# VERMONT YANKEE
# NUCLEAR POWER CORPORATION

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REPLY TO:
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August 1, 1986
FVY 86-68

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Office of Nuclear Reactor Regulation
Mr. V. L. Rooney, Senior Project Manager
BWR Project Directorate No. 2
Division of BWR Licensing

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) Letter, USNRC to VYNPC, NVY 86-104, dated May 27, 1986
(c) Letter, VYNPC to USNRC, FVY 84-139, dated November 27, 1984

Subject: Response to NRC Request for Additional Information - Inservice Inspection Program

Dear Sir:

By letter, dated May 27, 1986 [Reference (b)], you requested additional information in order to complete your review of Vermont Yankee's proposed Inservice Inspection Program code exemptions [Reference (c)]. In accordance with your request, enclosed please find responses to all twelve questions.

We trust that this information is sufficient to allow your review to continue; however, should you require additional clarification, please do not hesitate to contact this office.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

R. W. Capstick

R. W. Capstick
Licensing Engineer



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RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
INSERVICE INSPECTION PROGRAM

QUESTION NO. 1:

We have compared the inspection plans for the first and second ten-year intervals. Your second ten-year interval inspection plan included Relief Requests (RR) (Nos. B-2, H-2, H-4, H-7, and H-19) for which similar requests were not necessary in the first ten-year interval. Justify the necessity for the these requests since they were not required for the first ten-year interval inspections.

RESPONSE:

Vermont Yankee was not required to implement a Section XI ISI Program until January 30, 1980, approximately 70% into the first interval. These new relief requests were submitted for the second interval following additional evaluation and fine tuning of the ISI Program. The following should provide additional details pertaining to the need for these relief requests:

RR B-2 At the time of program submittal, no belt line repairs could be identified. It was concluded, however, that if repairs were later identified, these welds would certainly not be accessible for inspection. The relief request was therefore submitted. Since that time, all construction records have been reviewed and it is determined that no "repair welds" were performed in this area. This Relief Request is no longer needed and Relief Request B-2 will be removed from the program in the next revision.

RR H-2 This relief request addresses a situation identified and allowed by IWA-5224(d) where system pressure ratings on the suction and discharge sides of a centrifugal pump differ. In this particular case, the suction side configuration is such that no test connections are available to pressurize to the hydro pressure. The relief request states that the normal operating pressure is appropriate as the hydro pressure in this situation.

RR H-4 This relief request addresses components whose only safety function is to maintain containment integrity during the design basis accident and subsequent pressurization of the primary containment. Therefore, the proposed alternate testing - Type "C" Leak Rate Test - is appropriate. It should be further realized that the components in question share a Class 2 boundary and will experience the IWA test pressure under that program. This relief request was intended for documentation of Vermont Yankee's interpretation and position of Section XI requirements.

RR H-7 This relief request addresses components that are non-isolable from other systems and cannot be hydro tested without pressurizing the Feedwater System. The request clarifies Vermont Yankee's position in that these portions of the HPCI/RCIC Systems will be

hydrostatically tested during the Feedwater System hydro test. The hydrostatic test pressure required for the HPCI, RCIC, and Feedwater Systems' components in question are identical at $1.25 \times P_d = 2,375$ psig.

RR H-19 This relief request addresses a situation identified and allowed by IWA-5224(d) where system pressure ratings on the suction and discharge sides of pumps differ. In this particular case, components on the discharge side of the pump and upstream of the discharge isolation valve are unisolable. For this configuration this relief request is formally submitted invoking code allowable practices.

QUESTION NO. 2:

Second Interval Relief Request B-2 requests relief from the requirement of a volumetric examination of reactor pressure vessel repair welds in the belt line region. Your alternative examination states that "one weld of the bioshield wall and the vessel flange will be examined during each inspection interval." Please provide the following information about the reactor pressure vessel repair welds:

a. Give the number of belt line repair welds and their approximate length.

b. Give the number of repair welds and their approximate length between the top of the bioshield wall and the vessel flange.

