

BOSTON EDISON COMPANY
300 BOYLSTON STREET
BOSTON, MASSACHUSETTS 02199

WILLIAM D. HARRINGTON
SENIOR VICE PRESIDENT
NUCLEAR

June 28, 1984
BECO. 84-095

Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing
Office of Nuclear Regulatory Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

License No. DPR-35
Docket No. 50-293

Dear Sir:

On May 2, 1984, a telephone conference took place regarding the Pilgrim Nuclear Power Station Inservice Inspection Program. Participants at this meeting were P. Leech from the NRC; G. Freund and R. Yorg from EG&G; and F. Famulari, T. Ferris, and M. Williams from Boston Edison Company. Eleven items were discussed, in which resolution was reached on NRC Items 1, 2, and 3. This letter provides information for resolution of the remaining items (4-11).

Item 4

NRC Request

Your letter to NRC (answer to NRC Question #2, BECo, #82-296, dated 11/15/84) mentioned that none of the welds in the recirculation pump casing were pressure-retaining. Please provide cross-section drawings of your pumps that show the casing welds.

BECO. Response

The requested reactor recirculation pump cross-section drawings are provided as Attachments 1 and 2 to this letter.

Item 5

NRC Request

Concerning relief request PRR-3, your answers to NRC Question #1 submitted in BECo letter 82-296, stated that some Class 1 valves had been disassembled for maintenance. What were the results of the visual examinations of their internal surfaces? If they have been previously furnished to the NRC, please document by reference.

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BECo. Response

The requested information has been submitted to the NRC in the following Inservice Inspection Final Reports:

1. 1977 Inservice Inspection of Pilgrim Nuclear Power Station, Unit 1-Volume 1.
2. 1980 Inservice Inspection of Pilgrim Nuclear Power Station, Unit 1-Volume 1.
3. 1981 Inservice Inspection of Pilgrim Nuclear Power Station, Unit 1-Volume 3.

Item 6

NRC Request

Please identify any class 1 valves (and their categories) that have been disassembled since November 1982. What were the results of the visual examinations on their internal surfaces? If they have been previously furnished to the NRC, please document by reference.

BECo. Response

No Class I valves have been disassembled from November 1982 through December 10, 1983. Pilgrim Nuclear Power Station commenced the current refueling outage on December 10, 1983. The valves, listed in Attachment 3, are or will be disassembled and a VT-3 visual examination of the internal surfaces will be performed during this outage. The results of the examination will be transmitted as part of the 1984 Inservice Inspection Final Report.

Item 7

NRC Request

Please provide a drawing or sketch of your reactor vessel that shows the locations of the longitudinal and circumferential shell welds. The drawing should indicate which welds are in the beltline (core) region. Also give the percentage of each beltline weld that is accessible, whether internally or externally, to either volumetric or remote visual (VT-1) examination (PRR-4).

BECo Response

A reactor vessel layout drawing delineating the beltline region welds and the portions accessible for ultrasonic examination from the vessel exterior is provided as Attachment 4 to this letter. As shown, ten percent of each longitudinal weld and five percent of each circumferential weld are accessible for examination. Due to the BWR vessel interior configuration, the beltline region welds are not accessible for ultrasonic examination from the vessel interior.

Also, it should be noted that the reactor vessel interior is in the as-welded cladded condition. Thus, a remote visual (VT-1) examination to determine the condition of the underlying beltline region is not a meaningful examination.

Item 8

NRC Request

Item B1.21 and B1.22 of Category B-A (PRR-5) require that the accessible portions up to 100% of one head weld in each direction be examined. It appears that your program meets code requirements for examining head welds. Please state why you believe that relief is needed.

BECO. Response

The reactor vessel bottom head meridional welds are accessible for ultrasonic examination. However, the configuration of the reactor vessel bottom head and vessel support skirt limits the examination of the outer circumferential weld to a one side only examination. See Attachments 5 and 6 for drawings depicting the accessible welds and the restrictions. Approximately sixty percent of the length of the reactor vessel bottom head welds is accessible for examination. Revised Relief Request No. PRR-5 is submitted as Attachment 7.

Item 9

NRC Request

The containment atmospheric control system (PRR-7) would seem to be exempt from code NDE by IWC-1220(b). Please state why you believe that relief is needed.

BECO. Response

IWC-1220 (b) states the following components are exempt from the inservice examination requirements of IWC-2500:

"(b) Components of systems or portions of systems, other than Residual Heat Removal Systems and Emergency Core Cooling Systems, that are not required to operate above a pressure of 275 psig (19.00 KPa) or above a temperature of 200°F (93°C)."

