical properties of the grid such as the external (through-grid) stiffness and the grid internal stiffness, which are designated as K_g and K_s respectively in the typical reactor core models, are not expected to increase significantly under the simultaneous load condition.

In addition, the maximum bending stresses of the fuel assembly lateral support components are limited since the fuel assembly maximum lateral deflection is controlled and constrained by the core boundary. Therefore, any statistically combined fuel assembly deflections which exceed the maximum limits would result in stresses that are unduly conservative and inconsistent with respect to the core lateral constraints. Current seismic analyses show that the maximum fuel assembly deflection occurs [

] The amount of space available for fuel assembly deflections perpendicular to the major deflection axis is generally small. If it is assumed that the fuel assembly was simultaneously deflected to values corresponding to the maximum available space based on the system constraints and fuel assembly radial clearances, the increase in the fuel assembly maximum deflection would be less than [] for two and three loop plants and approximately [] for 4 loop plants. Since the fuel assembly primary structural components such as guide thimbles and fuel rods are circular tubes, the increase in stress would be very small []. In view of the large stress margins for these components*, a two directional analysis in the horizontal plane is not required. The fuel assembly stresses due to the vertical loads are combined absolutely with the laterally induced stresses for the

+a,c
+a,c
+a,c
+a,c

* Refer to page 4-2 of WCAP-8236, "Safety Analysis of the 17x17 Fuel Assembly for Combined Seismic and Loss-of-Coolant Accident".

respective limiting accidents. Consequently, the resultant fuel assembly forces, moments and relative displacements determined by these procedures, meet the intent of Section 2.2 of Reg. Guide 1.92.