RESPONSE:

When Revision 8 to the Vermont Yankee ISI Program was submitted, only one belt line repair weld was thought to exist. It was also realized that the belt line region was, for all practical inspection purposes, inaccessible.

a. There are no belt line repair welds in the Vermont Yankee reactor vessel as defined by ASME Section XI, 80W80, Table IWB-2500-1, or the original purchase order specification to General Electric. Records generated at the vendor fabrication shop, as well as records generated on-site, were reviewed in detail in searching for repairs which would meet the referenced definitions of "repair weld."

b. There are no repair welds between the top of the bioshield wall and vessel flange of the Vermont Yankee reactor vessel as defined by ASME Code 80W80 or the original purchase order specification.

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
INSERVICE INSPECTION PROGRAM
(Continued)

QUESTION NO. 3:

Second interval Relief Requests B-4 and B-5 concern Class 1, Category B-J, piping welds. Relief Request B-4 states that, in lieu of examining certain piping welds inside containment penetrations, the first available weld outside the penetration will be examined. Relief Request B-5 requests that a partial examination be allowed on one of the welds involved in the alternative examination section of Relief Request B-4. Your first interval Relief Requests B-9 and B-10 are identical to B-4 and B-5 of the second interval.

In accordance with 10CFR50.55a(b)(2)(ii), you have opted for Class 1, Category B-J welds, that the extent of examination will be determined by the requirements of Tables IWB-2500 and 2600, Category B-J, of the 1974 Edition, Summer 1975 Addenda of Section XI. The resulting examination requirements are a combination of the requirements from the 1974 S75 code and the code of record, 1980 W80, as follows:

> The 1974 S75 code requires that examinations be performed on all the area of 25% of the circumferential joints (including the adjoining 1-foot sections of longitudinal welds) each interval. A different 25% sample is required in successive intervals. The 1980 W80 code requires that for circumferential welds in pipe of nominal pipe size, 4 inches and greater, surface plus volumetric examinations be performed in accordance with Figure IWB-2500-8. For pipe less than 4 inches, only a surface examination is required.
>
> It would appear, based on Relief Requests B-4, B-5, and paragraph 2 of Reference 1, that you are not meeting the requirements, as stated in the above paragraph of 10CFR50.55a(b)(2)(ii).
>
> Please state if you are conforming to the requirements of 10CFR50.55a(b)(2)(ii), including the requirement of examing a different 25% sample of piping welds during each interval. If you are meeting this requirement, please revise Relief Requests B-4 and B-5; if you are not meeting this requirement, you will need to revise your inspection plan to be consistent with the requirements of 10CFR50.55a(b)(2)(ii).

RESPONSE:

Vermont Yankee is conforming to the requirements of 10CFR50.55a(b)(2)(ii), including the requirement for examining a different 25% sample of piping welds during each interval. Welds identified in Relief Requests B-4 and B-5 are, for all practical purposes, inaccessible and, therefore, the alternative testing was proposed for these welds.

It should be realized that the first accessible weld for Weld A9A (Relief Request B-4) is Weld A9. The first accessible weld for Weld D9A (Relief Request B-4) is Weld D9. Neither Weld A9 nor D9 are addressed by Relief Request B-5.

QUESTION NO. 4:

Relief Request B-6 requests relief from examining Class 1 supports on liquid-filled piping and components smaller than 2 inches, Schedule 80; and on steam-filled piping and components smaller than 4 inches Schedule 80. The basis of your request is due to personnel radiation exposure.

