

GENERAL ELECTRIC COMPANY, 175 CURTNER AVE., SAN JOSE, CALIFORNIA 95125  
MC 682, (408) 925-2606

July 27, 1982

U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Mr. Hal Bernard, Acting Chief  
Standardization and Special Projects Branch

Gentlemen:

SUBJECT: AMENDMENT 3 TO GENERAL ELECTRIC LICENSING TOPICAL REPORT  
NEDE-21175-P (BWR/6 FUEL ASSEMBLY EVALUATION OF COMBINED  
SAFE SHUTDOWN EARTHQUAKE (SSE) AND LOSS OF COOLANT ACCIDENT  
(LOCA) LOADINGS)

In response to an NRC request for information on the behavior of BWR fuel under combined Safe Shutdown Earthquake (SSE) and Loss-of-Coolant Accident (LOCA) Loadings, General Electric herewith submits Amendment 3 to General Electric Licensing Topical Report NEDE-21175-P. This report addresses the dynamic response of BWR fuel assemblies resulting from a combined SSE and LOCA event. This amendment has been prepared on behalf of the following BWRs: LaSalle, Perry, Zimmer, Clinton, Grand Gulf, Fermi 2, Shoreham, Hanford, and River Bend.

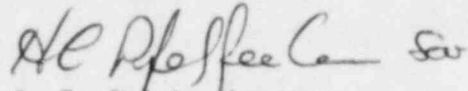
This amendment is separated into two sections. Section I provides a detailed discussion of an analytical model developed by General Electric which is used to calculate fuel dynamic response during a combined SSE and LOCA event and gives a bounding calculation for such a response. Section II of the amendment analyzes the capability of the General Electric BWR 4/5/6 fuel assembly structurally to withstand the dynamic loadings, assuming bounding input accelerations. The results of these analyses show the General Electric BWR 4/5/6 fuel response is within acceptable limits and the dynamic and impact loading capability is conservatively in excess of the predicted loads. The results of the analysis documented in this report bound the results calculated for the individual plants for which the report was prepared. The plant unique results are or will be contained in the appropriate section of the plant FSAR.

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Information contained in this Amendment is of the type which General Electric maintains in confidence and withholds from public disclosure. It has been handled and classified as proprietary by General Electric as indicated in the affidavit of Glenn G. Sherwood (Attachment A), and we

hereby request that it be withheld from public disclosure in accordance with the provisions of 10CFR2.790.

Very truly yours,



J. F. Quirk, Manager  
BWR Systems Licensing  
Nuclear Safety and Licensing Operation

JFQ:sem/B07221

Attachments

cc: R. O. Meyer (NRC) (w/att)  
L. S. Gifford (GE) (w/att)

ATTACHMENT A

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. The information sought to be withheld are those sections of Amendment 3 to General Electric Licensing Topical Report NEDE-21175-P, "BWR/6 Fuel Assembly Evaluation of Combined Safe Shutdown (SSE) and Loss-of-Coolant Accident (LOCA) Loadings," (Proprietary) which are marked with a vertical bar in the right hand margin of the individual pages.
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 material mentioned in Paragraph 2 above provides both an analytical model for the determination of potential BWR fuel movement from a combined Safe Shutdown Earthquake and Loss-of-Coolant Accident event and an engineering evaluation of the loadings on the fuel from such a combination of individual events. This model and analysis are proprietary to the General Electric Company.

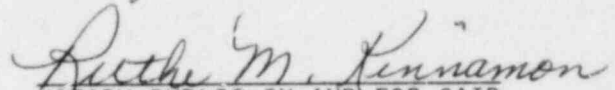
Glenn G. Sherwood, being duly sworn, deposes and says that he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at San Jose, California, this 27<sup>th</sup> day of July, 1982

  
 Glenn G. Sherwood  
 General Electric Company

STATE OF CALIFORNIA        )  
 COUNTY OF SANTA CLARA    ) ss:

Subscribed and sworn before me this 27<sup>th</sup> day of July 1982

  
 NOTARY PUBLIC IN AND FOR SAID  
 COUNTY AND STATE

GGs: sem/B06252  
 6/28/82



175 Curtner Avenue, San Jose, CA 95125