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Docket No. 50-271

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

Dear Mr. Murphy:

SUBJECT: INSPECTION NO. 50-271/92-80

This refers to your letter dated October 13, 1992, in response to our letter dated July 30, 1992.

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

Your cooperation with us is appreciated.

Sincerely,

Original signed by

Lee H. Bettenhausen, Chief
Operations Branch
Division of Reactor Safety

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Mr. Warren P. Murphy

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cc:

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J. Thayer, Vice President, Yankee Atomic Electric Company
L. Tremblay, Senior Licensing Engineer, Yankee Atomic Electric Company
J. Gilroy, Director, Vermont Public Interest Research Group, Inc.
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T. Rapone, Massachusetts Executive Office of Public Safety
Public Document Room (PDR)
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NRC Resident Inspector
State of New Hampshire, SLO Designee
State of Vermont, SLO Designee (w/copy of letter dtd October 13, 1992)
Commonwealth of Massachusetts, SLO Designee

Mr. Warren P. Murphy

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bcc:

Region I Docket Room (with concurrences and IFS Forms)

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DRS Files (1)

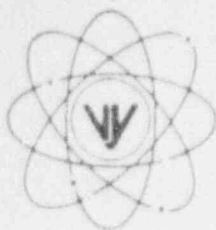
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VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

REPLY TO
ENGINEERING OFFICE
580 MAIN STREET
BOLTON, MA 01740
(508) 779-8711

October 13, 1992
BVY 92-119

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

Attention: Document Control K

References:

- a) License No. DPR-28 (Docket No. 50-271)
- b) Letter, USNRC to VYNPC, Inspection Report 92-80, NVY 92-059, dated 4/14/92
- c) Letter, VYNPC to USNRC, BVY 92-071, Response to Inspection Report 92-80, dated 6/22/92
- d) Letter, USNRC to VYNPC, Emergency Operating Procedures (EOP) Inspection Response Meeting - Inspection Report 50-271/92-80, NVY 92-145, dated 7/30/92

Dear Sir:

Subject: Revised Response to Inspection Report 92-80

This letter is written to provide a revised response to the weaknesses identified by an NRC Emergency Operating Procedure (EOP) Inspection Team during the special announced safety inspection conducted from February 24 to February 28, 1992, and documented in Reference b). Included in this submittal is the additional information on specific actions Vermont Yankee plans to take on each of the issues identified during our meeting, held at the NRC Region 1 office on July 14, 1992 and documented in Reference d).

Information is submitted in the accompanying attachments in response to the identified weaknesses in (1) the technical adequacy of the Vermont Yankee Plant Specific Technical Guidelines (PSTGs), EOPs, Reactor Pressure Vessel Control guideline and (2) the EOP programmatic controls as noted in Sections 3.1, 3.2, 3.3 and 4.2 and Sections 6.1 and 6.2, respectively, of Reference b).

It is our intent to fully resolve all issues related to both the specific weaknesses identified by the NRC inspection as well as those arising from our own root cause analysis, within an updated Procedure Generation Package (PGP), revised OE's and other plant operating procedures. Further, we will pursue resolutions of any appropriate generic items by continued participation in the cognizant industry groups such as the BWROG Emergency Procedures Committee and the NUMARC Severe Accident Working Group.

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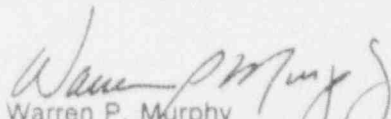
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We plan to incorporate the updates to the PGP and the EOPs, including correction of deficiencies concerning OE 3100, "Scram Procedure", and the "Torus Temperature Control" guideline, such that they may be used for training beginning in February 1993. Implementation will be completed and revised procedures issued, following completion of operator training in 1993. Also, as agreed earlier, a sufficient quantity of borax required by OE 3107, Appendix J, has been obtained.

We believe that the actions proposed are responsive to your concerns; however, should you have any further questions, please do not hesitate to contact us.

