

DCS

FEB 02 1991

Docket No. 50-271

Vermont Yankee Nuclear Power Corporation  
ATTN: Mr. Warren P. Murphy  
Senior Vice President, Operations  
RD 5, Box 169  
Ferry Road  
Brattleboro, Vermont 05301

Gentlemen:

Subject: NRC Inspection 50-271/90-10

This refers to your letters dated December 27, 1990 and January 28, 1991, in response to our letter dated November 27, 1990.

Thank you for informing us of the corrective and preventive actions documented in your letters. These actions will be examined during a future inspection of your licensed program.

We appreciate your cooperation in these matters.

Sincerely,  
Original Signed By:  
Ebe C. McCabe

Jon R. Johnson, Chief  
Projects Branch No. 3  
Division of Reactor Projects

- cc:
- J. Weigand, President and Chief Executive Officer
- J. Pelletier, Vice President, Engineering
- D. Reid, Plant Manager
- J. DeVincentis, Vice President, Yankee Atomic Electric Company
- L. Tremblay, Sr. Licensing Engineer, Yankee Atomic Electric Co.
- J. Gilroy, Director, Vermont Public Interest Research Group, Inc.
- Vermont Yankee Hearing Service List (w/cy of Licensee's Response)
- Public Document Room (PDR) (w/cy of Licensee's Response)
- Local Public Document Room (LPDR) (w/cy of Licensee's Response)
- Nuclear Safety Information Center (NSIC) (w/cy of Licensee's Response)
- NRC Resident Inspector (w/cy of Licensee's Response)
- State of New Hampshire, SLO Designee (w/cy of Licensee's Response)
- State of Vermont, SLO Designee (w/cy of Licensee's Response)

OFFICIAL RECORD COPY

9102110067 910202  
PDR ADOCK 05000271  
Q PDR

11  
1201

Vermont Yankee Nuclear Power Corporation

2

FEB 02 1991

bcc w/encl:  
Region I Docket Room (with concurrences)  
Management Assistant, DRMA (w/o encl)  
J. Johnson, DRP  
J. Rogge, DRP  
H. Eichenholz, SRI - Vermont Yankee  
T. Koshy, SRI - Yankee Rowe  
J. Macdonald, SRI - Pilgrim  
R. Barkley, DRP  
M. Fairtile, NRR

RI:DRP  
*[Signature]*  
Eichenholz/meo  
1/30/91

RI:DRP  
*[Signature]*  
Rogge

RI:DRP  
*[Signature]*  
Johnson  
2/1

*Verbal/Heller Society  
Note on  
agreement*  
RI:DRS  
*[Signature]*  
Anderson  
1/30

~~RI:DRP~~  
~~Hehl~~

OFFICIAL RECORD COPY

A:REP9010.MEO

VERMONT YANKEE HEARING SERVICE LIST

Diane Curran, Esq.  
Harmon, Curran & Tousley  
2001 S Street, N.W., Suite 430  
Washington, D.C. 20009

John Traficante, Esq.  
Chief Safety Unit  
Office of the Attorney General  
One Ashburton Place, 19th Floor  
Boston, Massachusetts 02108

Geoffrey M. Huntington, Esq.  
Office of the Attorney General  
Environmental Protection Bureau  
State House Annex  
25 Capitol Street  
Concord, New Hampshire 03301-6397

Charles Bechhoefer, Esq.  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Mr. Gustave A. Linenberger, Jr.  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Vermont Public Interest Research  
Group, Inc.  
43 State Street  
Montpelier, Vermont 05602

Raymond N. McCandless  
Vermont Division of Occupational  
and Radiological Health  
Administration Building  
Montpelier, Vermont 05602

Public Service Board  
State of Vermont  
120 State Street  
Montpelier, Vermont 05620

James Volz, Esq.  
Special Assistant Attorney General  
Vermont Department of Public Service  
120 State Street  
Montpelier, Vermont 05620

G. Dana Bisbee, Esq.  
Office of the Attorney General  
Environmental Protection Bureau  
State House Annex  
25 Capitol Street  
Concord, New Hampshire 03301-6397

Adjudicatory File (2)  
Atomic Safety and Licensing Board  
Panel Docket  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dr. James H. Carpenter  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Chairman, Board of Selectmen  
Town of Vernon  
Post Office Box 116  
Vernon, Vermont 05353-0116

Attorney General  
State of Vermont  
109 State Street  
Montpelier, Vermont 05602

R. K. Gad, III  
Ropes & Gray  
One International Place  
Boston, Massachusetts 02110

Mr. J. Gary Weigand  
President & Chief Executive Officer  
Vermont Yankee Nuclear Power Corp.  
RD 5, Box 169  
Ferry Road  
Brattleboro, Vermont 05301

Mr. John DeVincentis, Vice President  
Yankee Atomic Electric Company  
580 Main Street  
Bolton, Massachusetts 01740-1398

Jerry Harbour  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Mr. W. P. Murphy  
Senior Vice President, Operations  
Vermont Yankee Nuclear Power Corp.  
RD 5, Box 169  
Ferry Road  
Brattleboro, Vermont 05301

Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Robert M. Lazo, Chairman  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Mr. James P. Pelletier  
Vice President - Engineering  
Vermont Yankee Nuclear Power Corp.  
P.O. Box 169  
Ferry Road  
Brattleboro, Vermont 05301

Ms. V. Louise McCarren  
Vermont Department of Public Service  
120 State Street, 3rd Floor  
Montpelier, Vermont 05620

Resident Inspector  
Vermont Yankee Nuclear Power Station  
U.S. Nuclear Regulatory Commission  
P. O. Box 176  
Vernon, Vermont 05354

Frederick J. Shon  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406



802 257 7791

JAN 29 '91 17:18

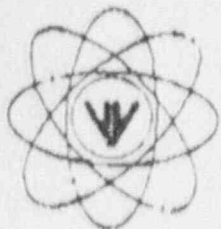
UY RESIDENT OFFICE P02

URGENT 15:40 FROM Ut. Yankee Corp

TO

PLANT F.02

# VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

BYV 91-13

REG. 112  
ENGINEERING OFFICE  
580 MAIN STREET  
BOLTON, MA 01740  
(508) 779-6111

January 28, 1991

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, NUY 90-212, dated 11/27/90
  - c) Letter, VYNPC to USNRC, BYV 90-126, dated 12/27/90

Dear Sir:

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

After our discussions with Jon R. Johnson, Chief, Reactor Projects Branch No. 3, and Harold Eichenholz, Senior NRC Resident Inspector, we more fully understand the bases for the NRC's position on the violations transmitted in Reference b). Based on this additional information, we are submitting this revision to our response submitted as Reference c).

The alleged violations, classified as Severity Level IV, were identified as a result of inspections conducted by the NRC Resident Inspector during the period August 13-October 9, 1990.

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 2154, 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.

9102060038

JAN 29 '91 17:19

UY RESIDENT OFFICE P01

PLANT P.01

U.S. Nuclear Regulatory Commission  
January 28, 1991  
Page 2

VERMONT YANKEE NUCLEAR POWER CORPORATION

### RESPONSE

An investigation of an intermittent ground was completed on June 13, 1989 and the breaker for the "A" fuel pool cooling pump was opened and white tagged. The intention of placing the white tag was to provide additional assurance beyond a caution tag that the "B" pump would be preferentially operated. It was understood by appropriate operations and maintenance personnel that the intermittent electrical ground on the "A" pump did not preclude its use.

Although there are instructions in procedure AP 0140, Vermont Yankee Local Control Switching Rules, on how the white tag could have been cleared if the "A" pump was needed, we agree that the use of a white tag in this situation is potentially confusing and therefore, not a desirable practice for providing limitations on operable components. Although Vermont Yankee has on occasion used white tags on components that have been considered operable, we now agree that this practice should be discontinued. We will revise AP 0140 by March 1, 1991 to ensure white tags will not be used on operable equipment.

### 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

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 at the time that the motor was capable of performing its intended function in the as-found condition. The motor was not considered as being in an indeterminate condition as identified by the EQ Program and therefore no further engineering evaluation was performed.

Vermont Yankee agrees that the evaluation should have included further engineering analysis to assure the qualification of the equipment was maintained in accordance with 10CFR50.49. To assure that we provide comprehensive evaluations of potential degradations

JAN 29 '91 17:20

VY RESIDENT OFFICE P02

PLM:11 P.04

U.S. Nuclear Regulatory Commission  
January 28, 1991  
Page 3

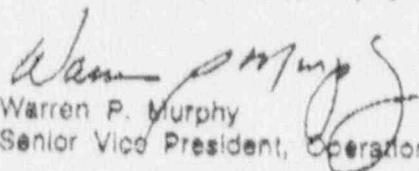
VERMONT YANKEE NUCLEAR POWER CORPORATION

of equipment qualification, we will revise the corrective maintenance process by March 1, 1991 to require a written engineering evaluation, whenever necessary, to assure that potentially degraded equipment is fully qualified in accordance with the Vermont Yankee EO Program.

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,

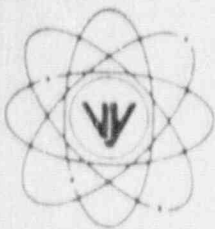
Vermont Yankee Nuclear Power Corporation

  
Warren P. Murphy  
Senior Vice President, Operations

/dm

cc: USNRC Regional Administrator, Region 1  
USNRC Resident Inspector, VYNPS  
USNRC Project Manager, VYNPS

# VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

BVY 90-126

ENGINEERING OFFICE

580 MAIN STREET  
BOLTON, MA 01740  
(508) 729-6711

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, NVY 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.

9101090442



## 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, their 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.



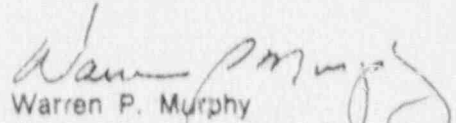
U.S. Nuclear Regulatory Commission  
December 27, 1990  
Page 6

VERMONT YANKEE NUCLEAR POWER CORPORATION

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 1  
USNRC Resident Inspector, VYNPS  
USNRC Project Manager, VYNPS