



GE Nuclear Energy

NEDO-32288
Revision 0
DRF T15-00011
Class 1
December 1995

Licensing Topical Report

Scaling of the SBWR Related Tests



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PDR ADDCK 03200004
A PDR



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December 18, 1995

MFN-272-95
Docket STN 52-004

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

Attention: Theodore E. Quay, Director
Standardization Project Directorate

Subject: **SBWR - Transmittal of Scaling Report Revision,
Scaling of SBWR Related Tests, NEDO-32288,
Revision 0, dated December 1995**

- Reference:
1. Letter MFN 097-94, P.W. Marriott (GE) to DCD (NRC),
Transmittal of SBWR Scaling Report, dated 8/16/94.
 2. Letter MFN 166-95, J.E. Quinn (GE) to T.E. Quay (NRC),
SBWR - Test and Analysis Program Description, NEDC-32391P,
Revision C (Proprietary), dated August 28, 1995.
 3. Letter MFN 169-95, J.E. Quinn (GE) to T.E. Quay (NRC), *SBWR
- Test and Analysis Program Description*, NEDO-32391, Revision
C (Non-proprietary), dated August 31, 1995.
 4. Letter MFN 167-95, J.E. Quinn (GE) to T.E. Quay (NRC), *SBWR
- Test and Analysis Program Description Supplement 1 -
Discussion of PIRT Parameters*, NEDC-32391, Supplement 1
(Non-proprietary), dated August 28, 1995.
 5. Letter MFN 170-95, J.E. Quinn (GE) to T.E. Quay (NRC), *SBWR
- Test and Analysis Program Description Supplement 1 -*

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Discussion of PIRT Parameters, NEDO-32391P, Supplement 1 (Non-proprietary), dated August 31, 1995.

6. Memorandum to John T. Larkins (ACRS) from Dennis M. Crutchfield (NRC), *Draft Safety Evaluation Report (SER) on the Adequacy of the Technical Approach to the Testing and Analysis Program (TAP) for the Simplified Boiling Water Reactor (SBWR) Design*, November 25, 1994.
7. ACRC Thermal Hydraulic Phenomena Subcommittee Meetings, December 15 and 16, 1994, and January 10, 1995.
8. NRC/GE TAPD DSER Meeting, January 9, 1995.
9. 417th ACRS Meeting, January 12, 1995.
10. Letter MFN 018-95, J.E. Quinn (GE) to R.W. Borchardt (NRC), *Approach to Achieve Closure of Items Related to the GE SBWR TAPD*, February 14, 1995.
11. Letter MFN 191-95, J. E. Quinn (GE) to T. E. Quay (NRC), **SBWR** -Transmittal of Scaling Report Revision, *Scaling of the SBWR Related Tests*, NEDC-32288P, Revision 1, dated October 1995.

This letter transmits the Non-Proprietary version of the SBWR Scaling Report, *Scaling of the SBWR Related Tests*, NEDO-32288, Revision 0, dated December 1995, for your review. This report presents a scaling study applicable to the SBWR-related tests. The scope of the study includes a description of the scaling philosophy used in the tests, a description of a set of scaling laws which are applicable to the test facilities, and an evaluation of the test facilities with respect to the scaling of the important phenomena and processes identified in the SBWR Phenomena Identification and Ranking Table (PIRT). The study demonstrates that the experimental observations from the test programs are representative of SBWR behavior.

This is the non-proprietary version of the report previously transmitted by Reference 11.

References 2, 3, 4, and 5 are the related SBWR Test and Analysis Program Description (TAPD) documents which reference this scaling report in Appendix B. The level of scaling information necessary to respond to the requests and comments from the NRC and ACRS

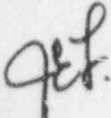
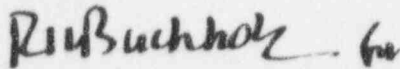
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reviewers became too detailed for the programmatic TAPD and was moved from the TAPD to consolidate and improve the presentation of the subject in this document.

Many scaling questions and issues were identified in References 6, 7, 8, 9 and 10, and responses to them have likewise been incorporated into this document or Reference 11.

If you have any questions regarding this report, please contact John Leatherman of our staff at (408) 925-2023.

Sincerely,



James E. Quinn,
Projects Manager

Enclosure: *Scaling of the SBWR Related Tests*, NEDO-32288,
Revision 0 (Non-Proprietary), dated December 1995

cc:

P.A. Boehnert (NRC/ACRS) - [7 paper copies w/encl., plus E-Mail]
I. Catton (ACRS) - [1 paper copy w/encl., plus E-Mail]
S.Q. Ninh (NRC) - [21 paper copies w/encl., plus E-Mail]
J.H. Wilson (NRC) - [1 paper copy w/encl., plus E-Mail]