VERMONT YANKEE NUCLEAR POWER CORPORATION
VERMONT YANKEE NUCLEAR POWER STATION
DOCKET NO. 50-271

Request for Additional Information - Second 10-Year Interval Inservice Inspection Program Plan

1. Scope/Status of Review

Throughout the service life of a water-cooled nuclear power facility, 10 CFR 50.55a(g)(4) requires that components (including supports) which are classified as American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Class 1, Class 2, and Class 3 meet the requirements, except design and access provisions and preservice examination requirements, set forth in the ASME Code Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. This section of the regulations also requires that inservice examinations of components and system pressure tests conducted during the second 120-month inspection interval shall comply with the requirements in the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the start of the second 120-month inspection interval, subject to the limitations and modifications listed therein. The components (including supports) may meet requirements set forth in subsequent editions and addenda of this Code which are incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein. The Licensee, Vermont Yankee Nuclear Power Corporation, has prepared the Inservice Inspection (ISI) Program Plan to meet the requirements of the 1980 Edition, Winter 1980 Addenda (80W80) of the ASME Code Section XI except that the extent of examination for Code Class 1 and 2 piping welds has been determined by the 1974 Edition through Summer 1975 Addenda (74S75). The second 10-year inspection interval began November 30, 1982 and ends November 30, 1992.

FOIA-88-86

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As required by 10 CFR 50.55a(g)(5), if the licensee determines that certain Code examination requirements are impractical and relief is requested, the licensee shall submit information to the Nuclear Regulatory Commission (NRC) to support that determination.

Revision 8 of the Vermont Yankee Nuclear Power Station Second 10-year Interval ISI Program Plan, including the requests for relief from the ASME Code Section XI requirements which the Licensee has determined to be impractical, has previously been reviewed and evaluated in the "Vermont Yankee Nuclear Power Station Safety Evaluation Report 2nd Ten-Year Interval Inspection Program and on Requests for Relief from Certain Requirements" dated February 10, 1987. In this Safety Evaluation Report (SER), the NRC determined that Revision 8 of the ISI Program Plan was acceptable for implementation and granted, conditionally granted, or denied the requests for relief.

Revision 9 of the ISI Program Plan was subsequently prepared by the Licensee due to extensive facility modifications and the NRC approval of Amendment #99 to the Vermont Yankee Technical Specifications.

The staff has reviewed the available information in the Vermont Yankee Nuclear Power Station Second 10-year Interval ISI Program Plan, Revision 9, submitted July 1, 1987, including the requests for relief from the ASME Code Section XI requirements which the Licensee has determined to be impractical.

2. Additional Information Required

Based on the above review, the staff has concluded that the following information and/or clarification is required in order to complete the review of the ISI Program Plan:

A. The following exemptions were previously denied in the NRC's February 10, 1987 SER:

Exemption Number	System or Component	Exemption Criteria
2	RCIC System Discharge Piping	IWC-1220(c)
3	RCIC System Steam Supply Piping and Condensate Handling Equipment and Piping	IWC-1220(c)
4	RCIC System Lube Oil Cooler and Piping	IWC-1220(c)
6	SLC System Discharge Piping	IWC-1220(c)
7	Service and Instrument Air Systems	IWC-1220(c)
8	Sampling System	IWC-1220(c)
9	CAD/Nitrogen Inerting System	IWC-1220(c)
12	HPCI System Lube Oil Cooler and Piping	IWC-1220(c)
13	HPCI System Condensate Handling Equipment and Piping	IWC-1220(c)
14	HPCI Test Loop to Torus	IWC-1220(c)
15	Reactor Water Cleanup System	IWC-1220(c)
16	CRD Piping (except Scram Discharge Instrument Volumes and Headers)	IWC-1220(c)
17	Radwaste System	IWC-1220(c)
21	RHR Lines as follows:	
	RHR-4A	IWC-1220(c)
	RHR-11	IWC-1220(c)
	RHR-13A through D	IWC-1220(c)
	RHR-16	IWC-1220(c)
	RHR-21	IWC-1220(c)
	RHR-22	IWC-1220(c)
	RHR-24A and B	IWC-1220(c)
	RHR-25	IWC-1220(c)
	RHR-34A	IWC-1220(c)
	RHR-35A	IWC-1220(c)
	RHR-36A	IWC-1220(c)
	RHR-38A and B	IWC-1220(c)
	RHR-44A through D	IWC-1220(c)
	RHR-45A through D	IWC-1220(c)

The Licensee has claimed these same exemptions in Revision 9 of the ISI Program Plan. The Licensee should not be using the control of water chemistry exemption of IWC-1220(c). The control of water chemistry to minimize stress corrosion described in paragraph IWC-1220(c) of the 1974 Edition through the Summer 1975 Addenda of Section XI of the ASME Code is not an acceptable basis for exempting components from examination because practical evaluation, review, and acceptance standards cannot be defined. Therefore, examination should be included for any components for which exemption is selected by the Licensee under paragraph IWC-1220(c) of the 1974 Edition and Addenda of Section XI of the ASME Code. Verify that the chemistry control exclusion will not be used and that the ISI Program Plan will be revised to include examinations for these components, as applicable.