Very truly yours,

Vermont Yankee Nuclear Power Corporation



Warren P. Murphy
Senior Vice President, Operations

cc: USNRC Region I Administrator
USNRC Resident Inspector - VYNPS
USNRC Project Manager - VYNPS

ROOT CAUSE ANALYSIS AND CORRECTIVE ACTION PLAN

SUMMARY OF NRC FINDINGS RELATIVE TO TECHNICAL ADEQUACY:

Discrepancies were identified in the VY PSTGs that detract from the technical adequacy of the VY accident mitigation strategies. Additionally, some problems were noted with the technical adequacy of the EOPs and EOP support procedures, including some minor inconsistencies between the VY PSTGs and EOPs. The technical adequacy of the VY PSTGs, EOPs and EOP support procedures is considered to be unresolved pending licensee review and resolution (Sections 3.1, 3.2, and 3.3).

VY RESPONSE:

Sections 3.1, 3.2, and 3.3 of the inspection report contain a total of 45 comments. Two of these comments were resolved and require no further licensee action as a result of our July 14, 1992 meeting and documented in Reference d). Vermont Yankee will resolve the remaining weaknesses, criticisms, or acceptable alternatives to our current technical justifications by appropriate revision of the PGP's, OE's and support procedures as identified in the attached matrix and supporting attachment "Amplifying Information to NRC Comments". Implementation will be completed and revised procedures issued, following completion of operator training in 1993.

ROOT CAUSE:

We have conducted our review of the identified weaknesses and have determined that there is no single root cause for their occurrence. Some were due to insufficient management oversight and others were due to weaknesses in the quality control process. The majority of the issues identified as weaknesses have as their root cause the lack of clearly defined standards regarding what constitutes sufficient justification for deviation from generic emergency procedure guidelines.

We believe the standards have and will continue to evolve with practice and time as both the NRC and industry gain experience with the issues. For example, as noted in the inspection report, Vermont Yankee's EOP program was much improved as a result of response to inspection findings (USNRC Inspection Report No. 50-271/91-02) as well as our own initiatives derived from the guidance provided in NUREG-1358, ("Lessons Learned From the Special Inspection Program for Emergency Operating Procedures").

SUMMARY OF NRC FINDINGS RELATIVE TO PROGRAMMATIC WEAKNESSES:

Weaknesses in the program have resulted in EOP appendices and support procedures that are not of the same high quality (as the flowchart procedures).

The programmatic controls do not appear to be effective for ensuring that tools and materials will be available to support implementation of the EOP support procedures.

These weaknesses in the EOP programmatic controls are considered to be unresolved pending licensee review and resolution (Sections 6.1 and 6.2).

VY RESPONSE:

An OE appendix writers guide will be developed in accordance with the criteria established in NUREG 0899, and incorporated into Vermont Yankee's PGP. In addition, the Verification and Validation programs will be revised to include the appropriate criteria when applied to OE appendices and support procedures, and will address the utilization of multi-disciplined teams during procedure development.

Appropriate surveillance checklists for tools and materials will be developed and controlled via administrative procedures. Scheduled surveillance intervals will be established based on past experience with similar tool and material control processes. Implementation will be completed and revised procedures issued, following completion of operator training in 1993.

ROOT CAUSE:

The root cause for the programmatic weaknesses which resulted in EOP appendices and support procedures not being of the same high quality as the flowchart procedures, has been determined to be due to a change in the method for preparation of OE appendices which did not require a review equivalent to the flowchart development process. A contributing cause was the erroneous assumption that, as with other procedures, there would be adequate exercise of the OE appendices and support procedures by operators during training and practice to provide additional verification and validation via the procedure change suggestion process. In addition, specific guidance was not provided in the procedure writers guide for development of OE appendices in accordance with Vermont Yankee's PGP.

The root cause for failing to ensure the availability of tools and materials needed for EOP implementation has been determined to be inadequate administrative controls. In the past, uncontrolled checklists have been utilized for surveillance of materials and tools necessary for implementation of OE appendices. In addition, there was no provision for ensuring that review and timely revision of the checklists were performed when necessitated by EOP or support procedure changes.

