

THE CINCINNATI GAS & ELECTRIC COMPANY



E. A. BORGMANN  
SENIOR VICE PRESIDENT

Docket No. 50-358

December 1, 1980

Mr. Harold Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

RE: WM. H. ZIMMER NUCLEAR POWER STATION -  
UNIT 1 - LP TURBINE DISC INFORMATION

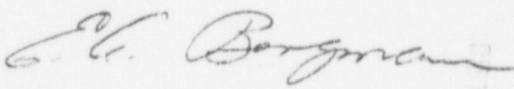
Dear Mr. Denton:

Mr. R. L. Tedesco's letter dated September 10, 1980 requested Zimmer LP turbine disc information. I am submitting under separate cover a response to that letter which contains information proprietary to the Westinghouse Electric Corporation.

Pursuant to 10 C.F.R. Section 2.790(b)(1), enclosed herewith is an Application for Withholding Proprietary Information From Public Disclosure, together with an affidavit supplied by Westinghouse Electric Corporation. Also enclosed are six copies of the response to the September 10, 1980 letter with the information for which proprietary treatment is claimed deleted.

Very truly yours,

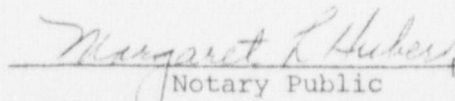
THE CINCINNATI GAS & ELECTRIC COMPANY

By   
E. A. BORGMANN  
Senior Vice President

David K. Martin  
Robert A. Jones  
Andrew B. Dennison

State of Ohio )  
County of Hamilton) ss

Sworn to and subscribed before me this  
1st day of December, 1980.

  
MARGARET L. HUBER  
Notary Public  
Notary Public, State of Ohio  
My Commission Expires Aug. 12, 1982

EAB:dew  
Enclosure  
cc: Charles Bechhoefer  
Glenn O. Bright  
Frank F. Hooper  
Troy B. Conner, Jr.  
James P. Fenstermaker  
Steven G. Smith  
William J. Moran  
J. Robert Newlin  
William G. Porter, Jr.  
James D. Flynn  
F. T. Daniels  
W. Peter Heile  
James H. Feldman, Jr.  
John D. Woliver  
Mary Reder

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SERVICES UNIT

A



Westinghouse  
Electric Corporation

Power Generation  
Group

Steam Turbine Division

Lester Branch Box 9175  
Philadelphia Pennsylvania 19113

AW-80-30

November 24, 1980

Mr. Harold R. Denton, Director  
Office of Operating Reactors Regulation  
Attn: R. L. Tedesco, Asst. Dir.  
of Licensing  
US NRC  
Washington, D.C. 20555

APPLICATION FOR WITHHOLDING PROPRIETARY  
INFORMATION FROM PUBLIC DISCLOSURE

SUBJECT: Cincinnati Gas & Electric Co. - Zimmer Unit #1  
Docket #50-358  
Turbine Disc Material Properties

Dear Mr. Tedesco:

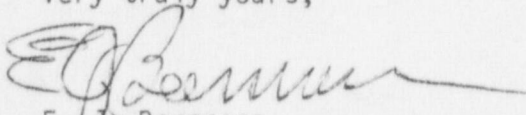
This application for withholding is submitted by Westinghouse Electric Corporation ("Westinghouse") pursuant to the provisions of paragraph (b) (1) of Section 2.790 of the Commission's regulations. Withholding from public disclosure is requested with respect to the subject information which is further identified in the affidavit accompanying this application.

The undersigned has reviewed the information sought to be withheld and is authorized to apply for its withholding on behalf of Westinghouse, STG.

The affidavit accompanying this application 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 this application for withholding or the accompanying affidavit should be addressed to the undersigned.

Very truly yours,

  
E. J. Barsness  
Low Pressure Disc Task Force

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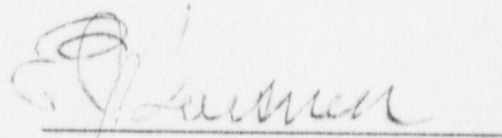
Ref: AW-80-30

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF DELAWARE:

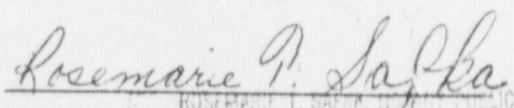
Before me, the undersigned authority, personally appeared R. W. Gaul, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Corporation ("Westinghouse") and that the averments of fact set forth in this Affidavit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



E. J. Barsness, Manager

Low Pressure Disc Task Force

Subscribed and attested before me  
on the 25th day of November, 1980.



