

VERMONT YANKEE NUCLEAR POWER CORPORATION

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February 8, 2002
BVY 02-08

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)
Technical Specification Proposed Change No. 247
Control Rod Block Instrumentation – Supplement No. 1**

By letter dated June 21, 2001 (BVY 01-51), Vermont Yankee requested an amendment to its Facility Operating License, DPR-28 to revise control rod block instrumentation requirements contained in Technical Specifications 2.1.B, Figure 2.1.1, and Tables 3.2.5 and 4.2.5. This supplemental letter provides an additional change to Table 3.2.5.

Attachment 1 to this letter provides supporting information and a safety assessment for the additional change. Attachment 2 to this letter contains a revised determination of no significant hazards consideration (NSHC). This determination of NSHC replaces the original NSHC in its entirety. The remainder of Proposed Change No. 247, as submitted by letter dated June 21, 2001 is unchanged, except as specifically addressed herein.

If you have any questions on this transmittal, please contact Mr. Gautam Sen at (802) 258-4111.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION




Michael A. Balduzzi
Senior Vice President and Chief Nuclear Officer

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STATE OF VERMONT)
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WINDHAM COUNTY)

Then personally appeared before me, Michael A. Balduzzi, who, being duly sworn, did state that he is Senior Vice President and Chief Nuclear Officer of Vermont Yankee Nuclear Power Corporation, and 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.


Sally A. Sandstrum, Notary Public
My Commission Expires February 10, 2003

Attachments

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

Docket No. 50-271
BVY 02-08

Attachment 1

Vermont Yankee Nuclear Power Station

Proposed Technical Specification Change No. 247, Supplement No. 1

Control Rod Block Instrumentation

Supporting Information and Safety Assessment of Additional Change

INTRODUCTION

By letter dated June 21, 2001 (BVY 01-51), Vermont Yankee (VY) requested an amendment to its Facility Operating License, DPR-28 to revise control rod block instrumentation requirements contained in Technical Specifications 2.1.B, Figure 2.1.1, Table 3.2.5 and Table 4.2.5. Conforming changes were also proposed to Specifications 3/4.1.B and Technical Specifications Bases. This supplement provides an additional proposed change to Table 3.2.5.

Table 1, contained in Attachment 1 of the June 21, 2001 submittal, identified eleven (11) proposed changes. Descriptions of the eleven changes, together with bases for the changes and safety assessments, were included in the table. All of the information in that table is unchanged, with the exception of Change #9, which is replaced in its entirety as provided below. That is, the following Change #9, including the description of the "Current Technical Specification," the "Proposed Change," and the "Basis/Safety Assessment" supersedes the June 21, 2001 version of Change #9. No other information in Attachment 1 of the June 21, 2001 (Proposed Change No. 247) amendment request is changed.

Attachment 2 of this supplement replaces the original Determination of No Significant Hazards Consideration for Proposed Change No. 247 in its entirety.

Attachments 3 and 4 of the June 21, 2001 submittal are unchanged, except for page 52, which is provided in Attachments 3 and 4 of this supplement. The version of Page 52 provided herewith in Attachments 3 and 4 replace the previously submitted version. The only differences to page 52 between the original submittal and this submittal deal with Note 9 of Technical Specification Table 3.2.5.

Change #9 follows:

Table 1
(continued)