NRC SECTION #1: COMPARISON OF BWROG EPGs & VY PSTGS

SECTION	TITLE	COMMENT TYPE		REVISE PSTG	REVISE DIFF-1	REVISE DIFF-2	REVISE OE(s)	OTHER
		TECH	FORMAT					
A.1	Transitions from Other Guidelines		X	X	X	X		
A.2.a	Injection Thru the RHR Heat Exchangers		X	X	X	X		
A.3.a	Override to Repopen MSIVs	X		X	X		X	
A.3.b	Initiation of Shutdown Cooling	X		X	X	X		REV OP 0109
A.4.a	Initiation of Alt Rod Insertion & Reset	X		X			X	
A.4.b	Increasing CRD Differential Pressure	X		X	X		X	NEW EOP APP
B.1.a	RPV Depressurization	X		X	X		X	
B.2.a	Defeating Isolation Interlocks	X			X			
B.3.a	Termination of Injection at Vacuum Bkr Elev	X		X	X		X	
B.3.b	Termination of Inject for Primary Containment Water Level Limit	X		X	X		X	
B.4.a	Override Statement	X			X			
B.4.b	Air Purge	X		X	X	X	X	
C.1	Entry Conditions	X			X	X		REVISE ARPs
C.2	Secondary Containment Vent. Override		X	X	X		X	
C.3.a	Operation of Available PB Ventilation		X	X	X	X		
C.4.a	Floor Drain Sump Water Levels		X	X	X	X		
D.1	Emergency Depressurization	X			X			
E.1.a	Inhibit ADS	X		X	X		X	
E.1.b	Spray Cooling	X		X	X		X	
E.1.c	Transition from Spray Cooling to Steam Cooling	X		X			X	
E.2.a	Termination & Prevention of Injection	X						ISSUE CLOSED
E.2.b	Defeating Interlocks	X		X	X		X	NEW EOP APP
E.3.a	RPV Wtr Lvl Below Min Stm Cool Wtr Lvl		X		X			
E.3.b	Transition to Primary Containment Flooding		X	X	X		X	
E.4.a	RPV Venting	X		X	X	X	X	NEW EOP APP

NRC SECTION #2 COMPARISON OF VY PSTGS & VY EOPS

SECTION	TITLE	COMMENT TYPE		REVISE PSTG	REVISE DIFF-1	REVISE DIFF-2	REVISE OE(S)	OTHER
		TECH	FORUAT					
A.1	Shutdown Conditions	X					X	
B.1	Entry Conditions-RPV Water Level Cannot be Determined		X			X	X	
B.2.a	Override-Transition to Level/Power Control		X			X	X	
B.2.b	Injection Through The RHR Heat Exchangers	X		X	X	X		REVISE OF 2124
B.2.c	Use of Alternate Injection Systems	X					X	
B.3.a	Heat Capacity Temperature Limit & SRV Tail Pipe Level Limit		X			X	X	REVISE OE 3100
B.3.b	RPV Depressurization		X					REVISE OP 0109
B.4.a	Defeating RPS Logic Trips	X					X	
C.1	Suppression Pool Temperature Control	X		X	X		X	
C.2.a	Primary Containment Pressure	X		X	X			
D.1	High Reactor Building Differential Pressure Entry Conditions	X				X	X	REVISE ON 3153, 3158 & OP 2116
D.2.a	Floor Drain Sump Water Levels	X		X	X	X		REVISE ARS(e)
E.1.a	Transitions from Other Guidelines		X					REVISE STUDY GUIDE
E.2.a	RPV Water Level Above the Minimum Steam Cooling RPV Water Level	X						ISSUE CLOSED
E.2.b	Exit from Level Power Control		X			X		

NRC SECTION #3 TECHNICAL ADEQUACY OF EOPS & SUPPORT PROCEDURES

SECTION	TITLE	COMMENT TYPE		REVISE PSTG	REVISE DIFF-1	REVISE DIFF-2	REVISE OE(s)	OTHER
		TECH	FORMAT					
A	Primary Containment Water Level Indication	X						CHANGE DRYWELL HIGH WATER LEVEL ALARM SETPOINT
B	Isolation of Systems Discharging Into Secondary Containment	X						REVISE ON 3153 & 3158
C	Emergency RPV Depressurization with Alternate Systems	X					X	NEW EOP APPENDICES
D	Control Rod Insertion	X						REVISE OP 0109
E	Throttling Fire Water Injection	X					X	

NOTE: (1) PGP APPENDIX A: PLANT SPECIFIC TECHNICAL GUILDEIN (PSTG)
 (2) PGP APPENDIX E: EPG TO PSTG DIFFERENCES (DIFF-1)
 (3) PGP APPENDIX F: PSTG TO OE DIFFERENCES (DIFF-2)

