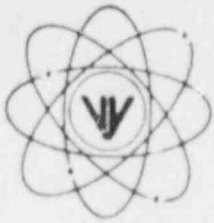


# VERMONT YANKEE NUCLEAR POWER CORPORATION



RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

REPLY TO:  
ENGINEERING OFFICE

1671 WORCESTER ROAD  
FRAMINGHAM, MASSACHUSETTS 01701  
TELEPHONE 617-872-8100

September 12, 1988  
FVY 88-76

United States Nuclear Regulatory Commission  
Attention: Document Control Des.  
Washington, DC 20555

- References:
- (a) License No. DPR-28 (Docket No. 50-271)
  - (b) Letter, USNRC to VYNPC, NVY 87-136, "Approval of Use of Thermal-Hydraulic Code RELAP5YA (TAC No. 60193), Re: Vermont Yankee Nuclear Power Station," dated August 25, 1987
  - (c) Letter, VYNPC to USNRC, FVY 87-116, "Vermont Yankee LOCA Analysis Method: FROSSTEY Fuel Performance Code (FROSSTEY-2)," dated December 16, 1987
  - (d) Letter, VYNPC to USNRC, FVY 87-006, "Request for Supplemental Safety Evaluation Report Supporting the Use of RELAP5YA for Vermont Yankee Nuclear Power Station," dated January 26, 1988

Subject: Vermont Yankee LOCA Licensing Application Method (RELAP5YA)

Dear Sir:

By letter, dated August 25, 1987 (Reference (b)), the USNRC approved Yankee Atomic Electric Company's (YAEC) use of the RELAP5YA Code for performing thermal-hydraulic LOCA analyses for the Vermont Yankee Nuclear Power Station (VYNPS) subject to certain conditions and restrictions. We have reviewed the conditions delineated in the Safety Evaluation Report (SER) transmitted by Reference (b) and have completed additional work provided in the enclosed report titled "Vermont Yankee LOCA Licensing Application Method" by R. T. Fernandez, et al., YAEC-1638P, dated March 29, 1988. This report specifically addresses Regulatory Position 2, Section 3.0, of the subject SER which states that RELAP5YA may only be used as a licensing model for the VYNPS in conjunction with an application methodology which has been specifically approved by the staff for use with RELAP5YA.

The purpose of this submittal is to request NRC approval for the Vermont Yankee LOCA licensing application method. The application method, detailed in the enclosed report, is intended to be used for cycle-independent LOCA-ECCS analyses that comply with USNRC requirements contained in 10CFR50.46 and Appendix K, thereto, and the alternate LOCA-ECCS analysis method allowed by the NRC in Memo SECY 83-472. The proposed method will use the RELAP5YA computer code in conjunction with the Vermont Yankee-NSSS, and the Vermont Yankee Hot Channel models that were approved by the NRC in Reference (b). The method will also use the FROSSTEY-2 Code (Reference (c)) and the HUXY Code results (Reference (d)), which are currently with the NRC for review.

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The proposed methodology will produce three sets of LOCA-ECCS results derived from realistic, upper bound, and evaluation model analyses. These results will be used to demonstrate compliance with the 10CFR50.46 ECCS criteria and to establish an acceptable level of safety and margin of conservatism for the VYNPS.

The first planned licensing application of the LOCA analysis is Vermont Yankee Cycle 15 which is scheduled to start up on September 28, 1990. Accordingly, we request the NRC's review and approval of the proposed application methodology by January 1989 in order that we may incorporate the subject LOCA analysis in our Cycle 15 reload analyses. The FROSSTEY-2 Code and the HUXY Code results are part of the complete Vermont Yankee LOCA licensing application method. Hence, we request the NRC's review and approval of the use of these analysis tools for VYNPS, concurrent with the NRC SER for this proposed method.

The pending staff approval of the FROSSTEY-2 Code and the HUXY Code results for use by YAEC in LOCA analyses for VYNPS and the NRC's approval of the methodology presented in the enclosed report will address Regulatory Positions 2 through 4, Section 3.0, of the SER (Reference (b)) that approves the use of the RELAP5YA Code for VYNPS.

Regulatory Positions 5 and 6 of the subject SER will be addressed in the first licensing application which will be submitted for NRC review and approval by January 1990. As required by Regulatory Position 7, the RELAP5YA, HUXY, and FROSSTEY Codes and the VYNPS LOCA calculations will be subject to YAEC Quality Assurance procedures.

The enclosed information is considered proprietary by YAEC and VYNPS. In accordance with 10CFR2.790(b)(1), an affidavit attesting to the proprietary nature of the enclosure is attached.

We trust that the enclosed information is sufficient and acceptable; however, should you have any questions or require additional information regarding this submittal, please contact this office.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

*R. W. Capstick*  
R. W. Capstick  
Licensing Engineer

RWC/27.12

Enclosure

cc: United States Nuclear Regulatory Commission  
V. L. Rooney - Project Manager, VYNPS  
United States Nuclear Regulatory Commission  
Region I  
United States Nuclear Regulatory Commission  
Resident Inspector - Vermont Yankee Nuclear Power Station

WITHHOLD ENCLOSURE FROM PUBLIC DISCLOSURE

AFFIDAVIT PURSUANT

TO 10CFR2.790

Yankee Atomic Electric Company)  
Nuclear Services Division )  
Commonwealth of Massachusetts )  
Middlesex County ) SS:

I, J. Devincintis, depose and say that I am the Vice President of Yankee Atomic Electric Company, duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary. I am submitting this affidavit in conformance with the provisions of 10CFR2.790 of the Commission's regulations for withholding this information.

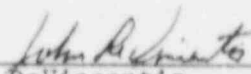
The information for which proprietary treatment is sought is contained in the enclosures to our letter, Vermont Yankee Nuclear Power Corporation to U.S. Nuclear Regulatory Commission, dated September 12, 1988.

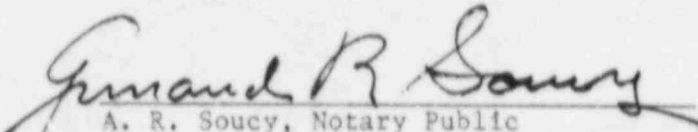
Pursuant to the provisions of Paragraph (b) (4) of Section 2.790 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure, included in the above referenced document, should be withheld.

1. The material contained in this submittal has been, and will continue to be, held in confidence by Yankee Atomic Electric Company.
2. The material contained in this transmittal is of the type customarily held in confidence and not customarily disclosed to the public.
3. This information is being transmitted to the Commission in confidence under the provisions of 10CFR2.790 with the understanding that it is to be received in confidence by the Commission.
4. This information is not available in public sources and is for Commission internal use only and should not be released to persons or organizations outside the Directorate of Regulation and the ACRS without prior approval of Yankee Atomic Electric Company. Should it become necessary to release this information to such persons as part of the review procedure, please contact Yankee Atomic Electric Company.
5. The material contained in this transmittal was obtained at considerable expense to Yankee Atomic Electric Company and Vermont Yankee Nuclear Power Corporation and the release of which would seriously affect our competitive position.

Further deponent sayeth not.

Sworn to before me this  
12th day of September, 1988

  
\_\_\_\_\_  
J. Devincintis  
Vice President

  
\_\_\_\_\_  
A. R. Soucy, Notary Public  
My Commission Expires August 29, 1991