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Georgia Power
the southern electric system

J. T. Beckham, Jr.
Vice President and General Manager
Nuclear Generation

NED-84-496

September 19, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. John F. Stolz, Chief
Operating Reactors Branch No. 4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNITS 1, 2
FEEDWATER NOZZLE FRACTURE MECHANICS ANALYSES

Gentlemen:

By letter dated June 30, 1983, Georgia Power Company (GPC) advised you of the preliminary results of the fracture mechanics analyses performed for the feedwater nozzles for Hatch Units 1 and 2. The subject analyses were performed for the Hatch units pursuant to NUREG-0619 as amended by NRC Generic Letter 81-11 in order to determine the acceptability of continued use of the existing feedwater low flow controllers. Continued use of the existing low flow controllers was acceptable provided that crack growth as determined by the fracture mechanics analysis was one-inch or less for a forty-year plant life. The purpose of this letter is to transmit the final results of the fracture mechanics analyses for Hatch Units 1 and 2.

The results of the fracture mechanics analysis performed by General Electric (GE) for Hatch Unit 1 indicate that the feedwater nozzle crack growth would be less than one-inch during the forty-year life of the unit. The best-fit crack growth relationship (using a best-fit curve developed from actual fatigue crack growth) resulted in an end-of-life crack depth of 0.47 inch, whereas the ASME Section XI crack growth relationship (developed using the 1980 ASME Section XI fatigue crack growth curves) resulted in a 0.82 inch depth. Therefore, the existing Hatch Unit 1 feedwater low flow controller is in compliance with NUREG-0619 as amended by NRC Generic Letter 81-11 and is acceptable for continued use. Enclosed for your review are six (6) copies of proprietary GE topical report NEDE-30238 for Hatch Unit 1 which discusses the fracture mechanics analysis in detail and the results thereof.

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The results of the fracture mechanics analysis performed by GE for Hatch Unit 2 were unacceptable in that crack growth of the feedwater nozzle would exceed one-inch during the forty-year life of the unit. Re-analysis by GE indicated similar results. The best-fit crack growth relationship resulted in a one-inch crack after 33 years of operation, while the ASME Section XI crack growth relationship resulted in a one-inch crack depth after 13 years of operation. Therefore, the existing feedwater low flow controller at Hatch Unit 2 is not in compliance with NUREG-0619 as amended by Generic Letter 81-11 and requires corrective action by GPC. Enclosed for your review are six (6) copies of proprietary GE topical report NEDC-30256 for Hatch Unit 2 which discusses the fracture mechanics analysis in detail and the results thereof.

With regard to corrective action for the Hatch Unit 2 feedwater low flow controller, please be advised that we are in the process of reviewing the various recommendations made by GE. At this time, no course of action has been determined with regard to modification or replacement of the subject equipment. Upon determination of what course of action to pursue, we will advise you accordingly and provide a schedule for implementation.

Please be advised that the topical reports of the Hatch Unit 1 and 2 fracture mechanics analyses were not issued by GE to GPC in non-proprietary form. Consequently, the topical reports enclosed herein contain information which the General Electric Company customarily maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to General Electric, as indicated in the attached affadavits, and it is hereby requested that GE topical reports NEDE-30238 and NEDC-30256 for Hatch Units 1 and 2, respectively, be withheld from public disclosure in accordance with the provisions of 10 CFR 2.790.

Should you have any questions in this regard, please contact this office.

Georgia Power

J. T. Beckham, Jr. states that he is Vice President of Georgia Power Company and is authorized to execute this oath on behalf of Georgia Power Company, and that to the best of his knowledge and belief the facts set forth in this letter are true.

GEORGIA POWER COMPANY

By: J. T. Beckham, Jr.

Sworn to and subscribed before me this 19th day of September, 1984.

Notary Public, Georgia, State at Large
My Commission Expires Sept. 18, 1987

Notary Public

JAE/mb

Enclosures: Affadavit for NEDE-30238
NEDE-30238 (6 copies)
Affadavit for NEDC-30256
NEDC-30256 (6 copies)

xc: H. C. Nix, Jr.
Senior Resident Inspector
J. P. O'Reilly, (NRC-Region II)
Director, Office of Inspection and Enforcement (Washington)

GENERAL ELECTRIC COMPANY

AFFIDAVIT

I, Glenn G. Sherwood, being duly sworn, depose and state as follows:

1. I am Manager, Nuclear Safety and Licensing Operation, General Electric Company, and have been delegated the function of reviewing the information described in paragraph 2 which is sought to be withheld and have been authorized to apply for its withholding.