Change #	Current Technical Specification	Proposed Change
9	<p>Note 9 of Table 3.2.5 only addresses the condition of one inoperable RBM channel.</p> <p>Note 9, step a. to Table 3.2.5 requires a verification that the reactor is not operating on a limiting control rod pattern with one RBM channel inoperable.</p> <p>Note 9, step b. to Table 3.2.5 requires that with one RBM channel inoperable, the inoperable channel be restored to an operable status within 24 hours.</p> <p>If either of the actions required by step a. and step b. of Note 9 is not met, the inoperable RBM channel is to be placed in a tripped condition within the next hour.</p> <p>Current Note 9 to Table 3.2.5 does not explicitly contain actions for two inoperable RBM channels.</p>	<p>Note 9 to Table 3.2.5 is changed in its entirety to:</p> <p><i>With one or two RBM channels inoperable:</i></p> <ul style="list-style-type: none"> a. <i>Verify that the reactor is not operating on a limiting control rod pattern (as described in the Bases of Specification 3.3.B.6); and</i> b. <i>If one RBM channel is inoperable, restore the inoperable channel to operable status within 24 hours; and</i> c. <i>If the required actions and associated completion times of Notes 9.a and 9.b above are not met, or if two RBM channels are inoperable, place one RBM channel in the tripped condition within the next hour.</i> <p>Note 9 to Table 3.2.5 is restructured and clarified to include the condition of two (i.e., both) RBM channels being inoperable. A new action requirement is included in new step c. of Note 9 to require that a RBM channel be in the tripped condition within one hour of discovering that two RBM channels are inoperable.</p> <p>Note 9, step a. to Table 3.2.5 is revised by adding a parenthetical expression, as included in the following action statement:</p> <p><i>“Verify that the reactor is not operating on a limiting control rod pattern (as described in the Bases for Specification 3.3.B.6); and”</i></p>

Table 1
(continued)

Change #	Basis / Safety Assessment:
9	<p>The conditions and actions regarding one RBM channel inoperable are unchanged, except as provided by proposed step c. of Note 9. The revised action permits either of the two RBM channels will be placed in the tripped condition within the next hour, instead of requiring that the inoperable channel be tripped within the next hour. This revised protective action is equivalent to tripping the inoperable channel because placing either RBM channel in a tripped condition will initiate a control rod withdrawal block, thereby ensuring that the RBM function is met.</p> <p>Current Note 9 to Table 3.2.5 does not address the condition of two RBM channels being inoperable. The Vermont Yankee RBM trip function consists of two channels, either of which will initiate a rod block. No action is required or permitted by Technical Specifications when both RBM channels are inoperable. 10CFR50.36 states: "When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shutdown the reactor or follow any remedial action permitted by the technical specifications until the condition can be met." No remedial action is permitted by the Technical Specifications for the condition of two RBM channels inoperable. Therefore, a reactor power reduction to $\leq 30\%$ rated thermal power (i.e., placing the unit outside the applicable condition specified in the Technical Specifications for the RBM channels) would be required in accordance with 10CFR50.36(c)(2) and Technical Specifications.</p> <p>The proposed action to place one RBM channel in the tripped condition within one hour of determining two RBM channels to be inoperable is adequate protective action since this action results in a control rod block, preventing further control rod withdrawal. This action fulfills the protective function of the RBM; thus further action is unnecessary.</p> <p>By adding the parenthetical expression to Note 9, step a., regarding a limiting control rod pattern, details are added to provide the control room operator with further understanding on the meaning of this required action. In addition, the Bases for Specification 3.3.B.6 are being revised and clarified to better define the meaning of a "limiting control rod pattern." The change to Note 9 involving the parenthetical expression does not change any technical requirements, but is administrative in nature. This change is acceptable since it provides clarifying detail to avoid confusion and the potential for error. As such, this administrative change has no negative impact on plant safety.</p> <p>The additional restructuring and clarification of the requirements of Note 9 to Table 3.2.5 are administrative in nature, do not change technical requirements, and are therefore acceptable.</p>

Attachment 2

Vermont Yankee Nuclear Power Station

Proposed Technical Specification Change No. 247, Supplement No. 1

Control Rod Block Instrumentation

Determination of No Significant Hazards Consideration

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Description of amendment request:

The license amendment request would revise control rod block instrumentation requirements contained in Technical Specifications 2.1.B, Figure 2.1-1, Table 3.2.5 and Table 4.2.5. Conforming changes are also proposed to Specifications 3/4.1.B and Technical Specifications Bases.

