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October 13, 1995

MFN 191-95
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, NEDC-32288P,
Revision 1 (Proprietary), dated September 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 - 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.

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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.

This letter transmits Revision 1 of the SBWR Scaling Report, *Scaling of SBWR Related Tests*, NEDC-32288P, Revision 1 (Proprietary), dated October 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.

Revision 1 replaces Revision 0 (Reference 1) in total. The changes from Revision 0 to Revision 1 are identified by sidebars in the left-hand margin of the affected pages. Please dispose of all copies of Revision 0 in a manner appropriate for the destruction of proprietary materials, or return them to GE Nuclear Energy, Attention: J.E. Leatherman, M/C 781.

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 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. Attachment 1 to this letter provides a cross reference of material moved from TAPD-B Appendix B to the TAPD-C or the Scaling Report.

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, as indicated in Attachment 2 to this letter.

Please note that NEDC-32288P contains information of the type which GE maintains in confidence and withholds from public disclosure. This information has been handled and classified as proprietary to GE, as indicated in the attached affidavit. We hereby request that this information be withheld from public disclosure in accordance with the provisions of 10CFR2.790. Revision 1 to NEDC-32288P provides sidebars in the right-hand margins to distinguish those parts of the document which are deemed Proprietary to the General Electric Company. A non-proprietary version of the subject report will be supplied under a separate cover letter.



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

Attachment: 1. TAPD-B Appendix B Cross Reference
2. Index of Responses to Scaling Questions

Enclosure: *Scaling of SBWR Related Tests*, NEDC-32288P,
Revision 1 (Proprietary), dated September 1995

cc:

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