January 12, 2005

ORGANIZATION: General Electric Nuclear Energy (GE)

PROJECT: Economic and Simplified Boiling Water Reactor (ESBWR) Pre-application Review

SUBJECT: SUMMARY OF MEETING HELD ON SEPTEMBER 29, 2004, TO DISCUSS PLANNED PREAPPLICATION REVIEW SUBMITTALS REGARDING THE APPLICATION OF THE TRACG CODE TO ESBWR STABILITY AND ANTICIPATED TRANSIENT WITHOUT SCRAM (ATWS)

The Nuclear Regulatory Commission (NRC) hosted a public meeting with General Electric Nuclear Energy (GE) on September 29, 2004, at NRC Headquarters to discuss the planned submittal of two topical reports related to the application of the TRACG computer code to ESBWR stability and ATWS. 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 No. ML042740633. 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.

Portions of this meeting were closed to the public. During the closed portion of the meeting, GE provided a detailed discussion of the proprietary content of the planned topical report submittals regarding the application of the TRACG for ESBWR stability and ATWS including model qualification, model bias and uncertainties, and example preliminary results. A non-proprietary summary of these discussions is provided as Enclosure 3.

/RA/

Amy E. Cubbage, ESBWR Project Manager
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 717

Enclosures: As stated
cc w/encls: See next page

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ML043570179-Meeting Summary

OFFICE	RNRP/PM	RNRP/SC
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DATE	1/3/2005	1/3/2005

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MEETING WITH GENERAL ELECTRIC
ESBWR PRE-APPLICATION REVIEW
SEPTEMBER 29, 2004
ROOM 04B6, 8:30 AM - 2:00 PM

Name	Affiliation
Amy Cubbage	NRC/NRR/RNRP
Ralph Landry	NRR/DSSA/SRXB
Veronica Klein	NRR/DSSA/SRXB
Jose March-Leuba	ORNL/NRC contractor
Tai Huang	NRR/DSSA/SRXB
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Harold Scott	NRC/RES
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Muhammad Razzaque	NRR/DSSA/SRXB
George Thomas	NRC/NRR/DSSA
Shanlai Lu	NRR/DSSA/SRXB
George Stramback	GENE
Bharat Shirlalkar	GENE

Enclosure 1

General Electric ESBWR Pre-application Meeting
Agenda for Public Meeting Regarding the ESBWR Preapplication
Application of TRACG to ESBWR ATWS and Stability
September 29, 2004
Room O-4B6

8:30 a.m. - 8:40 a.m.	Introductory Remarks	A. Cubbage, NRR	OPEN	
8:40 a.m. - 10:00 a.m.	Overview of application of TRACG to ESBWR ATWS and Stability	B. Shiralkar, GE		OPEN
10:00 a.m. - 10:15 a.m.	Opportunity for Public comment	All	OPEN	
10:15 a.m. - 10:30 a.m.	Break			
10:30 a.m. - 12:00 p.m.	Detailed Discussion of Application of TRACG for Stability	B. Shiralkar, GE		CLOSED
12:00 p.m. - 1:00 p.m.	Lunch			
1:00 p.m. - 2:00 p.m.	Detailed Discussion application of TRACG for ATWS	W. Marquino, GE	CLOSED	
2:00 p.m.	Adjourn			

Enclosure 2

Discussion Regarding Application of TRACG for ESBWR Stability Analysis

General Electric (GE) Energy discussed the content of a planned topical report submittal regarding the application of the TRACG thermal-hydraulic computer code to the analysis of ESBWR thermal-hydraulic stability. The analysis approach will be consistent with the Code Scaling Applicability and Uncertainty (CSAU) analysis methodology. GE stated that the TRACG code has been qualified for stability using an extensive database. For the ESBWR specific application, additional qualification was performed to account for the low decay ratios expected in the ESBWR versus operating BWRs. Another difference between ESBWR and operating BWRs is that the limiting condition with respect to stability for the ESBWR is at rated conditions.

GE stated there will be a conservative design basis for the ESBWR and that startup tests will be performed on the first ESBWR to confirm stability predictions. GE indicated that the startup procedure for the ESBWR will be similar to the startup procedure for the Dodewaard plant. There will be a controlled heat up to keep the voiding at the top of the chimney region until reactor pressure is high to prevent oscillations.

GE stated that they will request NRC approval of the application of the TRACG for the analysis of ESBWR stability to demonstrate compliance with 10 CFR Part 50 Appendix A General Design Criteria 10 and 12, and that the topical report would be submitted at the end of October 2004. The topical report will describe the application methodology including model uncertainties and the model qualification.

Discussion Regarding Application of TRACG for ESBWR ATWS Analysis

GE discussed the content of the planned topical reports submittal regarding the application of the TRACG code for the analysis of ESBWR anticipated transient without scram (ATWS). GE stated that the TRACG code would be used to calculated reactor pressure vessel (RPV) pressure, peak cladding temperature (PCT), and suppression pool temperature for the ATWS event. GE indicated that the topical report would document the applicability of the boron mixing, transport and reactivity models to ESBWR. GE stated that the ESBWR hardware features will provide equivalent mitigation to the requirements provided in 10 CFR 50.62 for ATWS.

GE stated that the topical report requesting approval of the TRACG application for ESBWR ATWS analysis would be submitted at the end of November 2004.

cc:

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