GENERAL ELECTRIC

NUCLEAR ENERGY BUSINESS OPERATIONS
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August 12, 1985 MFN# 100-85

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: H. L. Thompson, Jr., Director
Division of Licensing

Gentlemen:

SUBJECT: IN THE MATTER OF 238 NUCLEAR ISLAND GENERAL ELECTRIC STANDARD SAFETY ANALYSIS REPORT (GESSAR II)
DOCKET NO. STN 50-447

SUBMITTAL OF A SUPPLEMENT TO THE PROPOSED DRAFT AMENDMENT SUPPORTING LEAK-BEFORE-BREAK APPROACH

Reference: 1) Glenn G. Sherwood to H. L. Thompson, Jr., "Submittal of Draft Amendment Supporting Leak-Before-Break Approach," April 26, 1985, MFN-054-85.

Attached is a supplement to the draft amendment to GESSAR II submitted by Reference 1 to support the leak-before-break (LBB) approach for BWRs. This supplement and the Reference 1 submittal are based upon (1) the recommendations of NUREG-1061, Volume 3 for the LBB mechanistic methodology, and (2) the probabilistic fracture mechanics methodology developed by the NRC's contractor Lawrence Livermore National Laboratory (LLNL) for prediction of a leak and a direct double ended guillotine break (DEGB). A second and final supplement will be submitted by September 20, 1985, and will complete the submittals necessary for the amendment.

The Reference 1 submittal included primarily the following:

1. The mechanistic methodology for stainless steel piping and its application to the recirculation system piping,

2. A general description of the probabilistic fracture mechanics methodology, and

3. A revision to current pipe break criteria for the piping excluded from the application of the LBB approach.

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This supplement includes similarly the following:

1. The mechanistic methodology for carbon steel piping and its application to the main steam piping, and

2. An update of the probabilistic fracture mechanistic methodology by incorporating tearing stability based failure criterion in the LLNL-developed PRAISE computer code sponsored by the NRC.

This supplement also includes a typical fatigue evaluation assuming an ASME Section XI allowable flaw at a weld between a discharge end of the recirculation system piping and the safe end. A detailed summary and explanation of the contents of the supplement is provided in the attachment.

We look forward to working with the NRC Staff on this important matter, and would be pleased to expedite our response as necessary so that the NRC Staff can complete the Safety Evaluation Report by November 29, 1985.

We request that the attached information designated as proprietary be withheld from public disclosure pursuant to Section 2.790 of 10CFR Part 2.

If you have any questions, please contact me on (408) 925-5040 or R. Villa of my staff on (408) 925-5722.

Very truly yours,

Glenn G. Sherwood, Manager
Nuclear Safety and Licensing Operation

GGS:cal/K08061

Attachment

cc: R. M. Bernero
G. C. Lainas
D. C. Scalleti
B. D. Liaw
J. A. O'Brien
R. w. Klecker
K. R. Wichman
L. S. Gifford (GE-Bethesda)

GENERAL ELECTRIC COMPANY

AFFIDAVIT

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

1. I am Manager, Licensing Services, 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 pertains to the proprietary information submitted in draft Appendices 3K, 3L and 3M supporting the leak-before-break approach for the 238 Nuclear Island General Electric Standard Safety Analysis Report (GESSAR II).

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 mentioned in paragraph 2 provides fracture mechanics and leak rate calculational methods, test data, qualification of piping for the leak-before-break approach, and the probability of a LOCA in reactor coolant system piping.

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. All disclosures to third parties have been made pursuant to regulatory provisions of 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:

    a. It was developed with the expenditure of resources exceeding $200,000.

    b. Public availability of this information would deprive General Electric of the ability to seek reimbursement, would permit competitors to utilize this information to General Electric's detriment, and would impair General Electric's ability to maintain licensing agreements to the substantial financial and competitive disadvantage of General Electric.

STATE OF CALIFORNIA)
COUNTY OF SANTA CLARA) ss:

R. 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 12th day of August, 1985.

R. Artigas
General Electric Company

Subscribed and sworn before me this 12th day of August 1985.

OFFICIAL SEAL
PAULA F HUSSEY
NOTARY PUBLIC - CALIFORNIA
SANTA CLARA COUNTY
My comm. expires JAN 13, 1989

Paula F. Hussey
NOTARY PUBLIC, STATE OF CALIFORNIA