GE Nuclear Energy

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MFN 02-094

Project 717

December 10, 2002

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville MD, 20852-2738

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

Reference: Letter S. Hucik, GE to S. Collins, NRC, Pre-application Review of ESBWR, dated April 18, 2002

Subject: **Presentations to NRC for Explanation and Discussion of Recent ESBWR Pre-application (Technology Closure) Submittals – December 12, 2002 Meeting**

The enclosed electronic files are GE's presentations, which will be used in the scheduled meeting of December 12, 2002. The four presentations are entitled:

1. ESBWR Technology Closure – TRACG Application and Scaling, A. Rao, December 12, 2002
2. TRACG Application for ESBWR - Overview, B. Shiralkar, December 12, 2002
3. TRACG Analysis Results – Application for ESBWR, Y.K. Cheung, December 12, 2002
4. ESBWR Scaling Report – NEDC 33082P, R. Gamble, December 12, 2002

The purpose of this meeting is to explain, clarify, and answer questions related to the submittal made in November 2002 and the scaling submittal planned for December 2002. These submittals will be in support of the pre-application review of the ESBWR (Reference).

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Presentation 1, "ESBWR Technology Closure – TRACG Application and Scaling", will provide a summary of the November and December submittals and will not contain proprietary information.

The remaining presentations (#2-4) contain proprietary information of the type which 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 1 affidavit. GE hereby requests that this information be withheld from public disclosure in accordance with the provisions of 10CFR 2.790 and 9.17.

If you have any questions about the information provided here, please contact Atam Rao at (408) 925-1885, or myself.

Sincerely,

G. J. Deacon

Enclosures

(1) GE Proprietary Information Affidavit, dated December 9, 2002

cc: AE Cubbage USNRC (with enclosures)
JE Lyons USNRC (w/o enclosures)
AB Wang USNRC (w/o enclosures)
GB Stramback - GE (with enclosures)

General Electric Company

AFFIDAVIT

I, George Stramback, state as follows:

(1) I am Project 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 three presentations attached to GE letter MFN 02-094, C. J. Deacon to NRC, *Presentations to NRC for Explanation and Discussion of Recent ESBWR Pre-application (Technology Closure) Submittals – December 12, 2002 Meeting*, dated December 10, 2002. The proprietary information is in the three presentations *TRACG Application for ESBWR – Overview, B Shiralkar, December 12, 2002, TRACG Analysis Results – Application for ESBWR, Y.K. Cheung, December 12, 2002, ESBWR Scaling Report NEDC 33082, R. Gamble, December 12, 2002*, on the pages marked with the legend "GE Proprietary Information."

(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), 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 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 cost or price information, production capacities, budget levels, or commercial strategies of General Electric, its customers, or its suppliers;

d. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, of potential commercial value to General Electric;

e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection. GE is pursuing patent applications in the US Patent Office.

The information sought to be withheld is considered to be proprietary for the reasons set forth in 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 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 test results and interpretations of testing performed in

different facilities and their applicability to passive safety systems in BWR designs. The reporting, evaluation and interpretations of test results was achieved at a significant cost, on the order of several 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 9th day of December 2002.

George B. Stramback
General Electric Company

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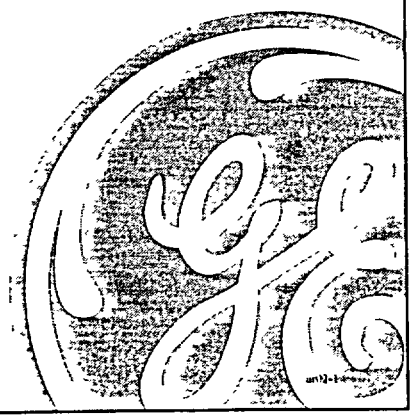
GE Nuclear Energy

ESBWR Technology Closure - TRACG Application and Scaling

A.S. Rao

NRC Staff - GE Meeting
Open Session
December 12, 2002
Rockville, Maryland



Agenda for ESBWR Meetings Dec 12, 2002

- *Introduction - NON PROPRIETARY*
  - Relationship of various submittals
  - Application Report
  - Scaling report
- *TRACG Application for ESBWR - NEDC 33083P*
  - ECCS/LOCA analysis
  - Containment/LOCA analysis
  - AOO Analysis
- *ESBWR Scaling Report - NEDC 33082P*
  - Scaling Methodology
  - Results
- *4. Summary and Conclusions*

