

August 24, 1995

Mr. Donald A. Reid
Vice President, Operations
Vermont Yankee Nuclear Power Corporation
RD 5, Box 169
Ferry Road
Brattleboro, Vermont 05301

SUBJECT: INSPECTION REPORT NO. 50-271/95-03 (REPLY)

Dear Mr. Reid:

This refers to your August 3, 1995 correspondence, in response to our letter, dated July 5, 1995, regarding the Vermont Yankee Nuclear Power Station. This correspondence dealt with the violation cited for the potential inoperability of the core spray injection valves due to pressure locking during a design basis accident. Although susceptibility of the valves was identified earlier by your staff, an assessment of operability was not performed and corrective actions were delayed until the next refueling outage.

We have concluded that the valve modifications you performed during the refueling outage, drilling a hole through the high pressure side of the disc to provide a passage to the bonnet, resolved the pressure locking concern for the valves in question. Your plans to improve the corrective action and operability determination processes, and to improve the management oversight of emerging issues to assure timely and corrective actions, appropriately address the causes of the violation.

The effectiveness of the actions you have taken will be reviewed in future inspections. We appreciate your cooperation, and would be pleased to answer any questions you may have regarding our findings and conclusions.

Sincerely,

Eugene M. Kelly, Chief
Systems Section
Division of Reactor Safety

Docket No. 50-271

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Mr. Donald A. Reid

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cc:

R. Wanczyk, Plant Manager
J. Inayer, Vice President, Yankee Atomic Electric Company
J. Duffy, Licensing Engineer, Vermont Yankee Nuclear Power Corporation
J. Gilroy, Director, Vermont Public Interest Research Group, Inc.
D. Tefft, Administrator, Bureau of Radiological Health, State of New Hampshire
Chief, Safety Unit, Office of the Attorney General, Commonwealth of
Massachusetts
R. Gad, Esquire
G. Bisbee, Esquire
R. Sedano, Vermont Department of Public Service
T. Rapone, Massachusetts Executive Office of Public Safety
NRC Resident Inspector
State of New Hampshire, SLO Designee
State of Vermont, SLO Designee
Commonwealth of Massachusetts, SLO Designee

Mr. Donald A. Reid

3

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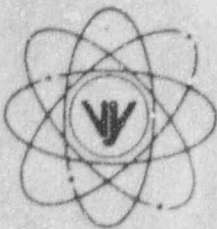
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VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

REPLY TO
ENGINEERING OFFICE

580 MAIN STREET
BOLTON, MA 01740
(508) 779-8711

August 3, 1995
BVY 95-83

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20553

- References:
- License No. DPR-28 (Docket No. 50-271)
 - Letter, USNRC to VYNPC, NVCY 95-59, "Vermont Yankee Motor-Operated Valve Inspection 95-03," dated May 4, 1995
 - Letter, USNRC to VYNPC, NVCY 95-80, "Notice of Violation and Proposed Imposition of Civil Penalty - \$50,000 (NRC Inspection Report No. 95-03)", dated July 5, 1995

Subject: Reply to Notice of Violation - NRC Inspection Report No. 50-271/95-03

This letter is written in response to the subject Notice of Violation. Our reply is as follows:

VIOLATION

10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requires that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action is taken to preclude repetition.

Contrary to the above,

- From March 1994 until March 6, 1995, a significant condition adverse to quality existed at the facility but was not promptly corrected, namely, a lack of an analysis as to whether the Core Spray injection valves (motor operated valves V14-11A, V14-11B, V14-12A, and V14-12B) were susceptible to pressure locking such that the valves would not open if called upon to open in the event of a loss of coolant accident. Specifically, although in memoranda, dated March 7 and March 11, 1994, the licensee identified the susceptibility of the injection valves to pressure locking due to leakage past the check valve, and stated that analysis should be performed to determine the capability of the valves to open against pressure locking forces, analytical calculations to verify operability of the injection valves were not performed until March 6, 1995.
- A significant condition adverse to quality was identified at the facility in April and May 1994 but was not promptly corrected, namely, operability determinations performed to support switching the normal positions of the injection valves by shutting valve V14-11A and opening valve V14-12A identified the susceptibility of valve V14-11A to pressure locking, but no analytical calculations to verify operability of valve V14-11A were performed until March 6, 1995.

This is a Severity Level III Violation (Supplement 1).

