VERMONT YANKEE
NUCLEAR POWER CORPORATION

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

FVY 84-48

REPLY TO
ENGINEERING OFFICE
1671 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
TELEPHONE 617-872-8100

May 18, 1984

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Domenic B. Vassallo, Chief
Office of Nuclear Reactor Regulation
Operating Reactors Branch #2
Division of Licensing

References:
a) License No. DPR-28 (Docket No. 50/271)
b) Letter, VYNPC to USNRC, FVY 81-117, dated 7/31/81
c) Letter, VYNPC to USNRC, FVY 82-72, dated 6/16/82
d) Letter, VYNPC to USNRC, FVY 82-119, dated 11/12/82
e) Letter, USNRC to VYNPC, NVY 83-05, dated 1/13/83

Dear Sir:

Subject: Appendix R 72 Hour Cold Shutdown Requirement

By Reference b), we provided you with the detailed design of our Alternate Safety Shutdown System to meet the requirements of 10CFR50.48, "Fire Protection". Supplemental system design information was submitted to you by References c) and d). The NRC subsequently reviewed and approved our design as detailed in the January 13, 1983 Safety Evaluation Report (SER), Reference e).

The purpose of this letter is to inform you of a necessary modification to our approved Alternate Shutdown System with respect to the design criteria of 10CFR50, Appendix R, Section III.L, "Alternate and Dedicated Shutdown Capability". Specifically, we are modifying our approach for ensuring that we can achieve cold shutdown conditions within 72 hours.

Our present Alternate Shutdown System was designed to address fires within the Control Room, Cable Vault and Switchgear Room. It utilizes the Reactor Core Isolation Cooling System (RCIC) to maintain reactor vessel makeup in a hot shutdown condition and the Residual Heat Removal System (RHR) for hot shutdown heat removal from the suppression pool (torus). This design intended to use the RCIC System, at full flow on the test line, to depressurize the reactor to the point where the RHR System could then begin shutdown cooling and achieve cold shutdown within 72 hours.

A006
1/0

VERMONT YANKEE NUCLEAR POWER CORPORATION

We propose to modify the method for achieving cold shutdown within 72 hours as follows. To cool down from hot shutdown to cold shutdown, one Safety Relief Valve (SRV) will be manually cycled by the operator at the RCIC Control Panel, located in the RCIC Corner Room. The RCIC System will continue in operation to maintain reactor vessel level above the top of the active fuel. Once the RCIC System is no longer able to provide makeup due to low steam pressure, the reactor vessel pressure is then at the point where the RHR System can be placed into service in the shutdown cooling mode, as originally designed.

To provide control of one SRV, we intend to perform post-fire repairs as allowed by Section III.L.5 to Appendix R. The 125 V dc two-conductor circuit for one SRV will be cut into. This circuit is located near the Primary Containment penetration above the 252' elevation in the Reactor Building. This area is accessible following a postulated fire in the Control Room, Cable Vault, or Switchgear Room. Two-conductor cable will be spliced to be the solenoid end of the circuit and run to the RCIC Control Panel. A single pole switch will be wired into the solenoid circuit and tapped to the 125 V dc power in the panel. The switch will be conveniently placed on or near the panel for the operator.

SRV circuit and panel terminal descriptions and locations will be described in plant procedures. Dedicated material will be procured and stored at an appropriate location to accommodate this repair. Our calculations indicate that there is at least 24 hours available to make this repair before cooldown is initiated.

We believe that the above modification adequately assures that Vermont Yankee can achieve cold shutdown within 72 hours, per the requirements of Section III.L to Appendix R. The procedures described above will be in place and appropriate training completed prior to startup from the 1984 refueling outage (scheduled for August 11, 1984), in accordance with the schedular provision of 10CFR50.48. We request that you issue a revised SER reflecting this change in our design of the Alternate Shutdown System.

Should you have any questions in this matter, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Richard W. Burke for

Warren P. Murphy
Vice President and
Manager of Operations

WPM/dm