



GE Energy

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MFN 05-079

Project 717

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U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555-0001

**Subject: GE Licensing Topical Report NEDE-33197P, "Gamma Thermometer System for LPRM Calibration and Power Shape Monitoring," September 2005**

The subject GE Licensing Topical Report (LTR) is hereby submitted for NRC review and approval. The LTR describes a Gamma Thermometer (GT) System for LPRM calibration and power shape monitoring. The major hardware and software components are identified and a practical GT response model is developed in the LTR. The results from three in-plant tests are provided to qualify the sensors and assess the accuracy. An adaptive core monitoring simulation is provided to assess the effect of the GT System on core monitoring. Lastly, the LTR presents an uncertainty analysis to quantify the impact on bundle power uncertainty and on thermal limits.

The design and performance of GTs demonstrate a significant alternative to allow simplification of BWR in-core instrumentation by providing an economical alternative to the Traversing In-core Probe (TIP) system. GE is requesting NRC review and approval to utilize the GT based instrument system in place of a TIP system for the ESBWR. Also, the GT system is addressed in the ESBWR Tier 2 Design Control Document Chapter 7, Appendix 7A. The LTR is contained in Enclosure 1.

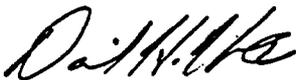
Enclosure 1 contains GE proprietary information as defined by 10 CFR 2.390. GE customarily maintains this information in confidence and withholds it from public disclosure. A non-proprietary version of the LTR (NEDO-33179) is provided in Enclosure 2.

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The affidavit contained in Enclosure 3 (and also incorporated in the LTR) identifies that the information contained in Enclosure 1 has been handled and classified as proprietary to GE. GE hereby requests that the information of Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17.

If you have any questions about the information provided here, please let me know.

Sincerely,



David H. Hinds  
Manager, ESBWR

Enclosures:

1. MFN 05-079 – NEDE-33179P, *Gamma Thermometer System for LPRM Calibration and Power Shape Monitoring*, Licensing Topical Report – GE Proprietary Information
2. MFN 05-079 – NEDO-33179, *Gamma Thermometer System for LPRM Calibration and Power Shape Monitoring*, Licensing Topical Report – Non Proprietary Version
3. Affidavit, George B. Stramback, dated September 15, 2005

cc: WD Beckner USNRC (w/o enclosures)  
AE Cabbage USNRC (with enclosures)  
LA Dudes USNRC (w/o enclosures)  
GB StrambackGE (with enclosures)  
eDRF-0000-0041-9907

MFN 05-079  
Enclosure 3

ENCLOSURE 3

MFN 05-079

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-33197P, *Gamma Thermometer System for LPRM Calibration and Power Shape Monitoring*, Revision 0, Class III (GE Proprietary Information), dated July 2005. GE proprietary information is identified by a dark red font with double underlines 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 details specific information regarding application of the Gamma Thermometer Technology to the ESBWR design. This application is the result of considerable analysis, and both in plant and factory testing and calibration, developed by GE for over fifteen years, at a total cost in excess of four million dollars. The reporting, evaluation and interpretations of the results, as they relate to the ESBWR, was achieved at a significant cost 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.

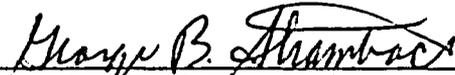
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 15<sup>th</sup> day of September 2005

  
George B. Stramback  
General Electric Company