

**THIRD TEN-YEAR INTERVAL  
INSERVICE INSPECTION PLAN  
FOR THE  
PILGRIM NUCLEAR POWER STATION**

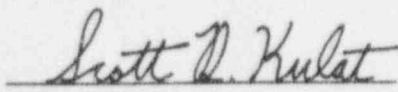
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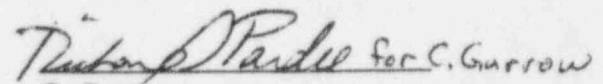
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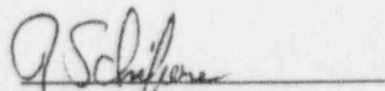
**THIRD INTERVAL**  
**INSERVICE INSPECTION PLAN**  
**FOR THE**  
**PILGRIM NUCLEAR POWER STATION**  
**BEGINNING JULY, 1995**

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**REVISION SUMMARY SHEET**

SECTION	EFFECTIVE PAGE(S)	REVISION	DATE
1.0	1-1	0	7/1/95
1.1	1-1	0	7/1/95
1.2	1-1 to 1-2	0	7/1/95
1.3	1-2 to 1-3	0	7/1/95
1.4	1-3	0	7/1/95
2.0	2-1	0	7/1/95
2.1	2-1 to 2-2	0	7/1/95
2.2	2-3 to 2-6	0	7/1/95
3.0	3-1 to 3-9	0	7/1/95
4.0	4-1	0	7/1/95
4.1	4-1 to 4-3	0	7/1/95
4.2	4-3	0	7/1/95
4.3	4-4 to 4-5	0	7/1/95
4.4	Reference Section 4.3 for Revision Status of Relief Requests		
5.0	5-1	0	7/1/95

**SECTION 1.0**  
**INTRODUCTION AND PLAN DESCRIPTION**

**1.1 Overview**

- 1.1.1 This Inservice Inspection Plan outlines the requirements for the inspection of Class 1, 2, and 3 pressure retaining components and their supports at the Pilgrim Nuclear Power Station.
- 1.1.2 This Inservice Inspection Plan will be effective from July 1, 1995, through and including June 30, 2005, which represents the Third Ten-Year Interval for the Pilgrim Nuclear Power Station.
- 1.1.3 The key features of this Plan are the Introduction and Plan Description, Relief Requests, and Summary Tables. The details of the Inservice Inspection Program are addressed in other documents that are available at the Pilgrim Station. These documents include, but are not limited to, inservice inspection boundary drawings, piping isometric drawings, a component database listing of each weld, valve, support, etc., and documents supporting implementation of the Inservice Inspection Program.

**1.2 Basis of Inservice Inspection Plan**

- 1.2.1 This Inservice Inspection Plan was developed in accordance with the requirements delineated in the January 1, 1994, issue of 10 CFR 50.55a and the 1989 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsections IWA, IWB, IWC, IWD, and IWF, for Inspection Program B. Accordingly, this Inservice Inspection Plan provides the details necessary for performing the inservice inspection of the Pilgrim Class 1, 2, and 3 pressure retaining components and supports.
- 1.2.2 The following ASME Section XI, 1989 Edition Subsections, Articles, or Paragraphs are not included or addressed in this Inservice Inspection Plan.
  - 1.2.2.1 The containment liner and concrete inspection and testing requirements of Subsections IWE and IWL are not included in this Inservice Inspection Plan. The rules of IWE and IWL are currently not required by 10 CFR 50.55a.
  - 1.2.2.2 The pump and valve testing requirements of Subsections IWP and IWV are not included in this Inservice Inspection Plan. The rules of IWP and IWV are addressed in a separate submittal to the NRC staff.

