



GE Nuclear Energy

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MFN 04-037
March 30, 2004

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20852-2738

Attention: Chief, Information Management Branch
Program Management
Policy Development and Analysis Staff

Subject: **Submission of GE Proprietary Licensing Report NEDE-33143P,
"General Electric Boiling Water Reactor Detect and Suppress
Solution – APRM Based," March 2004**

The subject Licensing Topical Report (LTR) is being submitted for NRC review and approval. Several different stability long-term solution (LTS) options have been developed for Boiling Water Reactors (BWRs). The Detect and Suppress Solution – APRM Based (DSS-AB) relies on hardware and software for the automatic prevention of instability-related regional mode power oscillations and detection and suppression of core-wide mode power oscillations. It represents an evolutionary step from the stability LTS Option I-D. Its design features allow expansion of the solution applicability to reactor product lines other than Option I-D plants.

DSS-AB introduces modifications to the Average Power Range Monitor (APRM) flow-biased setpoints to prevent the occurrence of regional mode power oscillations and an APRM-based detection algorithm that reliably detects the inception of core-wide mode power oscillations and generates an early power suppression trip signal prior to significant oscillation amplitude growth and Minimum Critical Power Ratio (MCPR) degradation. This LTR provides a generic licensing basis for GE BWR/3 through BWR/6 product lines, GE14 and earlier GE fuel designs, and operating envelopes up to and including Extended Power Uprate (EPU) and Maximum Extended Load Line Limit Analysis Plus (MELLLA+). A standard procedure is identified for plant-specific confirmations of reload designs and other design changes that may affect the DSS-AB generic licensing basis.

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Please note that Enclosure 1 contains proprietary information of the type that GE maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to GE as indicated in the Enclosure 3 affidavit. GE hereby requests that this information be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17. A non-proprietary version of the LTR is provided in Enclosure 2.

If you have any questions about the information provided here please contact James Harrison at (408) 925-2253, or myself.

Sincerely,



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Manager, Regulatory Services
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NRC Project No. 710

Enclosures:

- 1) NEDE-33143P, Revision 0, *General Electric Boiling Water Reactor Detect and Suppress Solution – APRM Based*, March 2004 (Proprietary Information)
- 2) NEDO-33143, Revision 0, *General Electric Boiling Water Reactor Detect and Suppress Solution – APRM Based*, March 2004 (Non-Proprietary Information)
- 3) Affidavit by George B. Stramback, dated March 30, 2004

cc: AB Wang (NRC)
JF Harrison (GE/San Jose)
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I Nir (GE/San Jose)
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Enclosure 3

MFN 04-037

NEDE-33143P

DSS-AB APPLICATION
AFFIDAVIT

General Electric Company

AFFIDAVIT

I, **George B. Stramback**, state as follows:

- (1) I am Manager, Regulatory Services, General Electric Company ("GE") 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 GE proprietary report NEDE-33143P, *General Electric Boiling Water Reactor Detect and Suppress Solution – APRM Based*, Class III (GE Proprietary Information), dated March 2004. The proprietary information is delineated by a double underline inside double square brackets. Figures and large equation objects are identified with double square brackets before and after the object. In each case, the superscript notation⁽³⁾ refers to Paragraph (3) of this affidavit, which provides the basis for the proprietary determination.
- (3) In making this application for withholding of proprietary information of which it is the owner, GE relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4), and 2.390(a)(4) for "trade secrets" (Exemption 4). The material for which exemption from disclosure is here sought also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).
- (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, including supporting data and analyses, 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 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;
 - c. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, resulting in potential products to General Electric;

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

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a., and (4)b, above.

- (5) To address 10 CFR 2.390 (b) (4), the information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GE, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GE, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within GE is limited on a "need to know" basis.
- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the 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. Disclosures outside GE are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information identified in paragraph (2), above, is classified as proprietary because it contains detailed results of analytical models, methods and processes, including computer codes, which GE has developed, and applied to perform stability evaluations using the detection and suppression capability of the APRM-based detection algorithm for the BWR.

The development of the detection and suppression capability of the APRM-based detection algorithm for the BWR was achieved at a significant cost, in excess of ¼ million dollars, to GE.

The development of the evaluation process along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GE asset.

- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GE's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GE's comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods.

The research, development, engineering, analytical and NRC review costs comprise a substantial investment of time and money by GE.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

GE's competitive advantage will be lost if its competitors are able to use the results of the GE experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to GE would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GE of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on this 30th day of March 2004.


George B. Stramback
General Electric Company