The containment atmospheric control system, CACS, at PNPS normally operates at a pressure of 1 psig and a temperature of 50°F. However, the CACS maximum operating pressure and temperature is 56 psig and 281°F, respectively.

IWC-1220(b) does not specifically state that the exemption applies to systems that normally do not operate above the specified values. Therefore, since the maximum operating temperature of 281°F exceeds the 200°F temperature required for exemption by IWC-1220(b), Relief Request No. PRR-7 was submitted.

Item 10NRC Request

Of the code-allowed exemptions listed on pages 4-2 and 4-3 of your program, only one, EX-5, excludes ECCS and RHR systems. Please confirm that none of the other listed exemptions includes ECCS and RHR systems.

BECO. Response

Code-allowed exemptions, EX-3, EX-5 and EX-10, do not apply to the ECC and RHR systems at PNPS. The remaining listed exemptions do apply to the ECC and RHR systems.

Item 11NRC Request

Concerning your Inservice Inspection Checklist for the 1983/1984 refueling outage (Enclosure A to BECO letter 83-290, dated 12/1/83), the nozzle-to-vessel weld item (83.90) contains a remark that there is limited access. If the code examination requirements cannot be met on any nozzles, a relief request should be submitted that identifies the nozzles and degree of accessibility. Certain other items in the table (such as those in Category B-A and B-J) should be attributed to existing relief requests.

BECO Response

The code examination requirements cannot be met on the twenty-one nozzles located within the biological shield due to the reactor vessel insulation/biological shield configuration. Relief Request PRR-9 has been prepared and is submitted as Attachment 8 to this letter.

If after reviewing this information you have any further questions, please contact us.

Very truly yours,

WJ Harrington

Attachments

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TOP SECRET

**Also Available On
Aperture Card**

Attachment 1

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FIGURE 15. A. PRACTICE AND C. AND D. FROM A. B. 18
PRACTICE AND C. AND D. FROM A. B. 18

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APERTURE CARD

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Attachment 3


VALVES SCHEDULES FOR DISASSEMBLY DURING RFO #6
AS OF MAY 18, 1984


<u>GROUP</u>	<u>SYSTEM</u>	<u>VALVE NO.</u>
1	HPCI	2301-4
3	Main Steam	203-1A
		203-1B
		203-1C
		203-1D
		203-2A
		203-2B
		203-2C
		203-2D
9	RHR	1001-29A
		1001-29B
		1001-50
13	Feedwater	6-58A
		6-58B
		6-62A
		6-62-B
19	Main Steam	203-3A
		203-3B
		203-3C
		203-3D
20	Main Steam	203-4A
		203-4B
		203-4C
		203-4D