- 1.2.2.3 The snubber inservice inspection requirements of Paragraphs IWF-5200(a), IWF-5200(b), IWF-5300(a), and IWF-5300(b) are not addressed in this Inservice Inspection Plan. The extent, frequency, and acceptance standards for snubber assembly testing and inspection will be in accordance with Pilgrim Technical Specification 3.6.I.
- 1.2.3 Alternative requirements to ASME Section XI, 1989 Edition, are set forth in Section 4.0 of this Inservice Inspection Plan. Alternative requirements are in accordance with 10 CFR 50.55a and ASME Section XI.
- 1.2.4 With the exception of examinations that may be deferred until the end of the inspection interval as specified in Table IWB-2500-1, inservice inspections shall be performed in accordance with Inspection Program B as outlined in IWA-2432, IWB-2412, IWC-2412 and IWD-2412 of ASME Section XI. The inspection schedule for the Third Interval is divided into three periods such that approximately one third of the inspections will be completed every period. Successive inspections shall be in accordance with IWB-2420, IWC-2420, and Code Case N-491, paragraph -2420. Deviations to inspection schedules may occur provided compliance with Code requirements is maintained.
- 1.2.5 The commercial operating license date for the Pilgrim Nuclear Power Station was June 8, 1972. As allowed by ASME Section XI, Paragraph IWA-2430(e), the Second Inspection Interval was extended to June 30, 1995.

### 1.3 System Classification

- 1.3.1 At the time the Pilgrim Station was constructed, the ASME Boiler and Pressure Vessel Code only covered nuclear vessels and associated piping up to and including the first isolation or check valve. Therefore, piping, pumps and valves were built primarily to the rules of USAS B31.1.0 - 1967 Edition. Consequently, the Pilgrim Station does not contain any ASME Section III, Code Class 1, 2 or 3 systems.
- 1.3.2 The quality group classification system for water, steam and radioactive waste containing components important to the safety of water-cooled nuclear power plants is established by NRC Regulatory Guide 1.26, Revision 3, in conjunction with 10 CFR 50.55a. Regulatory Guide 1.26, "Quality Group Classification and Standards", defines the Quality Group Classification System consisting of four Quality Groups, A through D. The definition of Quality Group A (Class 1) is provided by 10 CFR 50.2 under "Reactor Coolant Pressure Boundary". The definitions of Groups B, C, and D (Class 2, Class 3 and ISI non-classed, respectively) are provided by Regulatory Guide 1.26.

- 1.3.3 In accordance with ASME Section XI, Paragraph IWB-1220(a) and 10 CFR 50.55a, piping may be exempted from the volumetric and surface examinations of ASME Section XI, provided they are connected to the reactor coolant pressure boundary, and are of such size and shape that upon a postulated rupture, the resulting flow of coolant under normal operating conditions is within the make-up capacity of the plant. As documented in BECo Memorandum No. NED 90-300, attached NUTECH Letter No. BOS-06-011 and its associated calculation, Class 1 piping in water systems with an inside diameter of 1.10" or less, and piping in steam systems with an inside diameter of 2.20" or less qualify for the make-up capacity exemption of IWB-1220(a).
- 1.3.4 Components subject to inservice inspection are shown on the Inservice Inspection Boundary Drawings listed in Section 2.1 of this Inservice Inspection Plan. Pursuant to 10 CFR 50.55a, the inservice inspection requirements of ASME Section XI have been assigned to these components within the constraints of existing plant design.

1.4 **Augmented Inservice Inspection Requirements**

Augmented inservice inspection requirements are those examinations that are specified by documents other than the ASME Section XI Code. The augmented inservice inspections performed at the Pilgrim Nuclear Power Station are documented in the controlled Quality Assurance Department, Quality Control Instruction No. 20.48, "Control of Augmented Examinations".

**SECTION 2.0**  
**INSERVICE INSPECTION PROGRAM DRAWINGS**

This section provides a listing of the various drawings applicable to the Pilgrim Inservice Inspection Program.

**2.1 Inservice Inspection Boundary Drawings**

Table 2.1 provides a listing of the Inservice Inspection Boundary Drawings applicable to the Third Interval at the Pilgrim Station. These drawings are Pilgrim Station Piping & Instrumentation Drawings that are coded to identify the Class 1, 2 and 3 piping and components subject to inservice inspection.

