VERMONT YANKEE NUCLEAR POWER CORPORATION

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REPLY TO:
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TELEPHONE 617-366-9011

September 6, 1979

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

Attention: Brian K. Grimes
Acting Assistant Director for Systems Engineering
Division of Operating Directors

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) USNRC Letter to VYNPC dated July 16, 1979

Dear Sir:

Subject: Request for Information - Target Rock Safety Relief Valves

The following information is provided in response to questions contained in Reference (b).

Item 1. What is the status of each of the Target Rock Safety /Relief Valves at your plant(s);

a. Are they in their original design configuration?

No. See Item "C" below.

b. What is the existing simmer margin?

Based on a steady state reactor pressure of 1005 psig at 100% power the following are the present simmer margins of the four Target Rock Safety/Relief Valves installed at Vermont Yankee: Steam Line A - 73 psi, Steam Line B - 67 psi, Steam Line C - 85 psi, Steam Line D - 73 psi.

c. What modifications have you implemented to improve reliability?

Based on G.E. FDI-160 the following modifications have been made to the Target Rock S/R Valves at Vermont Yankee.

(1) Air operator gland has been changed from stainless steel to bronze to avoid possible stainless on stainless wear in the air operator, (2) Pilot stem has been changed from stainless steel to Monel to reduce the thermal expansion of this part, (3) The main piston diameter was turned down to avoid possible binding between the piston and the cylinder, (4) Changed piston rings on both stages as a result of change (3) and normal overhaul.

Based on G.E. FDI-164 the following modifications were made.

(1) Two drain grooves were added to allow water which condenses above the main piston to drain to the bottom of the cylinder. (2) A drain hole was added to allow the condensed steam (as a result of (1)) in the main cylinder to drain back to the inlet side of the valve.

The changes as a result of FDI-164 were designed to improve the response time of the relief valve.

As a result of a Directorate of Regulatory Operation Bulletin 74-4A, May 6, 1974, new designed second stage disc stems were installed with modified locking devices. This modification improved on the second stage locking mechanism design by providing a more mechanically sound "nut on nut" locking device instead of a bent wire locking device.

d. On what date were these modifications made?

The modifications based on FDI-160 and FDI-164 were performed in October, 1973. The locknut modification was performed on four valves in November, 1974 and on the fifth in January, 1975.

Item 2. What maintenance and testing do you routinely perform on these valves and how often is it performed?

Two of the four installed valves are bench-checked or replaced with a bench-checked valve each refueling outage, the two valves tested each refueling are alternated so that all four valves are checked or replaced every two refueling outages.

The actual testing and maintenance consists of an as-found set point verification and valve leak test. Based on the results of the leak test, components may be replaced or refurbished in an effort to maintain zero leakage on all seating portions of the valve. The valve is then adjusted to a specified setpoint and tested prior to installation.

In addition, the air actuators are removed from all four valves each outage and functionally tested. Following the test, diaphragms are replaced in the actuators prior to reinstallation on the valves.

Item 3. What additional modifications and/or maintenance do you plan to implement in the future?

Item 4. On what date will the modification(s) and/or maintenance in Item 3 be implemented?

Present plans are to continue with the detailed maintenance program described in Item 2. In addition, Vermont Yankee will continue to monitor the status and effectiveness of design improvements related to these valves. All changes will be evaluated and modifications will be made as appropriate.

Hopefully the information provided above adequately appraises you of the current situation at Vermont Yankee, as well as our plans for future action. However, should you require any additional information, do not hesitate to call

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

for RJ Wanczyk
D. E. Moody
Manager of Operations

RJW/dmp