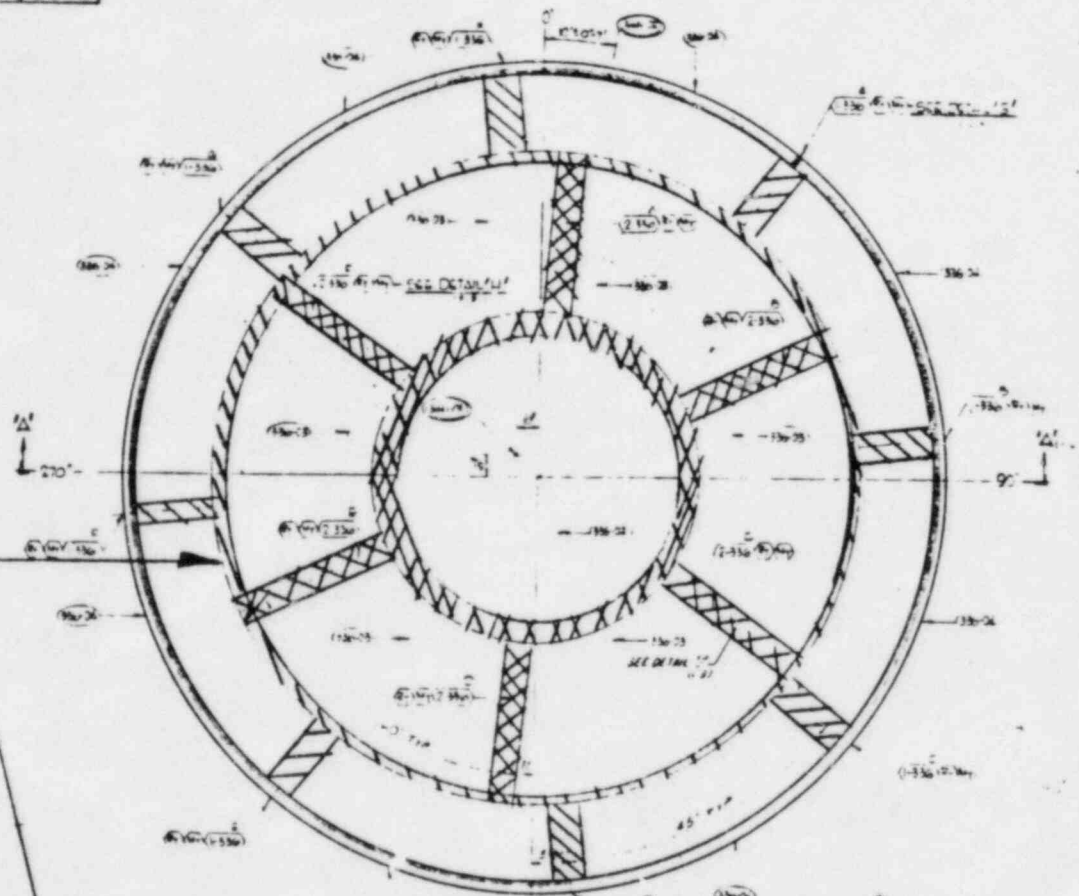


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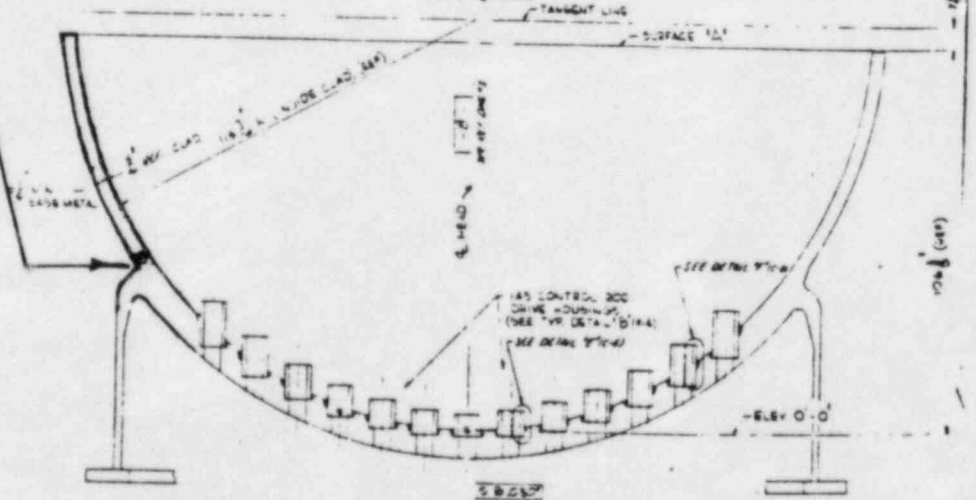
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TO THE VESSEL
SKIRT

 Inaccessible
Welds

 Accessible
Welds



BOTTOM HEAD PENETRATIONS
SCALE: 1" = 1'-0"



SECTION A-A
SCALE: 1" = 1'-0"

