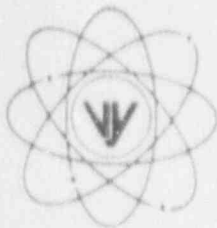


# VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

BVY 90-126

REPLY TO:  
ENGINEERING OFFICE  
580 MAIN STREET  
BOLTON, MA 01740  
(508) 770-6711

December 27, 1990

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

Attn: Document Control Desk

References: a) License No. DPR-28 (Docket No. 50-271)  
b) Letter, USNRC to VYNPC, NPY 90-212, dated 11/27/90

Dear Sir:

Subject: **Response to Inspection Report 50-271/90-10, Notice of  
Violation, Notice of Deviation and Identified Weaknesses**

This letter is written in response to Reference b), which indicates that certain of our activities were not conducted in full compliance with NRC requirements. The alleged violations, classified at Severity Level IV, the alleged deviation and the alleged weaknesses were identified as a result of inspections conducted by the NRC Senior Resident Inspector during the period August 13 - October 9, 1990. We are asking you to review the basis for the alleged violations contained in Inspection Report 50-271/90-10 and to rescind these violations. Both violations hinge upon the interpretation of a word or term that has never been formally defined in NRC regulations for non Tech Spec equipment. NRC inspectors have previously always accepted our interpretations which have been conservative and consistent over our 18-year operating history.

## VIOLATION

Technical Specification Section 6.5, Plant Operating Procedures, requires that detailed written procedures involving both nuclear and non-nuclear safety, covering operation of systems and components of the facility including applicable check-off lists and instructions shall be prepared, approved, and adhered to. Operating Procedure OP 2184, Fuel Pool Cooling System, requires that from and after the date that one of the fuel pool cooling subsystems is made or found inoperable (and the remaining subsystem is capable of maintaining the fuel pool temperature below 150 degrees F) then the reactor shall be in cold shutdown within thirty days unless such subsystem is sooner made operable.

Contrary to the above, between August 4, 1989 and July 3, 1990 the reactor was not placed in a cold shutdown condition, when the "A" fuel pool cooling subsystem remained inoperable for more than thirty days with the "A" fuel pool cooling pump power supply breaker, P9-1A white tagged (Danger Tagged) in the open position.

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## RESPONSE

The determination that a violation occurred rests on the premise that a fuel pool pump was inoperable. The pump was not inoperable as explained below.

A wide spectrum of technical experts agree that the pump was capable of running and fulfilling its function even though it had an intermittent ground in one phase. The critical question is then "was it tagged in a manner that made it inoperable"? There is conclusive evidence that the answer is "no".

The Spent Fuel Pool Cooling System is not a Technical Specification system. It is not required to operate in a mode that provides for a standby pump to start automatically or even to be manually started rapidly. Because of the above, the condition of a component is not so easily classified as operable or inoperable as would be possible with a component in a Technical Specification system. Vermont Yankee has in the past used white tags on components that have been considered operable. NRC personnel, including SRI's and RI's, have never before criticized this practice.

Attachment A to Reference b) provides further clarification of the interpretation of the term "inoperable" used in the development of the above alleged violation. Citing reference to Vermont Yankee administrative procedures, the following position is stated in Section D, "SFP Pump A Operability":

"A white tag used to administratively restrict operation of a component or equipment renders that equipment or component inoperable. In some instances, where white tags are used only as a higher level of equipment control, the equipment may be made operable by removing the white tag and repositioning a breaker, switch, valve, or other tagged component."

While it is true that white tags are normally associated with equipment or components that are considered inoperable, white tags are also used in some instances as a higher level of equipment control for equipment which is considered operable. Such use of white tags is consistent with the definition provided in procedure AP 0140, Vermont Yankee Local Switching Rules," and as described above. It is noted that white tags have been previously applied in this manner at Vermont Yankee to provide enhanced control over other operable equipment. Therefore, the presence of a white tag is not the sole indicator of the operability status of equipment or components. The term "operable" is defined in the Vermont Yankee Technical Specifications as being able to perform its specified function(s). The purpose of a white tag, as defined in procedure AP 0140, is to provide visual indication that a personnel or equipment safety concern exists relating to the operation of a particular component or equipment.

