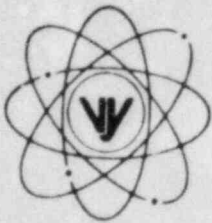


VERMONT YANKEE NUCLEAR POWER CORPORATION



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

2.C.2.1
FVY 83-76

REPLY TO:

ENGINEERING OFFICE

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

July 20, 1983

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Office of Nuclear Reactor Regulation
Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) Letter, VYNPC to USNRC, FVY 82-86, Proposed Change No. 101
to Vermont Yankee Technical Specifications, dated July 22,
1982

Subject: Suppression Chamber Temperature Limit

Dear Sir:

The purpose of this letter is to provide you with additional information with regard to Reference (b), Proposed Change No. 101 to the Vermont Yankee Technical Specifications. This change, which proposes to raise the current full power torus temperature limit from 90°F to 100°F, takes advantage of improved margin to steam quenching instability resulting from the installation of Monticello-type tee quenchers at our facility.

As discussed in a telecon on July 15, 1983 with Mr. V. Rooney of your staff, we have recently become aware that the submergence elevation of our tee quencher was not properly factored into the development of Figure 3 of Reference (b), "Comparison of Tee Quencher Bulk Suppression Pool Temperature Limit to Stuck Open S/RV from 100% Power Transient Responses". The actual submergence of our tee quencher is 7.75 feet. Assuming an overall pool temperature of 210°F and a nominal submergence of 7 feet, the pressure at these conservative conditions is 14.7 psia + 2.9 psia or 17.6 psia. This represents the minimum pressure at the tee quencher elevation. The saturation pressure at 17.6 psia is 221.2°F. Subtracting the 20°F subcooling allowed leaves 201.2°F or nominally 200°F. Thus, the NUREG-0783 local temperature limit, Figure 3 - Curve 1, has been redrawn on the enclosed revised figure as a constant value of 200°F. Taking this factor into account alters the tee quencher bulk pool temperature limit, Figure 3 - Curve 2, for the case with Residual Heat Removal (RHR) off and with RHR on, as shown. However, ample margin still exists between the transient response (Figure 3 - Curve a and b) and the redrawn bulk pool temperature limits, as shown on the revised figure.

8307260408 830720
PDR ADOCK 05000271
P PDR

Acc
11

U. S. Nuclear Regulatory Commission
Attention: Mr. D. B. Vassallo

July 20, 1983
Page 2

Based on the above, we are requesting that you replace the existing Figure 3 of Reference (b) with the enclosed Figure 3, Revision 1.

We trust that this submittal will not impact the timely review of our proposed change; however, should you have any questions, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

J. B. Sinclair

J. B. Sinclair
Licensing Engineer

JBS/ds

Figure 3

Comparison of T-Quencher Bulk Suppression
Pool Temperature Limit to Stuck Open S/RV
From 100% Power Transient Responses

