

May 30, 2003

Mr. Atambir S. Rao, ESBWR Project Manager  
Nuclear Plant Projects  
General Electric Company  
175 Curtner Avenue, M/C 365  
San Jose, CA 95125-1014

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 3 RELATED TO  
ESBWR PRE-APPLICATION REVIEW (TAC NO. MB6283)

Dear Mr. Rao:

By letters dated August 30 and November 19, 2002, and January 9, 2003, General Electric Company (GE) submitted eight topical reports in support of the ESBWR pre-application review. The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of these topical reports to ensure that the information is sufficiently complete to enable the NRC staff to reach a conclusion on the acceptability of these reports.

The NRC staff has determined that additional information is necessary to continue the review. Enclosure 1 contains a request for additional information (RAI) regarding NEDC-33080P, "TRACG Qualification for ESBWR." Please provide the requested information by July 31, 2003, so that the review can be completed in a timely manner.

If you have any questions or comments concerning this matter, you may contact me at (301) 415-2875 or [aec@nrc.gov](mailto:aec@nrc.gov).

Sincerely,

*/RA/*

Amy E. Cabbage, ESBWR Project Manager  
New Reactor Licensing Project Office  
Office of Nuclear Reactor Regulation

Project No. 717

Enclosure: As stated

cc: See next page

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DOCUMENT NAME: C:\ORPCheckout\FileNET\ML031410685.wpd  
ACCESSION NO. ML031410685

OFFICE	NRLPO/PM	IEHB/SC	SRXB/SC	NRLPO/DD
NAME	ACabbage	DThatcher	FAkstulewicz	MGamberoni
DATE	5/21/2003	5/22/2003	5/27/2003	5/29/2003

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JKelly DBesette

WKrotiuk ANotafrancesco

DThatcher TQuay

Request for Additional Information (RAI)  
NEDC-33080P, "TRACG Qualification for ESBWR"  
ESBWR Pre-Application Review  
General Electric Company

General Electric (GE) topical report NEDC-33080P, "TRACG Qualification for ESBWR," dated August, 2002, describes qualification studies of the TRACG computer code performed for ESBWR. This report documents two additional validation studies performed specifically in support of ESBWR. The test data used for these studies are from the P-Series containment tests performed at the PSI PANDA test facility in Switzerland and from the elevated-pressure hydrodynamic instability tests performed at the CRIEPI/SIRIUS test facility in Japan.

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52.47(b)(2) states that certification of a standard design which differs significantly from light water reactor designs or utilizes simplified, inherent, passive or other innovative means to accomplish its safety functions will be granted only if each safety feature of the design has been demonstrated either through analysis, appropriate test programs, experience, or a combination.

Part 52.48 describes that applications filed under this subpart will be reviewed for compliance with 10 CFR Part 20, Part 50 and its appendices, ... and as those standards are technically relevant to the design proposed for the facility. Part 52.48 thus invokes appropriate aspects of Part 50, including Appendix B quality assurance (QA) requirements.

For SBWR design certification qualification test program activities GE met Part 50, Appendix B by implementing their latest NRC approved "Nuclear Energy Business Operations Quality Assurance Program Description" (topical report), NEDO-11209-04A, Revision 8. Additionally, NEDG-31831, "SBWR Design and Certification Program Quality Assurance Plan," was developed by GE to fulfill the QA requirements of the SBWR reactor design and certification program. NEDG-31831 meets the requirements of ANSI/ASME NQA-1-1983 and its NQA-1a-1983 addenda, which includes specific requirements related to "Qualification Tests." NEDG-31831 provides that design and testing work performed by international technical associates will be performed to their internal QA programs acceptable to the regulatory authorities of their respective countries as evaluated by GE for compliance with the provisions of ANSI/ASME NQA-1-1983.

The staff is not clear as to what GE considers tests being "*confirmatory in nature*." Please describe what "*confirmatory in nature*" encompasses and how GE plans to use the data from the PANDA-P series tests conducted at PSI in Switzerland and the SIRIUS two-phase flow instability tests conducted in CRIEPI, Japan. It is our understanding that data from these tests is going to be used to support the ESBWR design and be part of the ESBWR design certification application. If this is the case, please describe how these tests and test data meet the GE topical report and NQA-1 quality requirements for testing related activities.

ESBWR

cc:

C. J. Deacon  
Manager, Advanced Reactor Programs  
GE Nuclear Energy  
175 Curtner Avenue, MC 365  
San Jose, CA 95125 USA

J. Alan Beard  
GE Nuclear Energy  
13113 Chestnut Oak Drive  
Darnestown, MD 20878-3554

Atambir Rao  
Project Manager, ESBWR  
GE Nuclear Energy  
175 Curtner Avenue, MC 365  
San Jose, CA 95125 USA

Mr. Kelly R. Fletcher, Manager  
Business Development and Advanced  
Technologies  
GE Nuclear Energy  
175 Curtner Avenue, MC 784  
San Jose, CA 95125

Mr. David Lochbaum, Nuclear Safety Engineer  
Union of Concerned Scientists  
1707 H Street, NW., Suite 600  
Washington, DC 20006-3919

Dr. Gail H. Marcus  
U.S. Department of Energy  
Office of Nuclear Energy, Science  
& Technology  
1000 Independence Avenue, SW  
Washington, DC 20585

Mr. Paul Gunter  
Nuclear Information & Resource Service  
1424 16th Street, NW, Suite 404  
Washington, DC 20036

Mr. James Riccio  
Greenpeace  
702 H Street, Suite 300  
Washington, DC 20001

Mr. Ron Simard  
Nuclear Energy Institute  
Suite 400  
1776 I Street, NW  
Washington, DC 20006-3708

Mr. Thomas P. Miller  
U.S. Dept. of Energy, NE-20, Rm. A286  
Headquarters - Germantown  
19901 Germantown Road  
Germantown, MD 20874-1290

Mr. Edwin Lyman  
Nuclear Control Institute  
1000 Connecticut Avenue, NW  
Suite 410  
Washington, DC 20036

Mr. Jack W. Roe  
SCIENTECH, INC.  
910 Clopper Road  
Gaithersburg, MD 20878

Mr. David Ritter  
Research Associate on Nuclear Energy  
and Environmental Program  
215 Pennsylvania Avenue, SE  
Washington, DC 20003

Mr. Tom Clements  
6703 Gude Avenue  
Takoma Park, MD 20912

Patricia Campbell  
Winston & Strawn  
1400 L Street, NW  
Washington, DC 20005

Mr. James F. Mallay, Director  
Regulatory Affairs  
FRAMATOME, ANP  
3315 Old Forest Road  
Lynchburg, VA 24501

Mr. Vince Langman  
Licensing Manager  
Atomic Energy of Canada Limited  
2251 Speakman Drive  
Mississauga, Ontario  
Canada L5K 1B2

Mr. Gary Wright, Manager  
Office of Nuclear Facility Safety  
Illinois Department of Nuclear Safety  
1035 Outer Park Drive  
Springfield, IL 62704

Mr. Charles Brinkman  
Westinghouse Electric Co.  
Washington Operations  
12300 Twinbrook Pkwy., Suite 330  
Rockville, MD 20852

ESBWR (continued)

Mr. Michael M. Corletti  
Passive Plant Projects & Development  
AP600 & AP1000 Projects  
Westinghouse Electric Company  
Post Office Box 355  
Pittsburgh, Pennsylvania 15230-0355

Mr. Ed Rodwell, Manager  
Advanced Nuclear Plants' Systems  
Electric Power Research Institute  
3412 Hillview Avenue  
Palo Alto, CA 94304-1395