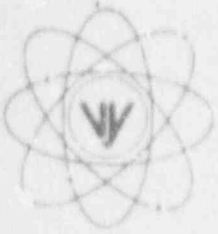


# VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

REPLY TO:  
ENGINEERING OFFICE  
580 MAIN STREET  
BRATTLEBORO, MA 01540  
(508) 778-6711

March 26, 1992  
BVY 92 - 36

United States Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

References: [Listed on Page 3]

Subject: RELAP5YA Application for Vermont Yankee LOCA Analysis

Dear Sir:

By letter dated January 14, 1983 [Reference (b)], Yankee Atomic Electric Company (YAEC) submitted RELAP5YA, a Computer Program for Light Water Reactor System Thermal-Hydraulic Analysis, to the NRC for review and licensing approval. This program was developed by YAEC to facilitate improved Loss-of-Coolant-Accident (LOCA) analyses.

By letter dated June 27, 1986 [Reference (n)], Vermont Yankee Nuclear Power Corporation (VYNPC) submitted YAEC Report 1547, entitled "Vermont Yankee BWR Loss-of-Coolant Licensing Analysis Method". This report describes the methodology proposed for Vermont Yankee Nuclear Power Station to perform full break spectra (size and location) cycle independent LOCA-ECCS licensing analyses in full compliance with applicable USNRC regulations as contained in 10CFR50.46 and 10CFR50 Appendix K. The report contained a detailed description of the RELAP5YA input model for Vermont Yankee and sample LOCA calculations performed with this model.

By letter dated August 25, 1987 [Reference (o)], USNRC approved the RELAP5YA program for use in performing best estimate LOCA analyses for Vermont Yankee. By letter dated October 6, 1989 [Reference (p)], Vermont Yankee provided supplementary information pertaining to our RELAP5YA LOCA methodology for the purpose of justifying the use of the program in Evaluation Methodology analyses for Vermont Yankee, following the 10CFR50 Appendix K approach.

Since the Reference (p) submittal and during the course of NRC review, the RELAP5YA heat transfer model has been modified and additional sample LOCA calculations have been performed for Vermont Yankee with the revised RELAP5YA code [References (q) through (z)]. Based upon a meeting held at NRC headquarters on March 18, 1992, all outstanding issues now appear to be resolved. Written NRC approval including a Safety Evaluation Report is expected to be issued shortly.

It is our intention to revise YAEC Report 1547 to include the supplementary information provided since the original issuance of this report [Reference (n)] regarding the application method and sample calculations. This report will constitute YAEC Report 1547, Revision 1. Given that revision of YAEC 1547 is strictly an administrative effort and will not change the technical aspects of our methodology, it is our understanding that issuance of NRC approval of the subject methodology will occur independent of our revision of YAEC 1547. A copy of this revised report will be provided to NRC upon completion.

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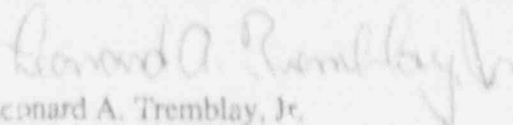
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Page 2

We trust this information is helpful in your efforts to finalize approval of the subject methodology. Should you have additional questions, please contact this office.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

  
Leonard A. Tremblay, Jr.  
Senior Licensing Engineer

cc: USNRC Region I Administrator  
USNRC Resident Inspector - VYNPS  
USNRC Project Manager - VYNPS  
Mr. Lambrose Lois - USNRC

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Page 3

- References:
- a. License No. DPR-28 (Docket No. 50-271).
  - b. Letter, YAEC to USNRC, FVY 83-4, dated January 14, 1983.
  - c. Letter, USNRC to MYAPCO, NMY 84-91, dated May 11, 1984.
  - d. Letter, USNRC to YAEC, dated January 3, 1985.
  - e. Letter, MYAPCO to USNRC, dated January 31, 1985.
  - f. Letter, YAEC to USNRC, FVY 85-18, dated March 1, 1985.
  - g. Letter, USNRC to VYNPC, NVY 85-48, dated March 14, 1985.
  - h. Letter, YAEC to USNRC, FYR 85-48, dated April 30, 1985.
  - i. Letter, YAEC to USNRC, FYR 85-72, dated July 1, 1985.
  - j. Letter, YAEC to USNRC, FYR 85-87, dated August 15, 1985.
  - k. Letter, VYNPC to USNRC, FVY 85-98, dated October 22, 1985.
  - l. Letter, YAEC to USNRC, FYR 85-121, dated November 1, 1985.
  - m. Letter, VYNPC to USNRC, FVY 85-122, dated December 31, 1985.
  - n. Letter, VYNPC to USNRC, FVY 86-61, dated June 27, 1986.
  - o. Letter, USNRC to VYNPC, NVY 87-136, dated August 25, 1987.
  - p. Letter, VYNPC to USNRC, BVY 89-91, dated October 6, 1989.
  - q. Letter, VYNPC to USNRC, BVY 90-28, dated March 9, 1990.
  - r. Letter, USNRC to VYNPC, NVY 90-108, dated June 7, 1990.
  - s. Letter, VYNPC to USNRC, BVY 90-087, dated August 28, 1990.
  - t. Letter, USNRC to VYNPC, NVY 90-214, dated December 5, 1990.
  - u. Letter, VYNPC to USNRC, BVY 91-05, dated January 9, 1991.
  - v. Letter, USNRC to VYNPC, NVY 91-26, dated February 27, 1991.
  - w. Letter, USNRC to VYNPC, NVY 91-54, dated April 11, 1991.
  - x. Letter, VYNPC to USNRC, BVY 91-41, dated April 19, 1991.
  - y. Letter, VYNPC to USNRC, BVY 92-12, dated February 7, 1992.
  - z. Letter, VYNPC to USNRC, BVY 92-29, dated March 6, 1992.