Paragraph IWF-2510(a) of the 1980 Edition, Winter 1980 Addenda states that supports selected for examination shall be the supports of those components that are required to be examined under IWB, IWC, and IWD during the first inspection interval. Paragraph IWB-1220(b) of the 1974 Edition, Summer 1975 Addenda allows exemption of piping, for 3-inch NPS and smaller if, under the postulated condition of loss of coolant from the component during normal reactor operation, the reactor can be shut down and cooled down in an orderly manner assuming makeup is provided by the reactor coolant makeup system only. Please provide the following information:

a. Are you requesting relief for any pipes that exceed the code exemption limit of 3 inches and smaller?

b. Can the above code requirement (reactor shutdown using reactor coolant makeup systems only) be met if any of these lines fail?

c. If Relief Request B-6 is still necessary after answering (a) and (b) above, please provide an estimate of the personnel radiation exposure mentioned in your relief basis.

RESPONSE:

Vermont Yankee has committed to inspecting the subject supports in accordance with Section XI, 1980 Edition, Winter 1980 Addenda. Relief Request B-6 was written to clarify and document Vermont Yankee's position with respect to these supports. In accordance with IWB-1220(a) and IWF-2510(a), Vermont Yankee is, and intends to continue, inspecting those supports and restraints on piping and components which are 2-inch, Schedule 80 (liquid service) and larger, and 4-inch, Schedule 80 (steam service) and larger. In response to your specific questions, the following are offered:

a. Vermont Yankee is not requesting relief for any piping that exceeds the code exemption limit of 3 inches and smaller, further Vermont Yankee has committed to the 80W80 Edition and will meet IWF-2510(a). Relief Request B-6 will be removed from this program in Revision 9, which is scheduled to be submitted to the NRC by December 31, 1986.

b. Yes, if any line should fail, the reactor can be shutdown using reactor coolant makeup systems only.

c. As stated above, Relief Request B-6 was proposed to clarify and state Vermont Yankee's intentions to invoke those referenced Section XI paragraphs with respect to these supports. Considering Vermont Yankee's plans to delete this relief request during our next revision, information regarding radiation exposure is not provided.

QUESTION NO. 5:

Relief Request H-13 states that the alternate hydrostatic test pressure of the containment purge lines to the Standby Gas Treatment units will be 44 psig. However, Table H-1 of your test plan lists the hydrostatic test pressure for these lines as atmospheric. Please provide clarification of this inconsistency.

RESPONSE:

Relief Request H-13 will be revised to seek relief for that Safety Class 2 pipe which is unisolable from the Standby Gas Treatment System train/duct work. Only this portion of the system will be subjected to an atmospheric hydrostatic test pressure. The remaining portion of the system will be tested in accordance with IWB as appropriate. Table H-1 and Relief Request H-13 will be revised and incorporated into Revision 9 of the ISI Program scheduled for submittal to NRC by December 31, 1986.

QUESTION NO. 6:

Relief Request H-7 states that portions of the HPCI and RCIC Systems will be hydrostatically tested during the Feedwater System test. Please state what the Feedwater System test pressure will be and compare it with the code-required test pressure for the HPCI and RCIC Systems.

RESPONSE:

The Feedwater System hydrostatic test pressure is $1.25 \times P_d = 2,375$ psig. The code-required test pressure for the HPCI and RCIC Systems is also 2,375 psig. As stated in response to Question 1 above, Relief Request-7 was submitted to clarify and state Vermont Yankee's position with respect to unisolable portions of HPCI/RCIC components.

QUESTION NO. 7:

Table H-1 of your program plan states that the sections of piping upstream of HPCI-17 and RCIC-18 are non-isolable from the CST. However, from the alternative testing statement in Relief Request H-17 and from Hydrostatic Drawing P-9, it would appear that this line is isolable with Shutoff Valves V13-17 and V23-23. Please address the following:

a. Are the lines in question isolable from the condensate storage tank using Valves V13-17 and V23-23?

b. If the storage tank is isolable, a hydrostatic test for the piping between Valves V13-17 and V23-23 to Valves RCIC-18 and HPCI-17 is not exempted by Paragraphs IWA-5222(b) and (c) as stated in Table H-1 and, therefore, should be addressed in your inspection plan.

c. Are there any other similar situations concerning hydrostatic tests of piping from storage tanks?

