



Westinghouse  
Electric Corporation

Energy Systems

Box 355  
Pittsburgh Pennsylvania 15230-0355

March 31, 1993  
CAW-93-436

Document Control Desk  
US Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Dr. Thomas Murley, Director

**APPLICATION FOR WITHHOLDING PROPRIETARY  
INFORMATION FROM PUBLIC DISCLOSURE**

Subject: "Responses to NRC Questions Regarding the Boron Concentration Reduction Program"  
at the R. E. Ginna Station

Dear Dr. Murley:

The proprietary information for which withholding is being requested in the above-referenced letter is further identified in Affidavit CAW-93-436 signed by the owner of the proprietary information, Westinghouse Electric Corporation. 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 2.790 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Rochester Gas and Electric Corporation.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-93-436, and should be addressed to the undersigned.

Very truly yours,

N. J. Liparulo, Manager  
Nuclear Safety & Regulatory Activities

TJKitchen/cld

cc: Kevin Bohrer/NRC (12H5)

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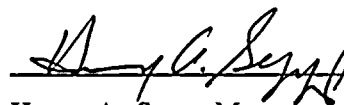
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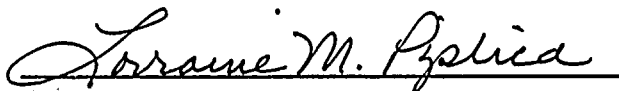
Before me, the undersigned authority, personally appeared Henry A. Sepp, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Corporation ("Westinghouse") and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



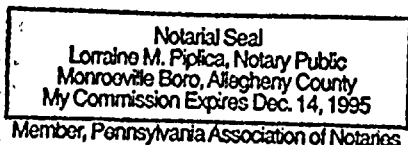
Henry A. Sepp, Manager

Strategic Licensing Issues

Sworn to and subscribed  
before me this 1<sup>st</sup> day  
of April, 1993



Notary Public





- (1) I am Manager, Strategic Licensing Issues, in the Nuclear and Advanced Technology Divisions, of the 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 and rulemaking proceedings, and am authorized to apply for its withholding on behalf of the Westinghouse Energy Systems Business Unit.
- (2) I am making this Affidavit in conformance with the provisions of 10CFR 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 the Westinghouse Energy Systems Business Unit 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.

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 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 10CFR Section 2.790, 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 responses to the NRC regarding questions regarding the boron concentration reduction program , March 31 1993 for the R. E. Ginna Station being transmitted by the Rochester Gas and Electric Company (RGE) letter and Application for Withholding Proprietary Information from Public Disclosure, to Document Control Desk, Attention Dr. Thomas Murley. The proprietary information as submitted for use by the Rochester Gas and Electric Company for the R. E. Ginna Station is expected to be applicable in other licensee submittals in response to certain NRC requirements for justification of Boron Reduction Programs.

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

- (a) Provide documentation of the methods used for implementing boron reduction programs.
- (b) Establish the applicable analytical technologies.
- (c) Assist the customer in obtaining NRC approval.

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.
- (b) Westinghouse can sell support and defense of the technology to its customers in the licensing process.

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 methodologies 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 for developing analytical methods.

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 2.790 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) contained within parentheses 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 2.790(b)(1).

## Copyright Notice

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are 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 2.790 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. The NRC is not authorized to make copies for the personal use of members of the public who make use of the NRC public document rooms. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.



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**Westinghouse Class 3**

**Responses to NRC Questions Regarding the  
Boron Concentration Reduction Program**

**Westinghouse Electric Corporation  
Engineering Technology Division  
P.O. Box 355  
Pittsburgh, PA 15230-0355**

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## **Summary of Conservatisms Removed from the R. E. Ginna 1985 Steamline Break Analysis**

Introduction - The R. E. Ginna Steamline Break analyses to support a reduction in the BAST boron concentration included several assumptions that were different than those made in the 1985 analyses. These refined assumptions resulted from a closer working relationship between Westinghouse and Rochester Gas & Electric and a better understanding of the transient by both organizations. Following is a summary of these revised assumptions that account for the differences in the final results of the 1985 and 1992 analyses.

Off-site power availability - One of the overly conservative assumptions that was made in the 1985 analysis is with respect to the availability of off-site power. [

]a,b,c

Reactivity Feedback Coefficients - A second methodology enhancement was made in the assumed reactivity feedback coefficients. LOFTRAN utilizes a point kinetics model, which uses reactivity feedback coefficients to calculate the kinetics conditions in the core. Steamline break transients initialized at hot zero power assume rodged reactivity feedback coefficients with an allowance for the most reactive Rod Cluster Control Assembly (RCCA) stuck in its fully withdrawn position. Steamline break transients initiated with the reactor at power typically assume End-Of-Life (EOL) reactivity coefficients calculated assuming that all RCCAs are fully withdrawn which is the case with the 1985 analyses. For these analyses, [

]a,b,c

Westinghouse Class 3

Main Feedwater Flow Rates -[

]a,b,c

The final 1992 analyses resulted in less main feedwater flow delivered to the faulted steam generator prior to feedline isolation than was assumed in the 1985 analyses.

Auxiliary Feedwater Flow Rate -[

]a,b,c

### Westinghouse Class 3

Initial Steam Generator Water Level - The uncertainty assumed on the steam generator water level when calculating the initial steam generator mass was reduced from 5% NRS to 3.5% NRS. This has the greatest impact on cases initiated at part power.

Steamline Check Valves -[

]a,b,c

Safety Injection Flow Rates - The Safety Injection flow rates assumed in the 1992 analyses are slightly higher than those assumed in the 1985 analyses. This has a small effect since the purpose of the analysis was to reduce the boron concentration in the Safety Injection. The lower the SI boron concentration, the smaller the impact of changes in SI flow rates.

Miscellaneous Containment Model Improvements - Since the 1985 analysis, improvements to the values of initial conditions and various containment heat removal systems have been supported by RG&E and have been taken credit for in the containment response model.

There have been significant improvements to the containment spray system. Spray flow per pump was increased from 1200 GPM to 1300 GPM per pump. Because two spray pumps are available for cases without a containment failure, the total spray flow increase was 200 GPM for these cases. The sprays become functional earlier in the boron reduction than the 1985 analysis due to a reduction in both the setpoint and delays. The sum of the spray setpoint plus pressure uncertainties has been decreased from 33.5 psig to 32.5 psig. The delay time from when the spray setpoint is reached to full operation of the sprays has been reduced from 35.5 seconds to 27.3 second with two spray pumps and 28.5 seconds with one spray pump.

Heat sinks inside containment and the thermal physical properties of steel and concrete have been revised to be more complete and accurate, and therefore offer more heat removal than the heat sinks used in 1985. The properties of stainless steel have been included in the 1992 model. The previous analysis substituted carbon steel properties for stainless steel items.

In the 1992 analysis, the fan coolers were initiated on a safety injection signal when a safety injection signal was reached before the Containment High Pressure signal. This offered a small benefit for only the upstream double ended rupture cases, where the safety injection signal is reached less than a second before the Containment High Pressure signal.

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