Each of the proposed changes can be categorized as one of the following:

1. A function relocated to the Technical Requirements Manual (TRM) that does not meet the criteria of 10CFR50.36 for inclusion in the Technical Specifications;
2. An imposition of new or more restrictive requirements to ensure operability that are driven by an effort for completeness and consistency with the BWR/4 Standard Technical Specifications; or
3. Administrative changes which add clarity, or are necessitated by relocating the associated Technical Specifications to the TRM.

The NRC staff has previously found, in other applications, the acceptability of relocating the identified trip functions to the TRM. Relocation to the TRM of requirements that do not meet the criteria of 10CFR50.36 does not diminish the basic requirements. Since the TRM is under the purview of 10CFR50.59, those provisions will administratively control subsequent revisions to these requirements.

Basis for no significant hazards determination:

Pursuant to 10CFR50.92, VY has reviewed the proposed change and concludes that the change does not involve a significant hazards consideration since the proposed change satisfies the criteria in 10CFR50.92(c). These criteria require that the operation of the facility in accordance with the proposed amendment will not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. The discussion below addresses each of these criteria and demonstrates that the proposed amendment does not constitute a significant hazard.

1. The operation of Vermont Yankee Nuclear Power Station in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The relocated trip functions are not assumed as initial conditions for, nor are they credited in the mitigation of, any design basis accident or transient previously evaluated. Since reactor operation with these revised and relocated Specifications is fundamentally unchanged, no design or analytical acceptance criteria will be exceeded. As such, this change does not impact initiators of analyzed events, or the analyzed mitigation of design basis accident or transient events.

More stringent requirements that ensure operability of equipment and purely administrative changes do not affect the initiation of any event, nor do they negatively impact the mitigation of any event. The addition of remedial actions to address a condition when both channels of the Rod Block Monitor (RBM) are inoperable also ensures that the RBM function is met. Therefore, the proposed change does not involve a

significant increase in the probability or consequences of an accident previously evaluated.

2. The operation of Vermont Yankee Nuclear Power Station in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

None of the proposed changes affects any parameters or conditions that could contribute to the initiation of any accident. No new accident modes are created since plant operation is unchanged in that required protective features remain operable. No safety-related equipment or safety functions are altered as a result of these changes. Therefore, the proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The operation of Vermont Yankee Nuclear Power Station in accordance with the proposed amendment will not involve a significant reduction in a margin of safety.

This change does not impact plant equipment, nor does it involve operation with loss of any safety function. There are no changes being made to safety limits or safety system settings that would adversely affect plant safety as a result of the proposed changes. Since the changes have no effect on any safety analysis assumptions or initial conditions, the margins of safety in the safety analyses are maintained. In addition, administrative changes that do not change technical requirements or meaning, and the imposition of more stringent or equivalent remedial requirements to ensure operability, have no negative impact on margins of safety. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Summary No Significant Hazards Consideration

Conclusion

On the basis of the above, VY has determined that operation of the facility in accordance with the proposed change does not involve a significant hazards consideration as defined in 10CFR50.92(c), in that it: (1) does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) does not involve a significant reduction in a margin of safety.

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Attachment 3

Vermont Yankee Nuclear Power Station

Proposed Technical Specification Change No. 247, Supplement No. 1

Control Rod Block Instrumentation

Marked-up Version of Additional Change to the Current Technical Specifications

7

Deleted.

TABLE 3.2.5 NOTES

1. There shall be two operable or tripped trip systems for each function in the required operating mode. If the minimum number of operable instruments are not available for one of the two trip systems, this condition may exist for up to seven days provided that during the time the operable system is functionally tested immediately and daily thereafter; if the condition lasts longer than seven days, the system shall be tripped. If the minimum number of instrument channels are not available for both trip systems, the systems shall be tripped.
2. One of these trips may be bypassed. The SRM function may be bypassed in the higher IRM ranges when the IRM upscale rod block is operable.
3. This function may be bypassed when count rate is ≥ 100 cps or when all IRM range switches are above Position 2.
4. IRM downscale may be bypassed when it is on its lowest scale.