RESPONSE:

a. The RCIC/HPCI lines in question are isolable from the condensate storage tank using Valves V13-17 and V23-23. However, the relief request is based upon the inability to pressurize these lines due to the location of check valves and the lack of available test connections. Because of this configuration, and the normally open V13-17 and V23-23 valves, the relief request is attempting to extend the storage tank boundaries to the HPCI-17 and RCIC-18 valves.

b. See (a) above.

c. There are no other similar situations concerning hydrostatic test of piping from storage tanks.

QUESTION NO. 8:

Relief Request H-21 stated that General Electric Company does not recommend pressurizing the scram outlet valves to the hydrostatic test pressure of 1,563 psig. Please provide the documentation recommending against the 1,563 psig test pressure from General Electric (GE). This documentation should also include GE's maximum recommended test pressure for the scram outlet valves.

RESPONSE:

A review of our files and discussion with GE shows that the previous recommendation was verbal and not documented.

GE does not recommend applying high pressures to the down stream side of the scram outlet valves, because back pressure on these valves in the closed position may result in damage to the teflon seat. This could cause increased leakage during operation which could lead to increased control rod drive temperatures. GE is in the process of documenting this information and has also been asked to provide information regarding the acceptable back pressure for these valves. This information will be provided for NRC review when it becomes available.

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
INSERVICE INSPECTION PROGRAM
(Continued)

QUESTION NO. 9:

Your second interval 10-year inservice inspection plan lists 22 Class 2 systems or components which are exempted from examination based on Paragraph IWC-1220 of Section XI. Please state if the exemptions are based on Paragraph IWC-1220 of the 1974 Edition, Summer 1975 Addenda as required by 10CFR50.55a(b)(2)(ii). If the exemptions are not based on this code edition, please revise your plan to be consistent with the requirements of 10CFR50.55a(b)(2)(ii). If the exemptions are based on the appropriate code (1974 S75), please note that the chemistry control exemption, IWC-1220(c), is not an accepted exemption.

RESPONSE:

The 22 Class 2 systems or components are exempted from examination based on Paragraph IWC-1220 of Section XI, 1980 Edition. The plan will be revised to reflect the requirements of 10CFR50.55a(b)(2)(iv) and Section XI, 1974 Edition, Summer 1975 Addenda. Revision 9 of the Vermont Yankee ISI Program is scheduled for submittal to NRC by December 31, 1986.

QUESTION NO. 10:

To fully evaluate your relief requests for the second 10-year ISI Program, please provide the following drawings that were not included in the ISI Program review copies:

| | | |
|---|---|---|
| G-191159, Sht. 1 | G-191169, Sht. 1 | G-191175 |
| G-191159, Sht. 2 | G-191169, Sht. 2 | G-191176 |
| G-191159, Sht. 5 | G-191170 | G-191177, Sht. 1 |
| G-191160, Sht. 1 | G-191171 | G-191178, Sht. 1 |
| G-191160, Sht. 2 | G-191172 | G-191238 |
| G-191162 | G-191173 | G-191267 |
| G-191167 | G-191174, Sht. 1 | VY-E-75-002 |
| G-191168 | G-191174, Sht. 2 | |

RESPONSE:

Copies of each drawing specified are enclosed for your information.

QUESTION NO. 11:

Are there any relief requests that were made for the first interval that may be applicable to the second interval but were not made?

RESPONSE:

There are no relief requests made for the first interval that may be applicable to the second interval but were not made.

QUESTION NO. 12:

Are the recommendations of Regulatory Guide 1.150, "Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examinations," being followed for your UT examinations of reactor vessel welds?

RESPONSE:

The recommendations contained in Regulatory Guide 1.150 as applicable to manual, O.D. exams of BWR reactor vessels have been used at Vermont Yankee since the 1984 refueling outage. Vermont Yankee intends to continue with a Regulatory Guide 1.150 program for reactor vessel weld examinations.

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