In this instance, upon the completion of the electrical ground investigation performed on June 13, 1989, the breaker for the "A" fuel pool cooling pump was opened and a white tag placed to isolate the grounded motor and so reserve its use for operation only in the unlikely event of failure of the redundant "B" fuel pool cooling pump. The intent of the white tag in this case was to provide additional assurance that the "B" pump was preferentially operated, not to indicate that the "A" pump was inoperable. It was clearly understood by appropriate maintenance and operations personnel that the intermittent electrical ground on the "A" pump, although undesirable, did not preclude the use of this piece of equipment. Under instructions provided in procedure AP 0140, the white tag could have been cleared in a timely fashion in the event the "A" pump was required to be operated.

A review of events that occurred on July 3, 1990 further supports the fact that the "A" pump was not considered inoperable. On that date the white tag was removed, the pump motor supply breaker was closed and a caution tag was placed on the pump control switch in the OFF position. This action was taken at that time as a result of an internal concern that was expressed that the presence of the white tag could give the impression that the pump was not available for service. Plant management personnel reiterated at that time that the intent of the white tag was not to render the pump inoperable and readily directed the removal of the white tag to provide a more clear representation of the operable status of the pump.

The decision to retain the existing pump motor and purchase a replacement, versus removal and repair of the installed motor, was based on the desire to maintain pump redundancy. This utilization of the defense-in-depth approach to safety is an integral part of the Vermont Yankee operating philosophy. We will, however, review procedure AP 0140 and revise it if necessary to ensure that the guidelines for the use of white tags are perfectly clear and supportive of that operating philosophy.

#### VIOLATION

10 CFR 50, Appendix B, Criterion XVI, requires that conditions adverse to quality, such as defective equipment and nonconformances be promptly identified and corrected. Additionally, 10 CFR 50.49(f) requires that electrical equipment important to safety be qualified, in part, by testing or by analysis in combination with partial type test data. As stated in the licensee's Environmental Qualification Program Manual, the "A" Spent Fuel Pool cooling pump motor is environmentally qualified (electrical) equipment important to safety.

Contrary to the above, the "A" Spent Fuel Pool cooling pump motor was not qualified, due to lack of testing or analysis in the degraded condition. Between June 9, 1989 and July 27, 1990, the pump motor was in a degraded condition in that at least one phase of the motor winding shorted to ground following a brief period of operation. The condition adverse to quality represents a nonconformance that was not promptly identified and corrected.

#### RESPONSE

This violation can only be valid if the pump is considered operable. It would be inconsistent and unnecessary to perform EQ analyses or tests on equipment not able to perform its function.

If the first violation cited in this report is rescinded, then a basis for this violation might exist. However, Vermont Yankee does not believe a violation occurred.

As discussed in Attachment A to the Inspection Report, Vermont Yankee promptly identified the potentially degraded condition of the "A" Spent Fuel Pool cooling pump motor and performed the appropriate troubleshooting and testing, including resistance to ground measurements. Further testing of this motor would have required destructive testing which was considered inappropriate. Based on the results of the testing performed, it was concluded that the motor was capable of performing its intended function in the as-found condition. Therefore, the issue was not identified as an indeterminant condition as identified by the EQ Program and was not processed as such.

Vermont Yankee agrees that, although the test data taken was comprehensive and complete, the corresponding evaluation may have benefited from further engineering analysis to assure the qualification of the equipment in accordance with 10CFR50.49. This further analysis was performed at a later date and confirmed that the motor in question retained its environmental qualification. To assure that we continue to provide comprehensive evaluations of potential degradations of equipment qualification, we will review our evaluation process.

#### DEVIATION

Vermont Yankee Nuclear Power Corporation letter to the NRC, dated May 3, 1985, stated that it is the policy of Vermont Yankee's corporate management that all equipment and components which are addressed by Vermont Yankee's Environmental Qualification (EQ) program shall be maintained operable and fully environmentally qualified at all times, commensurate with the status of the plant. In addition, the licensee committed that whenever safety class equipment or components which are EQ but are not covered by Vermont Yankee Technical Specifications fail (are not operable), a Nonconformance Report shall be generated with disposition of the discrepancy provided within 30 days.