2. "Edwin I. Hatch, Nuclear Power Station, Unit 2, Feedwater Nozzle Fracture Mechanics Analysis", NEDC-30256, August, 1983.

3. In designating material as proprietary, General Electric utilizes the definition of proprietary information and trade secrets set forth in the American Law Institute's Restatement Of Torts, Section 757. This definition provides:

> "A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business and which gives him an opportunity to obtain an advantage over competitors who do not know or use it.... A substantial element of secrecy must exist, so that, except by the use of improper means, there would be difficulty in acquiring information.... Some factors to be considered in determining whether given information is one's trade secret are: (1) the extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and to his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others."

4. Some examples of categories of information which fit into the definition of proprietary information are:

   a. Information that discloses a process, method or apparatus where prevention of its use by General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;

   b. Information consisting of supporting data and analyses, including test data, relative to a process, method or apparatus, the application of which provide a competitive economic advantage, e.g., by optimization or improved marketability;

c. Information which if used 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. Information which reveals cost or price information, production capacities, budget levels or commercial strategies of General Electric, its customers or suppliers;

e. Information which reveals aspects of past, present or future General Electric customer-funded development plans and programs of potential commercial value to General Electric;

f. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection;

g. Information which General Electric must treat as proprietary according to agreements with other parties.

5. In addition to proprietary treatment given to material meeting the standards enumerated above, General Electric customarily maintains in confidence preliminary and draft material which has not been subject to complete proprietary. technical and editorial review. This practice is based on the fact that draft documents often do not appropriately reflect all aspects of a problem, may contain tentative conclusions and may contain errors that can be corrected during normal review and approval procedures. Also, until the final document is completed it may not be possible to make any definitive determination as to its proprietary nature. General Electric is not generally willing to release such a document to the general public in such a preliminary form. Such documents are, however, on occasion furnished to the NRC staff on a confidential basis because it is General Electric's belief that it is in the public interest for the staff to be promptly furnished with significant or potentially significant information. Furnishing the document on a confidential basis pending completion of General Electric's internal review permits early acquaintance of the staff with the information while protecting General Electric's potential proprietary position and permitting General Electric to insure the public documents are technically accurate and correct.

6. Initial approval of proprietary treatment of a document is made by the Subsection Manager of the originating component, the man most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within the Company is limited on a "need to know" basis and such documents at all times are clearly identified as proprietary.

7. The procedure for approval of external release of such a document is reviewed by the Section Manager, Project Manager, Principal Scientist or other equivalent authority, by the Section Manager of the cognizant Marketing function (or his delegate) and by the Legal Operation for technical content, competitive effect and determination of the accuracy of the proprietary designation in accordance with the standards enumerated above. Disclosures outside General Electric are generally limited to regulatory bodies, customers and potential customers and their agents,

suppliers and licensees only in accordance with appropriate regulatory provisions or proprietary agreements.

8. The document mentioned in paragraph 2 above has been evaluated in accordance with the above criteria and procedures and has been found to contain information which is proprietary and which is customarily held in confidence by General Electric.

9. The information contained herein is the result of extensive analyses performed at considerable cost to the General Electric Company. The development and verification of these methods, as well as their application and execution cost in excess of $1 million.

STATE OF CALIFORNIA)
COUNTY OF SANTA CLARA) ss:

Glenn G. Sherwood, being duly sworn, deposes and says:

That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at San Jose, California, this 7 day of August, 1984.

Glenn G. Sherwood
General Electric Company

Subscribed and sworn before me this 7 day of August 1984.

Karen S. Vogelhuber
NOTARY PUBLIC, STATE OF CALIFORNIA

csc/I08024

OFFICIAL SEAL
KAREN S. VOGELHUBER
NOTARY PUBLIC - CALIFORNIA
SANTA CLARA COUNTY
My Commission Expires Dec. 21, 1984

GENERAL ELECTRIC COMPANY

AFFIDAVIT

I, Ricardo Artigas, being duly sworn, depose and state as follows:

1. I am Manager of BWR Projects Licensing, General Electric Company, and have been delegated the function of reviewing the information described in paragraph 2 which is sought to be withheld and have been authorized to apply for its withholding.