**TABLE 2.1**  
**INSERVICE INSPECTION BOUNDARY DRAWINGS**

<b>DRAWING NUMBER</b>	<b>TITLE</b>
ISI-M-200	LEGEND & SYMBOLS
ISI-M-212	SERVICE WATER, SCREEN WASH & HYPO- CHLORINATION SYSTEMS
ISI-M-215	COOLING WATER SYSTEM - REACTOR BUILDING
ISI-M-220	COMPRESSED AIR
ISI-M-227	CONTAINMENT ATMOSPHERIC CONTROL SYSTEM
ISI-M-239	H <sub>2</sub> & O <sub>2</sub> ANALYZER AND REACTOR COOLANT PRESSURE BOUNDARY LEAK DETECTION SYSTEMS/ POST ACCIDENT SAMPLING SYSTEM
ISI-M-241	RESIDUAL HEAT REMOVAL SYSTEM
ISI-M-242	CORE SPRAY SYSTEM
ISI-M-243	HPCI SYSTEM (SHEET 1)
ISI-M-244	HPCI SYSTEM (SHEET 2)
ISI-M-245	RCIC SYSTEM (SHEET 1)
ISI-M-246	RCIC SYSTEM (SHEET 2)

**TABLE 2.1 (con't)**  
**INSERVICE INSPECTION BOUNDARY DRAWINGS**

<b>DRAWING NUMBER</b>	<b>TITLE</b>
ISI-M-247	REACTOR WATER CLEAN-UP SYSTEM
ISI-M-249	STANDBY LIQUID CONTROL SYSTEM
ISI-M-250	CONTROL ROD DRIVE HYDRAULIC SYSTEM
ISI-M-251	RECIRCULATION PUMP INSTRUMENTATION
ISI-M-252	NUCLEAR BOILER
ISI-M-253	NUCLEAR BOILER VESSEL INSTRUMENTATION



## 2.2 Piping Isometric Drawings

Table 2.2 provides a listing of the Piping Isometric Drawings for systems subject to inservice inspection. These drawings identify pipe welds, flange and valve bolted connections, pumps, valves, integral attachments, and pipe supports that are within the non-exempt piping boundaries. In addition, system identifications, locations, room names, pipe size, and configuration are identified. Piping and components that are exempt from nondestructive and visual examination in accordance with ASME Section XI, Paragraphs IWB-1220, IWC-1220, and IWD-1220 are not normally depicted on these drawings. If exempt piping or components are shown, it is for information only.

**TABLE 2.2**  
**PIPING ISOMETRIC DRAWINGS**

ISI DRAWING NUMBER	TITLE
ISI I 0	ISOMETRIC LEGEND ISI WELD MAP
ISI I 1-1	MAIN STEAM SYSTEM MAIN STEAM & DRAIN MANIFOLD PIPING ISI WELD MAP
ISI I 2-0	RECIRCULATION LOOP DETAILS
ISI I 2R-A	NUCLEAR BOILER SYSTEM REACTOR RECIRCULATION PIPING LOOP A ISI WELD MAP
ISI I 2R-B	NUCLEAR BOILER SYSTEM REACTOR RECIRCULATION PIPING LOOP B ISI WELD MAP
ISI I 3-1	CONTROL ROD DRIVE HYDRAULIC REACTOR CONTROL ROD DRIVE PIPING ISI WELD MAP
ISI I 6-1	CONDENSATE & FEEDWATER SYSTEM FEEDWATER LOOP A & B ISI WELD MAP
ISI I 6-1A	CONDENSATE & FEEDWATER SYSTEM FEEDWATER LOOP A & B ISI WELD MAP
ISI I 10-1	RESIDUAL HEAT REMOVAL SYSTEM RHR PIPING LOOPS A & B ISI WELD MAP
ISI I 10-1A	RESIDUAL HEAT REMOVAL SYSTEM RHR SUPPLY ISI WELD MAP