AMPLIFYING INFORMATION TO NRC COMMENTS
NRC SECTION #1: COMPARISON OF BWROG EPGs & VY PSTGS

SECTION	TITLE	BRIEF DESCRIPTION OF CORRECTIVE ACTION
A.1	Transitions from Other Guidelines	Revise PSTG to specify transition to RPV Control (OE 3101) Remove previous justification from Diff-1 and justify OE transition to OE 3100 (Scram Procedure) in Diff-2.
A.2.a	Injection Thru the RHR Heat Exchangers	Revise PSTG to agree with EPGs, remove previous justification from Diff-1 and justify the use of the operating procedure in Diff-2.
A.3.a	Override to Reopen MSIVs	The bypassing of the high steam flow not in Run isolation interlock will be removed from the PSTG. Diff-1, OE 3101 and Appendix P will be modified to reflect change.
A.3.b	Initiation of Shutdown Cooling	Revise PSTG to agree with EPGs; Diff-1 will be changed to reflect change; the use of OP 0109 will be justified in Diff-2 and OP 0109 will be revised to provide direction as to when to shutdown to cold S/D.
A.4.a	Initiation of Alt Rod Insertion & Reset	The PSTGs and OEs will be revised to agree with EPGs.
A.4.b	Increasing CRD Differential Pressure	Revise PSTG to agree with EPGs; the previous justification in Diff-1 will be deleted; the OEs will be changed to agree with the PSTGs and a new appendix will be written with direction for increasing cooling water delta P.
B.1.a	RPV Depressurization	Rather than reliance on training, provide decision step which requires operator to determine if an ATWS condition exists prior to proceeding with depressurization in accordance with Tech. Specs. This will require revision of PSTG, Diff-1 and EOPs.
B.2.a	Defeating Isolation Interlocks	Additional justification will be provided in Diff-1 utilizing existing design basis information.
B.3.a	Termination of Injection at Vacuum Bkr Elev	The PSTG will be revised to agree with the EPGs; Diff-1 justification will be deleted and OEs changed to agree with PSTGs.
B.3.b	Termination of Injection for Primary Containment Water Level Limit	The PSTGs will be revised to agree with the EPGs; Diff-1 justification will be deleted and OEs changed to agree with PSTGs.
B.4.a	Override Statement	Revise Diff-1 to strengthen justification for not assuming unknown concentrations are above deflagration limits.

B.4.b	Air Purge	The PSTG will be revised to agree with the EPGs and Diff-1 justification deleted. The OE will be changed to permit air purge with TSC concurrence and revise Diff-2 to justify difference between PSTG and OE.
C.1	Entry Conditions	Move justification for differences to Diff-2 from Diff-1 and revise alarm response procedures to include appropriate accident mitigation strategy action steps.
C.2	Secondary Containment Vent. Override	Revise PSTG to agree with EPGs, delete previous justification in Diff-1 and change OEs to agree with PSTGs.
C.3.a	Operation of Available RB Ventilation	Revise PSTG to agree with EPGs and move justification from Diff-1 to Diff-2.
C.4.a	Floor Drain Sump Water Levels	Revise PSTG to agree with EPGs and move justification from Diff-1 to Diff-2.
D.1	Emergency Depressurization	Improve justification in Diff-1.
E.1.a	Inhibit ADS	Revise PSTG to agree with EPGs; delete previous justification from Diff-1 and revise OEs to agree with PSTG.
E.1.b	Spray Cooling	Revise PSTG to agree with EPG logic, delete previous justification from Diff-1 and change OE to agree with PSTG.
E.1.c	Transition from Spray Cooling to Steam Cooling	Revise PSTGs and OEs to indicate transition to Primary Containment Flooding.
E.2.a	Termination & Prevention of Injection	The comments relative to this issue were resolved at the July 14, 1992 meeting with the NRC, no further action required.
E.2.b	Defeating Interlocks	Revise PSTG and OEs to allow isolation interlocks to be defeated and delete previous justification in Diff-1. A new appendix will be developed with direction on accomplishing the bypassing.
E.3.a	RPV Wtr Lvl Below Min Stm Cool Wtr Lvl	Revise Diff-1 to include additional/complete and detailed justification.
E.3.b	Transition to Primary Containment Flooding	Revise PSTG to agree with EPG; delete previous justification in Diff-1 and revise OE to agree with PSTG.
E.4.a	RPV Venting	Revise PSTG to agree with EPG; delete previous justification from Diff-1; revise Diff-2 to justify venting w/RSC concurrence; revise OEs to use MSIVs to vent and write new appendices for using systems to vent.