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United States Nuclear Regulatory Commission
August 3, 1995
Page 2

VIOLATION RESPONSE

Vermont Yankee does not contest this violation. As we discussed at the May 20th Enforcement Conference, we acknowledge that although we self identified the potential for pressure locking of the core spray valves, we did not immediately address the implications of potential pressure locking on the operability of the core spray valves. Further, the operability assessment performed in May of 1994 did not include the use of analytical calculations. As we explained at the Enforcement Conference, we considered the use of analytical calculations, however, they were not used for the following reasons. First, we believed that the methods in use at that time (May 1994) were not verified by actual valve testing. Only one valve test had been done to our knowledge. Second, because the industry had no accepted analytical methods, we made plans in July of 1994 to modify the valves during the next refueling outage. The intent of the modifications was to absolutely preclude pressure locking.

Testing performed during the past outage showed that the valves would have opened if required during the past operating cycle at actual grid voltage conditions. This testing indicated that the thrust requirements were above the valves' capability at worst case degraded grid design basis voltage conditions. This testing was completed before the valve modifications were made.

FULL COMPLIANCE ACHIEVED

Full compliance with 10 CFR Part 50, Appendix B, Criterion XVI was achieved on March 18, 1995. On that day the plant was shut down and depressurized for the 1995 refueling outage, during which the core spray valves, as well as all other valves susceptible to pressure locking, were modified. We then performed pressure lock testing to demonstrate the effectiveness of the modification.

LESSONS LEARNED

We have completed a thorough assessment of the circumstances resulting in the Notice of Violation. We identified three primary lessons learned. They are: (1) the need to improve our corrective action process; (2) a deficiency existed in our operability determination process; and, (3) there was insufficient management oversight of (1) and (2) above.

Several steps have been taken in response to lessons learned and to minimize the potential for recurrence. In the area of improving our corrective action process, we implemented changes in February of this year which lower the threshold for capturing potential and actual adverse conditions of quality and ensuring they are communicated and dispositioned in a timely and appropriate manner. Known as Event Reports (ER), this new mechanism proved effective over the course of the 1995 refueling outage. The violation occurred prior to the full implementation of these enhancements to our corrective action process.

To improve our operability determination process, we will be reinforcing the need for sound justification when using engineering judgement for such determination. We will provide criteria on the appropriate use of margins in making operability determinations as well as providing guidance on the use of industry and vendor information. The use of quantitative analysis, where appropriate, will also be addressed. These improvements will be completed by October 1, 1995.

United States Nuclear Regulatory Commission
August 3, 1995
Page 3

Steps have already been taken to improve oversight by reinforcing management expectations for prompt identification, communication, assessment and disposition of conditions potentially adverse to quality. For example, an MOV Oversight Group has been formed and meets periodically to monitor the status of our MOV Program implementation, review and assess emerging and ongoing MOV issues, and establish plans for addressing issues. This model is consistent with our approach in responding to current and future issues where potential or actual conditions adverse to quality are identified.

Other steps taken include increased communication between plant and engineering management to facilitate identification and discussion of emerging issues and assure efforts are initiated or underway to ensure for timely and effective corrective action. These meetings will occur monthly.

Finally, we are increasing the use of self-assessments and independent technical reviews of programs as a means of providing management with additional feedback on the adequacy of programs, further improve our ability to identify conditions adverse to quality, and identify opportunities to improve program effectiveness.

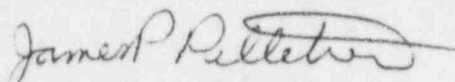
PAYMENT

As instructed by the Notice enclosed with Reference c), "Notice of Violation and Proposed Imposition of Civil Penalty," an electronic transfer has been completed.

We trust that the enclosed information is satisfactory; however, should you have any questions or desire any additional information on this issue, please do not hesitate to contact us.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION



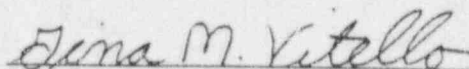
James P. Pelletier
Vice President, Engineering

cc: USNRC Regional Administrator, Region I
USNRC Resident Inspector, VYNPS
USNRC Project Manager, VYNPS

STATE OF VERMONT)
)ss
WINDHAM COUNTY)

Then personally appeared before me, James P. Pelletier, who, being duly sworn, did state that he is Vice President, Engineering of Vermont Yankee Nuclear Power Corporation, that he is duly authorized to execute and file the foregoing document in the name and on the behalf of Vermont Yankee Nuclear Power Corporation, and that the statements therein are true to the best of his knowledge and belief.




Gina M. Vitello, Notary Public
My Commission expires February 10, 1999