**TABLE 2.2 (con't)**  
**PIPING ISOMETRIC DRAWINGS**

ISI DRAWING NUMBER	TITLE
ISI I 10-1B	RESIDUAL HEAT REMOVAL SYSTEM RHR PUMP SUCTION CROSS CONNECTION ISI WELD MAP
ISI I 10-1C	RHR SYSTEM FUEL POOL COOLING TO RHR SUCTION X-CONNECT ISI WELD MAP
ISI I 10-2A	RHR SYSTEM RHR PUMPS P203 A & C SUCTION ISI WELD MAP
ISI I 10-2B	RHR SYSTEM RHR PUMPS P203 B & D SUCTION ISI WELD MAP
ISI I 10-3A	RHR SYSTEM RHR PUMPS P203 A & C DISCHARGE ISI WELD MAP
ISI I 10-3B	RHR SYSTEM RHR PUMPS P203 B & D DISCHARGE ISI WELD MAP
ISI I 10-4A (Sheet 1 of 2)	RHR SYSTEM DISCHARGE TO DRYWELL AND TORUS ISI WELD MAP
ISI I 10-4A (Sheet 2 of 2)	RHR SYSTEM DISCHARGE TO DRYWELL AND TORUS ISI WELD MAP
ISI I 10-4B (Sheet 1 of 2)	RHR SYSTEM RHR SYSTEM X-CONNECT DISCHARGE ISI WELD MAP
ISI I 10-4B (Sheet 2 of 2)	RHR SYSTEM RHR SYSTEM X-CONNECT DISCHARGE ISI WELD MAP
ISI I 10-5B (Sheet 1 of 2)	RHR & CORE SPRAY SYSTEMS RHR & CORE SPRAY DISCHARGE ISI WELD MAP
ISI I 10-5B (Sheet 2 of 2)	RHR & CORE SPRAY SYSTEMS RHR & CORE SPRAY DISCHARGE ISI WELD MAP

**TABLE 2.2 (con't)**  
**PIPING ISOMETRIC DRAWINGS**

ISI DRAWING NUMBER	TITLE
ISI I 11-1	STANDBY LIQUID CONTROL SYSTEM REACTOR INJECTION PIPING ISI WELD MAP
ISI I 12-1 (Sheet 1 of 2)	REACTOR WATER CLEAN-UP SYSTEM SUCTION & RPV DRAIN ISI WELD MAP
ISI I 12-1 (Sheet 2 of 2)	REACTOR WATER CLEAN-UP SYSTEM SUCTION & RPV DRAIN ISI WELD MAP
ISI I 12-2	REACTOR WATER CLEAN-UP SYSTEM HEAT EXCHANGER E 208 DISCHARGE ISI WELD MAP
ISI I 13-1	RCIC SYSTEM TURBINE STEAM FROM MS LINE "C" AND PUMP DISCH. ISI WELD MAP
ISI I 13-2	REACTOR CORE ISOLATION COOLING RCIC PUMP SUCTION ISI WELD MAP
ISI I 13-3	RCIC SYSTEM RCIC TURBINE EXHAUST ISI WELD MAP
ISI I 13-4	RCIC SYSTEM PUMP SUCTION FROM CONDENSATE STORAGE TANK ISI WELD MAP
ISI I 13-5	RCIC SYSTEM PUMP SUCTION FROM CONDENSATE STORAGE TANK ISI WELD MAP
ISI I 14-1	CORE SPRAY SYSTEM PUMPS P215A & B DISCHARGE ISI WELD MAP
ISI I 14-2A	CORE SPRAY SYSTEM "A" TRAIN ISI WELD MAP
ISI I 14-2B	CORE SPRAY SYSTEM "B" TRAIN ISI WELD MAP

**TABLE 2.2 (con't)**  
**PIPING ISOMETRIC DRAWINGS**

ISI DRAWING NUMBER	TITLE
ISI I 23-1	HPCI SYSTEM HPCI TURBINE STEAM SUPPLY & PUMP DISCHARGE ISI WELD MAP
ISI I 23-2	HPCI SYSTEM TURBINE STEAM SUPPLY ISI WELD MAP
ISI I 23-3	HPCI SYSTEM TURBINE EXHAUST SYSTEM ISI WELD MAP
ISI I 23-4	HPCI SYSTEM HPCI PUMP SUCTION ISI WELD MAP
ISI I 23-5	HPCI SYSTEM HPCI PUMP DISCHARGE TO REACTOR ISI WELD MAP
ISI I 29-1 (Sheet 1 of 2)	SERVICE WATER SYSTEM SERVICE WATER SUPPLY & RETURN E209 A & B, E122 A & B ISI WELD MAP
ISI I 29-1 (Sheet 2 of 2)	SERVICE WATER SYSTEM SERVICE WATER SUPPLY & RETURN E209 A & B, E122 A & B ISI WELD MAP
ISI I 30-1 (Sheet 1 of 2)	RBCCW SYSTEM RBCCW PUMPS DISCHARGE ISI WELD MAP
ISI I 30-1 (Sheet 2 of 2)	RBCCW SYSTEM RBCCW PUMPS DISCHARGE ISI WELD MAP
ISI I 30-2 (Sheet 1 of 2)	RBCCW SYSTEM RBCCW PUMPS SUCTION ISI WELD MAP
ISI I 30-2 (Sheet 2 of 2)	RBCCW SYSTEM RBCCW PUMPS SUCTION ISI WELD MAP
ISI I 30-3	TABLE OF ATTACHMENTS

