



South Carolina Electric & Gas Company
P.O. Box 88
Jenkinsville, SC 29065
(803) 345-4040

John L. Skolds
Vice President
Nuclear Operations

FEB 06 1991

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. G. F. Wunder

Gentlemen:

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION
DOCKET NO. 50/395
OPERATING LICENSE NO. NPF-12
STEAM GENERATOR TUBE DENTING (IEB 880002)

In a letter dated June 13, 1990, South Carolina Electric & Gas Company (SCE&G) notified the NRC that magnetite had been identified in one (1) tube of Steam Generator "C" at the Virgil C. Summer Nuclear Station (VCSNS). As noted in that letter, long-term corrective measures (i.e., cable damping) addressed in NRC Bulletin No. 88-02, "Rapidly Propagating Fatigue Cracks in Steam Generator Tubes," had already been implemented at VCSNS during the fifth refueling outage (1990). This action affected seven (7) tubes identified in an analysis by Westinghouse Electric Corporation.

This letter forwards copies of WCAP-12592 (Proprietary) and WCAP-12593 (Non-proprietary), "V. C. Summer Evaluation for Tube Vibration Induced Fatigue" to facilitate the review of this issue. Also enclosed are a Westinghouse authorization letter (CAW-90-080), accompanying affidavit, Proprietary Information Notice, and Copyright Notice.

Please note that there is a difference in the interpretation of the fourth refueling outage (October 1988) eddy current data between SCE&G and Westinghouse. The Westinghouse review of eddy current data found eleven (11) tubes which they could not conclusively demonstrate to be magnetite free. Following the identification of these tubes by Westinghouse, SCE&G re-analyzed the data and found no evidence of magnetite. These reviews of eddy current data by SCE&G, which utilize approved standards developed by EPRI for analysis calibration, did subsequently identify magnetite in one (1) steam generator tube during the next refueling outage. This difference in eddy current interpretation is not considered significant because SCE&G had previously decided to cable damp any susceptible tubes as a preventative measure during the fifth refueling outage.

9102130191 910206
PDR ADOCK 05000395
R PDR

APOL
1/11 Prop - WCAP 12592
1 NP - WCAP 12593

Change REC POR Hrs End
1 IMP

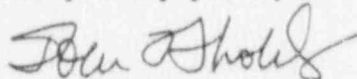
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IEB 880002
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As WCAP-12592 contains information proprietary to Westinghouse Electric Corporation, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of Section 2.790 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse Affidavit should reference CAW-90-080 and should be addressed to R. A. Wieseemann, Manager of Regulatory & Legislative Affairs, Westinghouse Electric Corporation, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

If you have any questions in regard to this submittal, please advise.

Very truly yours,



John L. Skolds

CJM:JLS:lcd
Enclosures

c: (w/o Enclosures)
O. W. Dixon Jr.
R. R. Mahan
R. J. White
S. D. Ebnetter
G. F. Wunder
General Managers
NRC Resident Inspector
J. B. Knotts Jr.
NSRC
RTS (IEB 880002)
File (815.02)

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.

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. The proprietary information has been deleted in the non-proprietary versions and only the brackets remain. The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (g) 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 Section (4)(ii)(a) through (4)(ii)(g) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.790(b)(1).

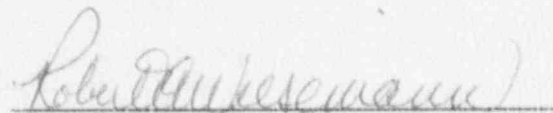
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

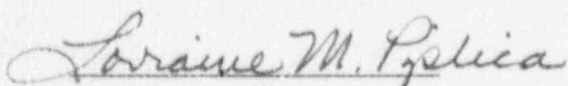
COUNTY OF ALLEGHENY:

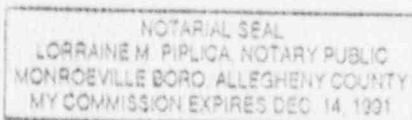
Before me, the undersigned authority, personally appeared Robert A. Wiesemann, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Corporation ("Westinghouse") and that the averments of fact set forth in this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



Robert A. Wiesemann, Manager
Regulatory and Legislative Affairs

Sworn to and subscribed
before me this 18th day
of October, 1990.


Notary Public



- (1) I am Manager, Regulatory and Legislative Affairs, in the Nuclear and Advanced Technology Division, 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.
- (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 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 "V. C. Summer Evaluation for Tube Vibration Induced Fatigue", WCAP-12592, (Proprietary), for Virgil C. Summer Nuclear Station, being transmitted by South Carolina Electric & Gas Company (SCE&G) letter and Application for Withholding Proprietary Information from Public Disclosure, J. L. Skolds, SCE&G, to the Document Control Desk, Attention Dr. Thomas Murley, Director Office of Nuclear Reactor Regulation, dated October, 1990. The proprietary information as submitted for South Carolina Electric & Gas Company for the Virgil C. Summer Nuclear Station is expected to be applicable in other licensee submittals in response to certain NRC requirements for justification of actions to minimize the potential for rapidly propagating fatigue cracks causing a steam generator tube rupture.

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

- (a) Provide documentation of the analysis, methods and testing for reaching a conclusion relative to the potential for denting induced fatigue degradation at the top tube support plate.
- (b) Establish the tube stiffness, frequency, and fluid-elastic stability ratios by dynamic analysis of various tubes.
- (c) Establish the effects on fluid-elastic instability of columnwise variations in anti-vibration bar insertion depths.
- (d) Establish the detailed flow conditions in the region of interest including flow velocities, densities, and void fractions.
- (e) Assist the customer to obtain 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 customer 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 documentation 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 Commission 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 the developing, testing and analytical methods and performing tests.

Further the deponent sayeth not.