Contrary to the above, on July 5, 1989, the "A" Spent Fuel Pool level instrumentation channel equipment (safety class and addressed by Vermont Yankee's EQ program) was made inoperable by the removal of its power source. This condition remained until July 3, 1990, and a Nonconformance Report had not been generated to disposition the discrepancy.

#### RESPONSE

Vermont Yankee agrees that a Nonconformance Report is required whenever safety class equipment or components which are environmentally qualified but are not covered by Vermont Yankee Technical Specifications fail (are not operable). Contrary to this, a Nonconformance Report was not generated when the "A" Spent Fuel Pool level instrumentation channel was deenergized by the removal of its power source.

Each of the redundant fuel pool level instrumentation channels is powered from the same breaker cubicle as the respective fuel pool cooling pump. This aspect was not assessed at the time when the breaker was opened to deenergize the "A" fuel pool cooling pump.

In order to avoid future occurrences of this event, the following actions will be taken:

- 1) For the short term, operator aids will be posted on the fuel pool cooling pump breaker cubicles to provide visual indication that opening of the breaker will cause the applicable fuel pool level instrumentation channel to also be affected. This will be completed by January 25, 1991.
- 2) A review of plant drawings and documentation will be performed to determine if a similar condition exists such that the power supply for instrumentation addressed by the Vermont Yankee Environmental Qualification program is provided from the power supply for a

component such as a pump, fan or valve. Upon completion of this review, the applicable operator aids will be posted and procedures revised to include this information. We anticipate that this will be accomplished by April 15, 1991.

IDENTIFIED WEAKNESS

Operators and some key supervisors were not fully aware of the administrative requirements contained in the MOO Directive 87-01 and in the fuel pool cooling system operating procedure. The MOO Directive was not readily available to the operators, consequently, the decisions regarding repair of the "A" SFP cooling pump did not benefit from guidance contained in these instructions.

RESPONSE

Vermont Yankee agrees that improvements can be made to ensure that the appropriate management guidance, including MOO Directives, is provided to the licensed operators. In order to improve and clarify management guidance, and focus specifically on timely and consistent treatment of off normal conditions, the following actions will be taken:

- 1) All presently outstanding MOO Directives will be reviewed for continued applicability.
- 2) Upon completion of this review, applicable MOO Directives will be retained as a controlled document, with a copy placed in the plant Control Room.
- 3) Plant operating procedures will be reviewed and revised as necessary to include the requirements of the applicable MOO Directives as Administrative Limits.
- 4) Administrative procedure AP 0125, "Plant Equipment Control," will be revised to require the review of both Technical Specifications and the applicable operating procedure Administrative Limits prior to removal of equipment from service.

The above actions will be completed by March 15, 1991.

IDENTIFIED WEAKNESS

The sequence of events identified the need for PORC to review plant tagouts to detect any potential safety hazards. The licensee has identified this concern and PORC now conducts periodic reviews of plant tagouts which are active for greater than 60 days.

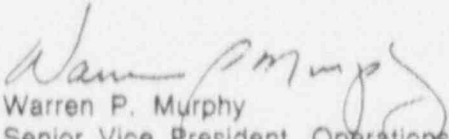
RESPONSE

As discussed above, Vermont Yankee has previously identified this concern and instituted corrective action. Administrative procedure AP 0140, Revision 14, "Vermont Yankee Local Control Switching Rules," requires that the Operations Supervisor ensure that a report summarizing all Caution and White tags outstanding for greater than 60 days, along with recommendations for disposition, be presented to PORC for review. The presentation and review of this report satisfies the PORC requirement of reviewing plant operations for detection of potential safety hazards.

We trust the information provided above adequately addresses your concerns; however, should you have any questions or desire additional information, please do not hesitate to contact us.

Very truly yours,

Vermont Yankee Nuclear Power Corporation

  
Warren P. Murphy  
Senior Vice President, Operations

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