5. "W" is percent rated two loop drive flow where 100% rated drive flow is that flow equivalent to 48×10^6 lbs/hr core flow. Refer to the Core Operating Limits Report for acceptable values for N. ΔW is the difference between the two loop and single loop drive flow at the same core flow. This difference must be accounted for during single loop operation. $\Delta W = 0$ for two recirculation loop operation.

6. Not used.
7. The trip may be bypassed when the reactor power is $< 30\%$ of ~~rated~~ ^{the required number} ^{Rated Thermal Power}. An RBM channel will be considered inoperable if there are less than half the total number of normal inputs from any LPRM level.

8. With the number of operable channels less than ~~required by the minimum operable channels per trip function requirement~~, place the inoperable channel in the tripped condition within one hour.

9. With one RBM channel inoperable:

- a. Verify that the reactor is not operating on a limiting control rod pattern, and
- b. Restore the inoperable RBM channel to operable status within 24 hours.

Otherwise, place the inoperable rod block monitor channel in the tripped condition within the next hour.

10. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions for Operation and required action notes may be delayed for up to 6 hours provided the associated Trip Function maintains Control Rod Block initiation capability.

11. A. With the number of operable channels one less than required by the minimum operable channels per trip function requirement, place the inoperable channel in the tripped condition within 12 hours.
- B. With the number of operable channels two less than required by the minimum operable channels per trip function requirement, place the Trip System in the tripped condition within 1 hour.

< INSERT #1 >

6

INSERT #5 (revised Note 9 to Table 3.2.5)

With one or two RBM channels inoperable:

- a. Verify that the reactor is not operating on a limiting control rod pattern (as described in the Bases of Specification 3.3.B.6); and
- b. If one RBM channel is inoperable, restore the inoperable channel to operable status within 24 hours; and
- c. If the required actions and associated completion times of Notes 9.a and 9.b above are not met, or if two RBM channels are inoperable, place one RBM channel in the tripped condition within the next hour.

Attachment 4

Vermont Yankee Nuclear Power Station

Proposed Technical Specification Change No. 247, Supplement No. 1

Control Rod Block Instrumentation

Retyped Technical Specification Page

TABLE 3.2.5 NOTES

1. Deleted.
2. Deleted.
3. Deleted.
4. Deleted.
5. "W" is percent rated two loop drive flow where 100% rated drive flow is that flow equivalent to 48×10^6 lbs/hr core flow. Refer to the Core Operating Limits Report for acceptable values for N. ΔW is the difference between the two loop and single loop drive flow at the same core flow. This difference must be accounted for during single loop operation. $\Delta W = 0$ for two recirculation loop operation.
6. Not used.
7. The trip may be bypassed when the reactor power is $\leq 30\%$ of Rated Thermal Power. An RBM channel will be considered inoperable if there are less than half the total number of normal inputs from any LPRM level.
8. With the number of operable channels less than the required number, place the inoperable channel in the tripped condition within one hour.
9. With one or two RBM channels inoperable:
 - a. Verify that the reactor is not operating on a limiting control rod pattern (as described in the Bases for Specification 3.3.B.6); and
 - b. If one RBM channel is inoperable, restore the inoperable channel to operable status within 24 hours; and
 - c. If the required actions and associated completion times of Notes 9.a and 9.b above are not met, or if two RBM channels are inoperable, place one RBM channel in the tripped condition within the next hour.
10. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions for Operation and required action notes may be delayed for up to 6 hours provided the associated Trip Function maintains Control Rod Block initiation capability.
11. Deleted.
12. Required to be operable when the reactor mode switch is in the shutdown position.
13. With one or more Reactor Mode Switch - Shutdown Position channels inoperable, immediately suspend control rod withdrawal and immediately initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.