

March 4, 2003

ORGANIZATION: General Electric Nuclear Energy (GE)

SUBJECT: SUMMARY OF MEETING HELD ON DECEMBER 12, 2002, TO  
DISCUSS ESBWR PRE-APPLICATION SUBMITTALS

The Nuclear Regulatory Commission (NRC) hosted a public meeting with General Electric Nuclear Energy (GE) on December 12, 2002, at NRC Headquarters to discuss ESBWR pre-application submittals. A list of attendees is provided as Enclosure 1. Enclosure 2 contains the agenda for the meeting.

GE provided non-proprietary handouts during the meeting which can be accessed through the Agencywide Documents Access and Management System (ADAMS). This system provides text and image files of NRC's publicly available documents. The handouts mentioned above may be accessed through the ADAMS system under Accession Nos. ML023540088, ML030510425, ML030510429, and ML030510432. If you do not have access to ADAMS or if there are problems in accessing the handouts located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov).

By letter dated April 18, 2002, GE requested a pre-application review of the reactor design—ESBWR. The ESBWR is a 1390 MWe, natural circulation, boiling water reactor design which utilizes passive safety systems. During the open portion of the meeting, GE provided an overview of the application of the TRACG analysis method to ESBWR and the ESBWR scaling analysis. During the remainder of the meeting, which was closed to the public, GE presented the details of a proprietary pre-application report submitted on November 19, 2002, related to application of the TRACG analysis method to the ESBWR, and the proprietary ESBWR scaling report which was subsequently submitted on January 8, 2003, for NRC review. A non-proprietary summary of these discussions is provided as Enclosure 3.

*/RA/*

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

Project No. 717

Enclosures: As stated

cc w/encls: See next page

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**MEETING WITH GENERAL ELECTRIC**

**DECEMBER 12, 2002**

**ATTENDANCE LIST**

<b>Name</b>	<b>Affiliation</b>
Amy Cubbage	NRLPO/NRR
Ralph Landry	NRR/DSSA/SRXB
Muhammad Razzaque	NRR/DSSA/SRXB
Andrezej Drozd	NRR/DSSA/SPSB
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Joseph Staudenmeier	RES/DSARE/SMSAB
Ralph Caruso	NRR/SRXB
Jim Han	RES/DSARE/SMSAB
Edward D. Throm	NRR/DSSA/SPLB
Yee K. Cheung	GENE
Bharat Shiralkar	GENE
Atambir Rao	GENE
Robert Gamble	GENE
Jerry Wilson	NRR/NRLPO
Henry A. Wagage	NRR/DSSA/SPLB

**General Electric ESBWR Pre-application Meeting  
December 12, 2002  
Room O-9 B4**

9:00 a.m.	Introductory Remarks	NRC	Open
9:10 a.m.	Introduction	General Electric	Open
9:30 a.m.	TRACG Application for ESBWR NEDC 33083P	General Electric	Closed
12:00 p.m.	Lunch Break		
1:00 p.m.	TRACG Application for ESBWR NEDC 33083P (Cont.)	General Electric	Closed
1:30 p.m.	ESBWR Scaling Report NEDC-33082P	General Electric	Closed
3:30 p.m.	Summary and Conclusions	GE/NRC	Closed
4:00 p.m.	Adjourn		

## **TRACG Application to ESBWR**

General Electric (GE) provided an overview of NEDC-33083P, "TRACG Application for ESBWR," which was submitted for NRC review on November 19, 2002, in support of the ESBWR pre-application review. The scope of this report is limited to Emergency Core Cooling Systems (ECCS)/Loss of Coolant Accident (LOCA), Containment/LOCA, and anticipated operational occurrences (AOOs). NEDC-33083P describes the methodology used to calculate key safety parameters and to quantify the uncertainties when applying the TRACG code to the ESBWR for these analysis categories. TRACG has been reviewed and approved by the staff for application to operating reactors for AOO analyses. NEDC-33083 presents the results of ECCS/LOCA and containment/LOCA analyses. The report also provides justification for the extension of the operating reactor AOO methodology to the ESBWR. GE presented TRACG results for ECCS/LOCA and containment/LOCA analyses and the results of demonstration calculations for AOOs. GE confirmed that they will defer submittal of TRACG for ESBWR anticipated transients without scram (ATWS) and stability to the design certification phase.

The staff asked a question about one of the references in NEDC-33083P. NEDC-33083P states "A complete description of the ESBWR containment model can be found in Section 8.2 of Reference 24." Reference 24 is NEDC-32725P, "TRACG Qualification for SBWR," Rev. 1, Volumes 1 and 2, September 1997. In comparing Figure 3-7-1 in NEDC-33083P and Figure 8.2-5 in NEDC-32725P, any description in NEDC-32725P would not be fully representative of the ESBWR, because of the differences in ESBWR as compared to the SBWR design. In response, GE committed to provide supplemental information to respond to the issue.

## **ESBWR Scaling**

GE provided an overview of NEDC-33082P, "ESBWR Scaling Report," including the scaling methodology and results. The objective of the scaling studies were to obtain criteria for test facility design, to show how well various experiments represent the behavior of ESBWR systems, and to determine if experimental data is sufficiently representative for validation of TRACG code phenomenological models. The report concluded that phenomena are well scaled in the test facilities.

During the October 3 and 4, 2002, meeting with the NRC, GE discussed test programs including the CRIEPI and PANDA-P series tests. During that meeting, the staff questioned the quality assurance programs and GE oversight that was provided for these tests. During the December 12, 2002, meeting, GE informed the staff that they consider the PANDA-P series tests to be confirmatory in nature, and the CRIEPI tests to be open literature tests. As such, GE did not provide oversight for these tests.

ESBWR

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