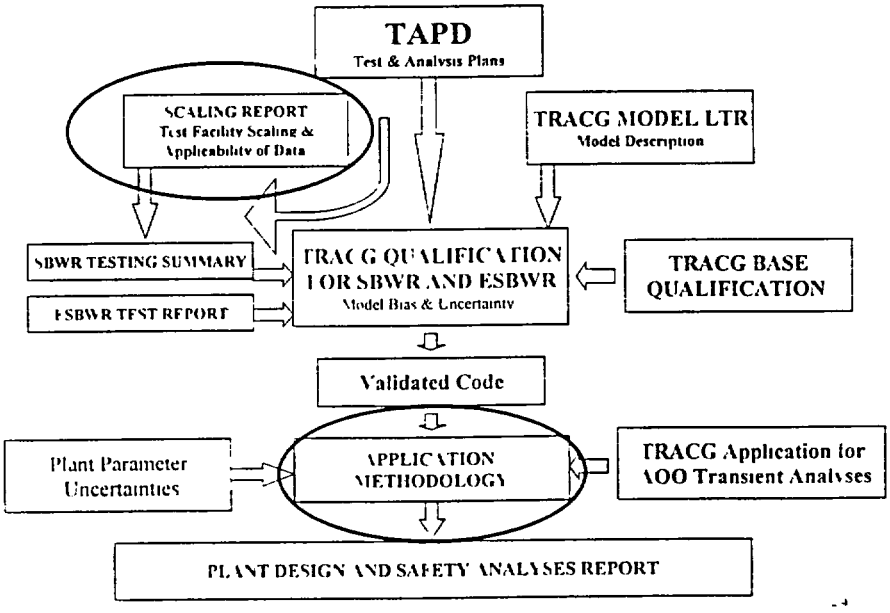
Economic Simplified BWR

Economic and simplified design complements a comprehensive technology and analysis program

Purpose of Meeting

- ***Provide roadmap & highlight Technology Closure Issues***
  - 2 key technical issues to be resolved
    - Adequacy of testing,
    - Analysis methodology approval
    - SSAR details - later
  - Testing and technology basis, analysis methodology and qualification covered at the October 3&4, 2002 meetings
  - TRACG application methodology and Test Scaling covered
- ***Obtain NRC feedback***
  - Overall approach
  - Identification of additional information needed by NRC for Technology Closure

ESBWR Technology Program Elements



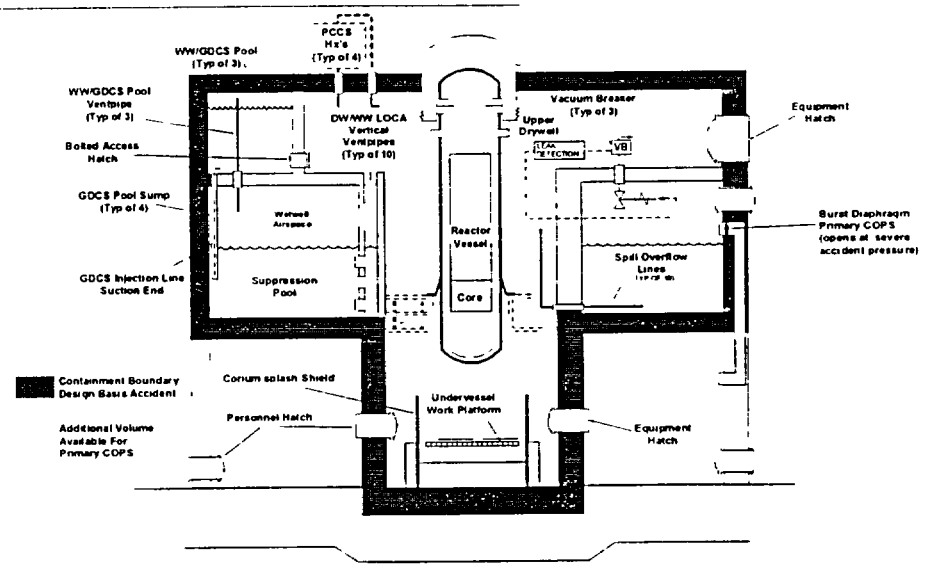
Design features improve plant performance

- ESBWR has slower pressurization - no relief valves open – because of bigger vessel and isolation condenser
- Larger vessel with increased water inventory results in improved plant LOCA performance
- Enhanced wetwell volume and provided a COPS system to handle any containment pressure issues

Improve inherent design safety features

ESBWR Containment System – Schematic Diagram

ESBWR Containment System - Schematic Diagram



Basis for technology closure schedule

- *Adequacy of testing*
  - NRC completed review of SBWR testing and analysis program
    - Found to be adequate – RAI s covered issues that did not affect conclusion
  - Additional ESBWR testing done for specific configuration changes
    - Confirmatory testing
  - Scaling report covers the test programs
    - Found to be adequate – RAI's covered issues that did not affect conclusion
- *Approval of analysis methodology – TRACG*
  - Model description and qualification report completed for operating plants
    - Supplement extending qualification to passive safety systems (SBWR)
    - Supplement covering ESBWR specific tests
  - Application methodology
    - Transients – same approved approach as operating plants
    - LOCA and containment – bounding approach for combining uncertainties
  - Large margins in plant performance based on design features
  - Plant bounding response can be calculated/analyzed easily

Extensive SBWR submittals /reviews, new confirmatory test data / reports, coupled with design changes to add margin

Summary and Conclusions

- *Passive safety systems have simplified the plant design*
- *Plant evaluations are simpler*
  - Less complex analyses
  - Low parameter uncertainty
- *Substantial margins exist in the design*
  - Defense in depth systems provide back-up and flexibility
  - Improved mechanistic codes used
- *Extensive qualification of TRACG*
- *Technology issues extensively studied*

Performance improved by design features
Improved performance measured by qualified methods