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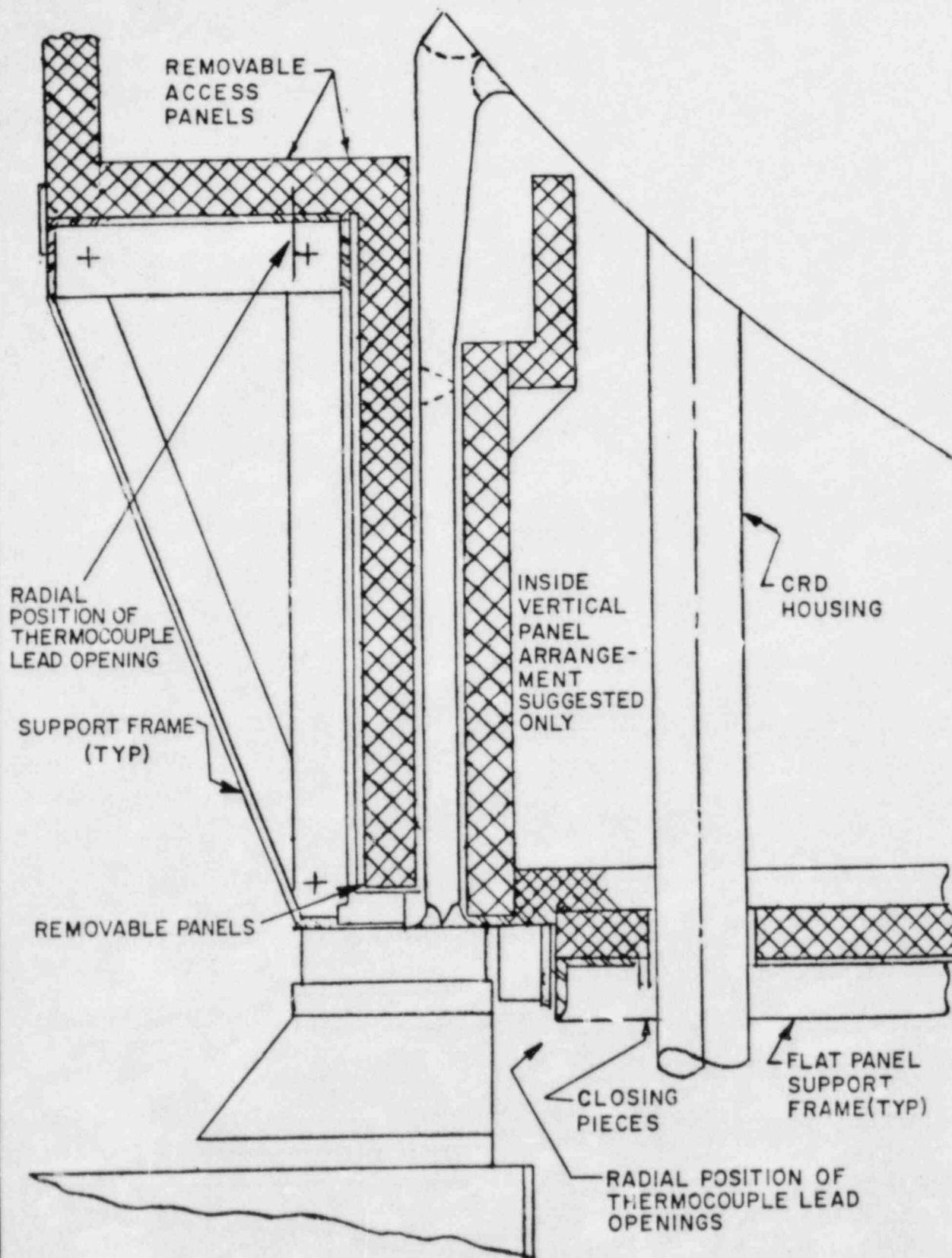


FIGURE 4.2-4
REACTOR VESSEL-SKIRT INSULATION
PILGRIM NUCLEAR POWER STATION
FINAL SAFETY ANALYSIS REPORT

RELIEF REQUEST NO PRR-5 Rev. 1

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS.

The reactor pressure vessel bottom head contains seventeen circumferential and meridional welds.

Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition through the Winter 1980 Addenda requires a volumetric examination of 100 percent of the length of one meridional head weld and one circumferential head weld each inspection interval (Code Category B-A).

Relief is requested from the above mentioned Code requirements on the basis of inaccessibility.

II. BASIS FOR RELIEF

As discussed in Relief Request PRR-4, accessibility for examination of these welds was not considered in the plant design. The configuration of the vessel support skirt attachment weld and the reactor vessel skirt insulation limits the examination of the outer circumferential weld to a one side only examination.

III. ALTERNATE PROVISIONS

Boston Edison will perform a volumetric examination of the reactor vessel outer circumferential weld from one side only.

Attachment 8

RELIEF REQUEST NO. PRR-9

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The reactor vessel is designed with 21 nozzle-to-vessel welds located within the biological shield weld.

The ASME Boiler & Pressure Vessel Code, Section XI "Rules for Inservice Inspection of Nuclear Power Plant Components", 1980 Edition, Winter 1980 Addenda, Table IWB-2500-1, Category B-D, Item Number B3.90 requires that a volumetric examination of each nozzle-to-vessel weld be conducted. These examinations are required to be completed each inspection interval.

II. BASIS FOR RELIEF

Relief is requested from the above mentioned code requirements on the basis that 100% accessibility is not permitted due to the reactor vessel insulation/biological shield configuration. Accessibility for the examination of all nozzle-to-vessel welds was not provided for in the original plant design which occurred prior to the issuance of Section XI requirements.

III. ALTERNATE PROVISIONS

The reactor nozzle-to-vessel welds will be volumetrically examined to the extent practicable.