AMPLIFYING INFORMATION TO NRC COMMENTS
NRC SECTION #2 COMPARISON OF VY PSTGS & VY EOPS

SECTION	TITLE	BRIEF DESCRIPTION OF CORRECTIVE ACTION
A.1	Shutdown Conditions	Revise applicable steps in the OEs to state that..."the reactor is and will remain shutdown as indicated by any of the following conditions:"
B.1	Entry Conditions-RPV Water Level Cannot be Determined	Revise Diff-2 to explain philosophy of using scram procedure (OE 3100) and revise OE 3100 and Appendix A to include "RPV water level cannot be determined" as a scram condition.
B.2.a	Override-Transition to Level/Power Control	Revise Diff-2 to explain philosophy of using scram procedure (OE 3100) and revise OE 3100 to include override.
B.2.b	Injection Through The RHR Heat Exchangers	Revise PSTG to agree W/EPG, then justify in Diff-2 using the operating procedure and revise operating procedure.
B.2.c	Use of Alternate Injection Systems	Revise OE to agree with PSTG.
B.3.a	Heat Capacity Temperature Limit & SRV Tail Pipe Level Limit	The scram procedure (OE 3100) will be revised to include override and Diff-2 will be revised to delete previous justification.
B.3.b	RPV Depressurization	Revise OP 0109 to permit RPV depressurization regardless of main condenser availability, no other changes necessary.
B.4.a	Defeating RPS Logic Trips	Revise OE 3101 and OE 3107 to agree with PSTG.
C.1.a	Suppression Pool Temperature Control	Rather than reliance on training, provide decision step which requires operator to determine if an ATWS condition exists prior to proceeding with depressurization in accordance with Tech. Specs. This will require revision of PSTG, Diff-1 and EOPs.
C.2.a	Primary Containment Pressure	Revise PSTG to say Drywell and explain in Diff-1.
D.1	High Reactor Building Differential Pressure Entry Conditions	Revise OE to more closely agree with PSTG and change Diff-2. OP 2116, ON 3153 and 3158 will be revised to contain direction from PSTG.
D.2.a	Floor Drain Sump Water Levels	Revise PSTG to agree with EPG; delete previous justification in Diff-1; Revise Diff-2 to justify use of Alarm Response Procedures (ARPs) and revise ARPs to provide direction per PSTG.
E.1.a	Transitions from Other Guidelines	Revise study guide to incorporate expectations on use of transitions.
E.2.a	RPV Water Level Above the Minimum Steam Cooling RPV Water Level	Comments resolved & require no licensee action 7/14/92 mtg w/NRC
E.2.b	Exit from Level Power Control	Revise Diff-2 to provide improved justification.

AMPLIFYING INFORMATION TO NRC COMMENTS
NRC SECTION #3 TECHNICAL ADEQUACY OF EOPS & SUPPORT PROCEDURES

SECTION	TITLE	BRIEF DESCRIPTION OF CORRECTIVE ACTION
A	Primary Containment Water Level Indication	The Drywell high water level alarm setpoint will be changed to provide indication consistent with OEs.
B	Isolation of Systems Discharging Into Secondary Containment	Procedure ON 3153 and 3158 will be changed to agree with OEs.
C	Emergency RPV Depressurization with Alternate Systems	OEs will be revised to reference new appendices and new appendices will be written to address alternate systems.
D	Control Rod Insertion	OP 0109 will be revised to direct insertion of any rods that may be withdrawn even if already shutdown.
E	Throttling Fire Water Injection	Revise OE 3107 to indicate correct valve to be used for control.

NOTE: (1) PGP APPENDIX A: PLANT SPECIFIC TECHNICAL GUIDELINE (PSTG)
 (2) PGP APPENDIX E: EPG TO PSTG DIFFERENCES (DIFF-1)
 (3) PGP APPENDIX F: PSTG TO OE DIFFERENCES (DIFF-2)