

# VERMONT YANKEE NUCLEAR POWER CORPORATION



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REPLY TO:  
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September 24, 1984  
FVY 84-115

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, USNRC to VYNPC, NVY 84-65, dated April 3, 1984  
(c) Letter, VYNPC to USNRC, FVY 84-80, dated July 9, 1984  
(d) Letter, VYNPC to USNRC, Proposed Change No. 116 to  
Facility Operating License No. DPR-28, FVY 84-05, dated  
January 23, 1984  
(e) Letter, VYNPC to USNRC, Proposed Change No. 119 to  
Facility Operating License No. DPR-28, FVY 84-28, dated  
March 26, 1984  
(f) Letter, VYNPC to USNRC, FVY 84-105, dated August 22, 1984  
(g) Letter, VYNPC to USNRC, Request for Information - Target  
Rock Safety/Relief Valves, dated September 6, 1979

Subject: NUREG-0737 Item II.K.3.16, Reduction of Challenges and Failures  
of Relief Valves

Dear Sir:

By letter dated April 3, 1984 [Reference (b)], you requested that we provide you with additional information with respect to our resolution of NUREG-0737 Item II.K.3.16, Reduction of Challenges and Failures of Relief Valves. Specifically, the NRC reviewed the Boiling Water Reactor Owners Group (BWROG) submittal dated March 31, 1981, which contained the results of a feasibility study and evaluation of various actions and modifications which might reduce the challenges and failures of relief valves. The NRC's evaluation of the BWROG submittal concluded that the certain modifications are desirable to reduce Safety Relief Valve (SRV) challenges and failures.

We have recently completed our evaluation of the NRC recommended modifications. Our conclusions are provided in Enclosure 1 of this letter.

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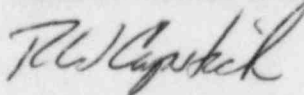
Reference (b) also requests that we provide you with information regarding any actions or modification undertaken in response to NUREG-0737 Item II.K.3.16. By letters dated January 23, 1984 [Reference (d)] and March 26, 1984 [Reference (e)], we submitted two requests for amending our facility Technical Specifications. By Reference (d), we proposed lowering the Main Steam Line low pressure isolation setpoint (when the reactor is in the "run" mode) from 850 to 800 psig. Decreasing the low pressure isolation setpoint from 850 psig to 800 psig will reduce the probability of inadvertent reactor isolation and scram due to spurious steam line pressure transients. In addition, this setpoint change reduces the probability of challenges to the Primary Containment Isolation System and subsequent challenges to safety relief valves which may occur as a result of anticipated operational transients, consistent with the intent of II.K.3.16.

By Reference (e), we proposed a change in the trip setting for the high Main Steam Line flow instruments from the present 120% to 140% of rated steam flow. Increasing the Main Steam Line high flow isolation setpoint will reduce the probability of inadvertent reactor isolations and possible challenges to safety relief valves during planned operating maneuvers, such as weekly surveillance of Main Steam Isolation Valves (MSIVs) and turbine valves, as well as during certain operational transients, consistent with the intent of II.K.3.16.

At the present time, no additional actions of modifications are deemed necessary to address this NUREG-0737 item. We trust that this information is deemed acceptable; however, should you have any questions regarding this matter, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION



R. W. Capstick  
Licensing Engineer

JBS/cmj

Enclosure

ENCLOSURE 1

Vermont Yankee Nuclear Power Corporation

Response to NRC Recommended Actions  
to Address NUREG-0737, Item II.K.3.16

1. NRC Recommended Action - Implement Low Low Set Relief Logic System or equivalent manual actions.

Response - Vermont Yankee does not propose to implement Low Low Set (LLS) relief valve logic. Instead, we are in the process of generating VYNPS Emergency Procedures, per BWR Emergency Procedure Guidelines, to implement an equivalent manual action intended to reduce the number of SRV challenges from transient events.

The equivalent manual action calls for one (or more, if necessary) selected SRVs to be manually held open by an operator beyond the reclosure setpoint so that the extent of reactor depressurization before reclosing an open SRV is increased when compared to blowdown for normal SRV setpoints. The specific guidance has been incorporated in a draft emergency procedure, OE-3100, "Reactor Scram Operational Emergency Procedure" which instructs the operator to reduce RPV pressure to 950 psig upon manually initiating SRVs. The nominal SRV lift setpoints are less than or equal to 1080, 1090, and 1100 psig. We intend to implement this procedure by June 1, 1985 as proposed in Reference (f) of the cover letter.

2. NRC Recommended Action - Lower the reactor pressure vessel water level isolation setpoint for Main Steam Line Isolation Valve (MSIV) closure from Level 2 to Level 1.

Response - Based on Vermont Yankee's experience to date, decreasing the reactor pressure vessel water level isolation setpoint for main steam line isolation valve closure from Level 2 to Level 1 should not be necessary. Vermont Yankee has requested two Technical Specification changes aimed at reducing challenges to SRVs. These proposed changes would decrease the main steam line low pressure isolation setpoint from 850 psig to 800 psig [Reference (d) of the cover letter] and increase the high steam flow isolation setpoint from 120% to 140% of rated steam flow [Reference (e) of the cover letter]. Once these changes are approved, they will be integrated into the operator's training and installed. Should operational experience then indicate that a decrease in the water level setpoint would further reduce challenges to Vermont Yankee's SRVs, we will consider implementing the recommended action.

3. NRC Recommended Action - Increase safety-relief valve simmer margin.

Response - Increasing the simmer margin can lower the frequency of relief valve challenges as long as increases are achieved by maintaining the normal operating pressure and raising the relief valve setpoints. The trade-off created by decreasing the operating pressure will increase the frequency of MSIV closures, which is, in itself, a cause of relief valve challenges.

ENCLOSURE 1 (Continued)

Based on Vermont Yankee's experience to date, increasing the simmer margin from the current 75 psi to the recommended 120 psi should not be necessary. If future operations indicate that a 75 psi simmer margin is inadequate, then increasing the margin by raising the SRV setpoints would be investigated.

4. NRC Recommended Action - Preventative Maintenance Program.

Response - Vermont Yankee maintenance practices relative to safety relief valves have already resulted in excellent experience.

At Vermont Yankee, as we indicated in Item 2 of Reference (g) of the cover letter, 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 setpoint 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.