2. The information sought to be withheld is contained in the report entitled, "Edwin I. Hatch Nuclear Power Station, Unit 1, Feedwater Nozzle Fracture Mechanics Analysis to Show Compliance with NUREG-0619," NEDE-30238.

3. In designating material as proprietary, General Electric utilizes the definition of proprietary information and trade secrets set forth in the American Law Institute's Restatement Of Torts, Section 757. This definition provides:

> "A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business and which gives him an opportunity to obtain an advantage over competitors who do not know or use it.... A substantial element of secrecy must exist, so that, except by the use of improper means, there would be difficulty in acquiring information.... Some factors to be considered in determining whether given information is one's trade secret are: (1) the extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and to his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others."

4. Some examples of categories of information which fit into the definition of proprietary information are:

   a. Information that discloses a process, method or apparatus where prevention of its use by General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;

   b. Information consisting of supporting data and analyses, including test data, relative to a process, method or apparatus, the application of which provide a competitive economic advantage, e.g., by optimization or improved marketability;

c. Information which if used 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. Information which reveals cost or price information, production capacities, budget levels or commercial strategies of General Electric, its customers or suppliers;

e. Information which reveals aspects of past, present or future General Electric customer-funded development plans and programs of potential commercial value to General Electric;

f. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection;

g. Information which General Electric must treat as proprietary according to agreements with other parties.

5. In addition to proprietary treatment given to material meeting the standards enumerated above, General Electric customarily maintains in confidence preliminary and draft material which has not been subject to complete proprietary, technical and editorial review. This practice is based on the fact that draft documents often do not appropriately reflect all aspects of a problem, may contain tentative conclusions and may contain errors that can be corrected during normal review and approval procedures. Also, until the final document is completed it may not be possible to make any definitive determination as to its proprietary nature. General Electric is not generally willing to release such a document to the general public in such a preliminary form. Such documents are, however, on occasion furnished to the NRC staff on a confidential basis because it is General Electric's belief that it is in the public interest for the staff to be promptly furnished with significant or potentially significant information. Furnishing the document on a confidential basis pending completion of General Electric's internal review permits early acquaintance of the staff with the information while protecting General Electric's potential proprietary position and permitting General Electric to insure the public documents are technically accurate and correct.

6. Initial approval of proprietary treatment of a document is made by the Subsection Manager of the originating component, the man most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within the Company is limited on a "need to know" basis and such documents at all times are clearly identified as proprietary.

7. The procedure for approval of external release of such a document is reviewed by the Section Manager, Project Manager, Principal Scientist or other equivalent authority, by the Section Manager of the cognizant Marketing function (or his delegate) and by the Legal Operation for technical content, competitive effect and determination of the accuracy of the proprietary designation in accordance with the

standards enumerated above. Disclosures outside General Electric are generally limited to regulatory bodies, customers and potential customers and their agents, suppliers and licensees only in accordance with appropriate regulatory provisions or proprietary agreements.

8. The document mentioned in paragraph 2 above has been evaluated in accordance with the above criteria and procedures and has been found to contain information which is proprietary and which is customarily held in confidence by General Electric.

9. The detailed design data, test data, test instrumentation drawings, and test process data are considered proprietary.

10. The information, to the best of my knowledge and belief, has consistently been held in confidence by the General Electric Company, no public disclosure has been made, and it is not available in public sources. Also, disclosures to third parties have been made pursuant to Regulatory provisions for proprietary agreements which provide for maintenance of the information in confidence.

11. Public disclosure of the information sought to be withheld is likely to cause substantial harm to the competitive position of the General Electric Company and deprive or reduce the availability of profit making opportunities because approximately 6 manmonths and $100,000 in test facilities were required to obtain the information.

STATE OF CALIFORNIA)
COUNTY OF SANTA CLARA) ss:

Ricardo Artigas, being duly sworn, deposes and says:

That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at San Jose, California, this 1st day of September, 1983.

R Artigas

Ricardo Artigas
General Electric Company

Subscribed and sworn before me this 1st day of September 1983.

OFFICIAL SEAL
KAREN S. VOGELHUBER
NOTARY PUBLIC - CALIFORNIA
SANTA CLARA COUNTY
My Commission Expires Dec. 21, 1984

Karen S. Vogelhuber

NOTARY PUBLIC, STATE OF CALIFORNIA

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