VERMONT YANKEE NUCLEAR POWER CORPORATION

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BVY 01-54

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Vermont Yankee Nuclear Power Station
License No. DPR-28 (Docket No. 50-271)
Request for Relief from ASME Section XI Requirements
for Pressure Testing of HPCI and RCIC Systems

Pursuant to 10CFR50.55a(a)(3)(ii), Vermont Yankee (VY) hereby requests approval to perform alternative testing to that specified by the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. Attached is justification for the proposed alternative testing measures. The NRC previously approved a similar alternative testing measure for Limerick Generating Station on January 17, 1996 (TAC No. M93209).

Approval for use of the alternative testing measures is requested by November 1, 2001 in order to support preparation for ISI activities prior to the 2002 refueling outage. Upon approval, these alternative measures will be incorporated into our ISI Program.

If you have any questions concerning this transmittal, please contact Mr. Brian Hobbs at (802) 258-4116.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Gautam Sen
Licensing Manager

Attachment

cc: USNRC Region 1 Administrator
USNRC Resident Inspector – VYNPS
USNRC Project Manager – VYNPS
Vermont Department of Public Service

A047

Docket No. 50-271
BVY 01-54

Attachment

Vermont Yankee Nuclear Power Station

Request for Relief from ASME Section XI Requirements

For Pressure Testing of HPCI and RCIC Systems

RELIEF REQUEST No. P-3

HPCI/RCIC PRESSURE TEST HOLD TIME

RELIEF REQUEST SUMMARY

Pursuant to 10CFR50.55a(a)(3)(ii), Vermont Yankee (VY) proposes an alternative to the ASME XI Code requirement to perform a 4-hour hold time prior to VT-2 visual examinations associated with pressure testing of Class 2 and 3 insulated system piping and components for the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems. VY proposes to implement the alternative rules for 10-Year Hydrostatic Testing of Class 2 and 3 systems as provided in Code Case N-498-1, with the following exception: the test hold time shall be a minimum of 10 minutes. This alternative is necessary as a result of the hardship associated with performing a functional test of these systems at operating conditions for four hours, without a compensating increase in quality or safety. A minimum 10-minute hold time prior to visual inspection will provide adequate assurance of the leak-tight integrity of insulated components.

SYSTEM/COMPONENT(S) FOR WHICH RELIEF IS BEING REQUESTED

Insulated portions of the High Pressure Coolant Injection System (HPCI) and Reactor Core Isolation Cooling System (RCIC).

CODE REQUIREMENTS

ASME Boiler and Pressure Vessel Code Case N-498-1 has been approved for general use by incorporation into Regulatory Guide 1.147, Inservice Inspection Code Case Acceptability, Revision 12. This Code Case allows a system pressure test to be conducted at nominal operating pressure and temperature as an alternative to 10-Year System Hydrostatic Testing for Class 1, 2, and 3 Systems, Section XI Division 1 Table IWB-2500-1 Category B-P, Table IWC-2500-1 Category C-H, and Table IWD-2500-1 Categories D-A, D-B and D-C. Code Case N-498-1 requires a 4-hour hold time at test pressure, before performing the required visual examination, for insulated components.

CODE REQUIREMENT FROM WHICH RELIEF IS BEING REQUESTED

ASME Boiler and Pressure Vessel Code Case N-498-1, step b(3) and step c(3) states: "The system shall be pressurized to nominal operating pressure for a minimum of 4 hours for insulated systems."

BASIS FOR RELIEF

Code Case N-498-1 specifies that pressure tests include a 4-hour hold time prior to performing the VT-2 visual examination of insulated systems. Compliance with the 4-hour hold time will result in a hardship, without a compensating increase in quality or safety.

The HPCI and RCIC systems are not required to operate during normal plant operation. These systems are periodically functionally tested in accordance with Technical Specifications

surveillance requirements, for a duration of typically between 30 to 40 minutes each quarter. Operation of these systems adds heat to the suppression pool. Control of these additional heat loads for extended periods of system operation (e.g. 4 hours) would require operating the Residual Heat Removal (RHR) system in suppression pool cooling mode. In order to place the RHR system in suppression pool cooling mode at power, Technical Specifications requires entry into the Limiting Condition for Operation (LCO) for the RHR Low Pressure Coolant Injection (LPCI) mode. Extending the HPCI or RCIC system functional test duration to more than four hours in order to satisfy the Code Case N-498-1 hold time would subject the suppression pool to unnecessarily excessive heat loads and could challenge the Technical Specifications suppression pool temperature limit. It would also require remaining in the LPCI LCO for an extended period of time, thereby reducing the availability of safety-related equipment.

HPCI and RCIC systems are operated under a quarterly surveillance program and are therefore monitored operationally 4 times per year or 40 times per ISI interval. Additionally, the proposed alternative hold time is the same as for pressure test requirements performed once each inspection period per ASME Section XI, 1986 IWA-5213(b) for testing required by IWC-2500-1 Category C-H and IWD-2500-1 Category D-B.

ALTERNATIVE EXAMINATIONS

The system pressure test described in Code Case N-498-1 will be conducted as required, except that a 10-minute hold time will be used rather than the 4-hour hold time specified in the Code Case. For insulated portions of the HPCI and RCIC systems, the following will be used in lieu of steps b(3) and c(3) in Code Case N-498-1:

> *Prior to performing the VT-2 visual examination, the system shall be pressurized to nominal operating pressure for a minimum of 10 minutes. The system shall be maintained at nominal operating pressure during performance of the VT-2 visual examination.*

A minimum 10-minute hold time prior to visual inspection will provide adequate assurance of the leak-tight integrity of insulated components.

IMPLEMENTATION SCHEDULE

This relief request will be implemented during the third 10-Year ISI interval.

SUMMARY OF VERMONT YANKEE COMMITMENTS

BVY NO.: 01-54 - ASME Relief Request P-3, HPCI/RCIC Pressure Testing Hold Time

The following table identifies commitments made in this document. Any other actions discussed in the submittal represent intended or planned actions are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Licensing Manager of any questions regarding this document or any associated commitments.

COMMITMENT	COMMITTED DATE OR "OUTAGE"
NONE	N/A