B. The staff notes that the Licensee is not performing volumetric examination of any of the Class 2 piping welds in the RHR System.

Paragraph 10 CFR 50.55a(b)(2)(iv) requires that ASME Code Class 2 piping welds in the Residual Heat Removal (RHR), Emergency Core Cooling (ECC), and Containment Heat Removal (CHR) systems shall be examined. These systems should not be completely exempted from inservice volumetric examination based on Section XI exclusion criteria contained in IWC-1220. Later editions and addenda of the Code require volumetric examination of Class 2 piping welds greater than or equal to 3/8-inch nominal wall thickness for piping greater than 4-inch nominal pipe size (NPS). The staff has previously determined that a 7.5% augmented volumetric sample constitutes an acceptable resolution at similar plants.

Verify that volumetric examination will be performed on at least a 7.5% sample of the Class 2 piping welds in the RHR System.

C. Review of the ISI Program Plan for the Control Rod Drive (CDR) scram discharge volume (SDV) piping shows that a total of four of the 6-inch schedule 80 Class 2 piping welds are scheduled to receive surface examination and that none of the 10-inch schedule 80 Class 2 piping welds are scheduled to receive examinations. The NRC established the position in NUREG-0803, "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping," that licensees for BWR plants should perform periodic inservice inspection of the SDV system to meet the requirements for Class 2 piping in Section XI of the ASME Code.

Because the SDV piping is designed and fabricated according to the requirements of ASME Section III Class 2 and because of its importance in achieving the scram function, it should, as a minimum, be subjected to the ISI requirements for Class 2 piping in ASME Code Section XI and the recommendations of NUREG-0803. Verify that the requirements of ASME Code Section XI and the recommendations of NUREG-0803 will be incorporated in

the CRD section of the Vermont Yankee Nuclear Power Plant Second Ten-Year Interval ISI Program Plan.

D. The 6-inch branch pipe connection welds in the Main Steam System are listed as ASME Code Item No. B9.32 on pages I-69 and I-70 of the ISI Program Plan. Since these welds are greater than 4 inches NPS, they should be listed as Item No. B9.31. Verify that the Item Number will be changed. Also, why are these 6-inch NPS Item No. B9.31 welds in the Main Steam System and the 28-inch NPS Item No. B9.31 welds in the Recirculation System excluded from volumetric and surface examinations during the second inspection interval?

E. The Licensee listed 105 Item No. B9.11 Class 1 piping welds (Item No. B4.5 in 74S75) that are scheduled to be examined during the second inspection interval in Revision 8 of the ISI Program Plan. In Revision 9 of the ISI Program Plan, there appear to be only 81 Item B9.11 Class 1 piping welds scheduled for examination. Also, it appears that the examination samples for Item No. B9.11 piping welds in the Recirculation, Reactor Water Cleanup, and Core Spray Systems have been reduced. Discuss and justify why the examination samples have been reduced.

F. Provide a revised listing of the Class 1 and 2 components to be examined during the second inspection interval which includes the welds added to the ISI Program Plan as a result of items A, B, C, D, and E above. Also, provide the applicable isometric drawings showing the welds added to the second interval inspection schedule.

G. Provide Inspection Summary Tables for both Class 1 and Class 2 components similar to those included in Revision 8 to aid in the review of Revision 9 of the ISI Program Plan.

H. Address the degree of compliance with each of the following: Regulatory Guide 1.150; NUREG-0312, NUREG-0313; NUREG-0619; and NUREG-0800, Section 3.6.1. Discuss any other augmented examinations that will be performed during the second 10-year interval.

I. Provide a complete list of ultrasonic calibration blocks, including identifications, material specifications, and sizes.

J. With regard to Request for Relief B-1 on the reactor pressure vessel circumferential and longitudinal shell welds, the procedure for the examination of these welds is currently under review by the regulatory staff. Identify those welds which could be examined if the insulation is removed.

K. In the Licensee's August 1, 1986 response to Question No. 1 of the NRC's May 27, 1986 request for additional information (RAI) with regard to Relief Request B-2, the Licensee states: "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." Why was Relief Request B-2 not deleted from Revision 9 of the ISI Program Plan?

L. In the Licensee's August 1, 1986 response to Question No. 4 of the NRC's May 27, 1986 RAI with regard to Relief Request B-6, the Licensee states: "Vermont Yankee is not requesting relief for any piping that exceeds the code exemption limited 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." Why was Relief Request B-6 not deleted from Revision 9 of the ISI Program Plan?

M. In addition to not deleting from Revision 9 of the ISI Program Plan relief requests that have previously been withdrawn by the Licensee, relief requests that were previously denied or determined to be not required in the NRC's February 10, 1987 SER were also not deleted

from Revision 9 of the ISI Program Plan. At present, the staff has no reason to change its position on the relief requests that were denied in the February 10, 1987 SER. The Licensee should provide the following and revise the ISI Program Plan accordingly:

i) revised relief requests or a table showing the status of the relief requests (e.g., withdrawn and deleted; denied and deleted; denied but submitting explicit additional justification; etc.);

ii) address any changes made to the relief requests from Revision 8 to Revision 9; and

iii) note any new relief requests that were not included in Revision 8 of the ISI Program Plan or were not evaluated in the February 10, 1987 SER.