4C0401c

ROSEMARIE P. SAJKA, Notary Public  
TINICUM TWP. DELAWARE COUNTY  
MY COMMISSION EXPIRES JULY 16, 1983  
Member, Delaware Valley Association of Notaries

- (1) I am Manager, in the Steam Turbine Generator 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, and am authorized to apply for its withholding on behalf of the Westinghouse Power Generation 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 Power Generation Divisions 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 competitive economic advantage, e.g., by optimization or improved marketability.

- (c) Its use by a competitor would reduce his expenditure or 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.
- (h) Public disclosure of this information would allow unfair and untruthful judgments on the performance and reliability of Westinghouse equipment components and

improper comparison with similar components made by competitors.

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 maintaining a competitive advantage.
- (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 and enclosed with the letter from E. A. Borgmann to H. R. Denton, dated Dec. 1, 1980 concerning information in response to NRC request for information relative to low pressure turbine disc integrity.

The information enables Westinghouse to:

- (a) Develop test inputs and procedures to satisfactorily verify the design of Westinghouse supplied equipment.

- (b) Assist its customers to obtain licenses.

Further, the information has substantial commercial value as follows:

- (a) Westinghouse can sell the use of this information to customers.
- (b) Westinghouse uses the information to verify the design of equipment which is sold to customers.
- (c) Westinghouse can sell services based upon the experience gained and the test equipment and methods developed.

Public disclosure of this information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to design, manufacture, verify, and sell electrical equipment for commercial turbine-generators without commensurate expenses. Also, public disclosure of the information would enable others having the same or similar equipment to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

## EXPLANATION OF L.P. TURBINE

### DISC INFORMATION

#### COMPUTER PRINT OUTS

#### SECTION A - UNIT IDENTIFICATION

1. Building Block - This is a generic designation for Westinghouse Turbines. Each Building Block number represents a different machine in terms of design.
2. Unit - This is the name of the particular unit for which disc properties are given.
3. Customer - This is the owner of the above listed unit.
4. LP # - This indicates which low pressure rotor that particular disc as identified by A5 & A6 has been installed on.
5. Location - Refers to which end (governor and generator) of the rotor the disc is on.
6. Disc # - This indicates which axial location the disc occupies. The discs are numbered in sequence starting with the disc at the steam inlet to the low pressure turbine, continuing until the exhaust.
7. Test No. - This is the identification number stamped on disc.

#### SECTION B - MATERIAL PROPERTIES (HUB)

1. Type - This is a Westinghouse designation to identify different material specification for individual discs. Also listed is the minimum yield strength specified for that type of disc. (in KSI units).
2. Supplier - This is the steel manufacture who supplied the disc forging to Westinghouse.
3. Y.S. (KSI) - Yield strength of the disc hub.
4. U.T.S. (KSI) - Ultimate strength of the disc hub.
5. Elongation - The elongation is given in %.
6. R.A. - This stands for the reduction in area.
7. FATT - The Fracture Appearance Transition Temperature. This is the temperature at which charpy impact specimen have a failure mode of 50% ductile and 50% brittle.

(O V E R)

#### SECTION G - SERVICE DATA

1. Oper. Temp. Metal Temp. Hub (Deg. F) - This is the keyway metal temperature for that specific disc.
2. Estimated MAX DA/DT (in/hr.) - This is the crack growth rate for that specific disc. It is based on service experience and is a function of disc keyway metal temp. and specific yield strength of each disc. A regression analysis is done on this data and an upper bound curve is established with 90% confidence.
3. Estimated MAX DA/DT (in / month) - This is the same as above only using months instead of hours (730 hrs. / month).

#### SECTION H - INSPECTION STATUS

1. Operating time at inspection (hrs.) - This is the estimated operating hours on the rotor at the time of a U.T. disc inspection.
2. Keyway crack depth (max.) - (in.) - This is the maximum depth of all cracked keyway in that specific disc. This depth includes the .060 due to U.T. instrumentation resolution.
3. Bore crack depth (max.) - (in.) - This is the maximum depth of all bore cracks in that specific disc. It also includes the .060 due to U.T. instrumentation resolution.
4. Disc status - This refers to any change that has been made to the disc proper. This includes keyway enlargement and disc removal.