



James F. Klapproth
Manager, Engineering and Technology

Nuclear Services
General Electric Company
175 Curtner Avenue, MC 706, San Jose, CA 95125-1088
408 925-5434, Fax: 408 925-3837
james.klapproth@gene.ge.com

December 15, 1999

MFN 99-40

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington DC 20555

Attention: R. Pulsifer

Subject: **TRANSMITTAL OF GE PROPRIETARY LICENSING
TOPICAL REPORT NEDE-32176P, "TRACG Model Description",
Revision 2, dated December 1999.**

- Reference:
1. GE/NRC MFN 96-008, LTR NEDE-32176P, "TRACG Model Description" Rev. 1, February 1996.
 2. GE/NRC Meeting Slides MFN 99-015, "TRACG Transient Application Methodology", Meeting on May 25, 1999.
 3. GE/NRC Letter MFN 99-016, J. F. Klapproth to J. Wermiel, NEDC-32900P."Licensing Topical Report TRACG Licensing Application Framework for AOO Transient Analyses", June 1999.
 4. GE/NRC Letter MFN-99-020, J. F. Klapproth to Steven Dembek, "NRC/GE Meeting on TRACG Review for BWR Transient Application - July 15, 1999", dated July 27, 1999.
 5. NRC/GE Letter, T. R. Quay to J. E. Quinn, dated July 5; 1996, "Staff Review of General Electric's (GE's) Licensing Topical Report (LTR), NEDE-32176P, TRACG Model Description" Revision 1

This letter transmits 15 copies of Revision 2 to the Reference 1 GE Proprietary Licensing Topical Report (LTR) NEDE-32176P, "TRACG Model Description", dated December 1999. As discussed previously with the NRC staff (References 2 - 4), GE is seeking approval for the use of TRACG for licensing applications related to anticipated operational occurrences (AOOs) in operating BWR/2-6 plants. Revision 2 to NEDE-32176P represents the first of the three LTRs to be submitted to support the NRC review. The other two LTRs (Model Qualification (NEDE-32177P) and Application (NEDE-32906P)) will be submitted to the staff in January 2000.

Revision 2 to NEDE-32176P incorporates the following changes from Revision 1:

1. Responses to open items from Reference 5 (also refer to attachment 1).
2. Removal of information specific to the SBWR.
3. Removal of the mixing model discussion as it was included for application to the large volumes in the containment (refer to the response to question 4 in attachment 1).

These are relatively minor changes to the report and are indicated by revision bars in the margin.

Change: NRC PDR

ltr encl
1 1/10/00

PDR TOPREP GENERAL Electric

TODD 1/15

PM is
Bob Pulsifer
after copies
distribute to
him.

Please note that this LTR contains information of the type which the General Electric Company (GE) maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to GE as indicated in the attached affidavit. We hereby request that this information be withheld from public disclosure in accordance with the provisions of 10CFR2.790.

Should you have any questions concerning the subject document, please contact Erik Bakke at (408) 925-1451 (erik.bakke@gene.ge.com).

Sincerely,



J. F. Klapproth, Manager
Engineering and Technology
GE Nuclear Energy
(408) 925-5434
Internet: james.klapproth@gene.GE.com

Attachment: GE TRACG Model LTR Open Items from Reference 2.

cc:

R. Caruso (NRC)
Jared Wermiel (NRC)

Attachment 1 to MFN 99-40

The Reference 2 NRC comments on Revision 1 to the model report NEDE-32176P were:

- The revised LTR (R1) is acceptable for more detailed review.
- A few items were identified which must be addressed (for the SBWR application):

Q1 Assessment of the upper plenum and heat exchanger component models is missing.

R1 The Upper Plenum and Heat Exchanger are not used for application to BWR AOO transients. The Upper Plenum component model is assessed in the TRACG qualification report (NEDE-32177P). The Heat Exchanger is assessed in the SBWR qualification report (NEDC-32725P).

Q2 No assessment is provided for the fidelity of the one-group model. There is no description of the correlation for key nuclear parameters.

R2 The nuclear model is the approved GE nuclear design methods (Steady State Nuclear Methods, NEDE-30130PA; Lattice Physics Methods, NEDE20913PA; Lattice Physics Methods Verification; NEDO-20939A; Three-Dimensional Core Simulator, NEDO-20953A; Simulator Methods Verification, NEDO-20946A; and Void and Doppler Reactivity Feedback, NEDO-20964). These LTRs contain a description of the model, qualification and a Safety Evaluation Report (SER). Qualification against plant data is contained in the TRACG qualification report (NEDE-32177P).

Q3 BOP models such as Turbine, Condenser and Heat Exchanger Models are missing.

R3 These balance of plant models are not needed for BWR AOO transients because they are treated as boundary conditions for that application.

Q4 The mixing model assessment is missing.

R4 This model is a very simple model and was implemented for assessment of the effect of mixing in large volumes for the SBWR. This model is not needed for standard BWR transient analysis and has therefore been removed from the TRACG NEDE-32176P/R2 model description.

Q5 Validation for the steam dryer model is missing.

R5 The dryer model is a simple model giving 100% separation. The impact of 100% separation is assessed as part of the TRACG AOO transient application report (NEDE-32906P).

Q6 The assessment of the boron transport and mixing model is missing.

R6 This model is not used for application to BWR AOO transients.

Q7 The One-group 3D kinetics model needs assessment for transients.

R7 Numerous comparisons to transient plant data are contained in the TRACG qualification report (NEDE-32177P).

General Electric Company

AFFIDAVIT

I, David Robare, being duly sworn, depose and state as follows:

- (1) I am David Robare, Acting Manager, Consulting 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) GE is an owner of the information sought to be withheld. This information is contained in the GE proprietary Licensing Topical Report NEDE-32176P Revision 2, "TRACG Model Description", dated December 1999. Proprietary information is delineated by bars marked in the right-hand margin adjacent to the specific material.
- (3) In making this application for withholding of proprietary information, 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), 2.790(a)(4), and 2.790(d)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions 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 GE's competitors without license from GE 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 cost or price information, production capacities, budget levels, or commercial strategies of GE, its customers, or its suppliers;
 - d. Information which reveals aspects of past, present, or future GE customer-funded development plans and programs, of potential commercial value to GE;

- e. 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 both paragraphs (4)a., (4)b. and (4)d., above.

- (5) 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 component to whom the work was provided, 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 would provide other parties, including competitors, with information related to GE (*fuel designs, analysis results and potential commercial offerings for the BWR plant design*), which were developed at a considerable expense 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 asset to GE.

- (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 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.

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

The precise value of the expertise to devise testing and 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.

STATE OF CALIFORNIA)
)
COUNTY OF SANTA CLARA) ss:

David J. Robare, being duly sworn, deposes and says:

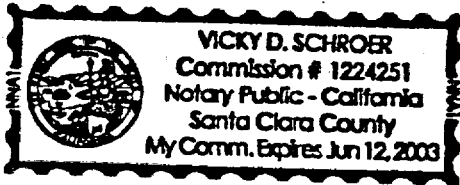
That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

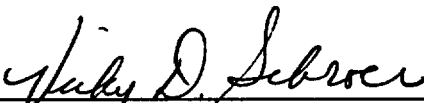
Executed at San Jose, California, this 15TH day of DECEMBER 1999.



David J. Robare
General Electric Company

Subscribed and sworn before me this 15th day of DECEMBER 1999.





Notary Public, State of California