**TABLE 2.2 (con't)**  
**PIPING ISOMETRIC DRAWINGS**

<b>ISI DRAWING NUMBER</b>	<b>TITLE</b>
ISI I 50-1	CONTAINMENT ATMOSPHERIC CONTROL SYSTEM DRYWELL AND TORUS PURGE & VENT PIPING ISI WELD MAP
ISI I 54-1	NUCLEAR BOILER SYSTEM REACTOR VESSEL WELDS & NOZZLES ISI WELD MAP
ISI I 54-2	NUCLEAR BOILER SYSTEM REACTOR VESSEL CLOSURE HEAD WELDS & NOZZLES ISI WELD MAP
ISI I 54-3	NUCLEAR BOILER SYSTEM REACTOR VESSEL BOTTOM HEAD WELDS ISI WELD MAP
ISI I 54-4	NUCLEAR BOILER SYSTEM REACTOR VESSEL NOZZLES ISI WELD MAP

**SECTION 3.0**  
**INSERVICE INSPECTION SUMMARY TABLES**

This section provides a summary listing of all items subject to inservice inspections during the Third Inservice Inspection Interval at the Pilgrim Nuclear Power Station.

**3.1 ASME Section XI Inservice Inspections**

The ASME Section XI Inservice Inspection Summary Table 3.1 provides the following information:

**3.1.1 Examination Category**

This column lists the examination category as identified in ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, and Code Case N-491, paragraph -2500-1. Only those examination categories applicable to the Pilgrim Station are identified.

**3.1.2 Item Number and Description of Components Examined**

These columns list the item number and description as defined in ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, and Code Case N-491, paragraph -2500-1. Only those item numbers applicable to the Pilgrim Station are identified.

**3.1.3 Number of Components**

This column lists the total population of components potentially subject to examination. The number of components actually examined during the inspection interval will be based upon the Code requirements for the subject item number (e.g., 25% of Examination Category B-J, Item Number B9.11 components will be examined during the inspection interval).

**3.1.4 Examination Method**

The column lists the examination method(s) required by ASME Section XI, Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, and Code Case N-491, paragraph -2500-1.

**3.1.5 Relief Request Number**

This column provides a listing of applicable relief requests. If a relief request number is identified, see the corresponding relief request in Section 4.4.



**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
B-A	B1.11	Circumferential Shell Welds	4	Volumetric	PPR-24
	B1.12	Longitudinal Shell Welds	12	Volumetric	PPR-24
	B1.21	Circumferential Head Welds	3	Volumetric	PPR-24
	B1.22	Meridional Head Welds	22	Volumetric	PPR-24
	B1.30	Shell-to-Flange Weld	1	Volumetric	PPR-24
	B1.40	Head-to-Flange Weld	1	Volumetric & Surface	PPR-24
B-D	B3.90	Nozzle-to-Vessel Welds in Reactor Vessel	28	Volumetric	PPR-9 PPR-24
	B3.100	Nozzle Inside Radius Section in Reactor Vessel	28	Volumetric	PPR-9 PPR-24
B-E	B4.11	Partial Penetration Vessel Nozzle Welds	6	Visual, VT-2	
	B4.12	Partial Penetration Control Rod Drive Nozzle Welds	145	Visual, VT-2	
	B4.13	Partial Penetration Instrumentation Nozzle Welds	42	Visual, VT-2	

**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
B-F	B5.10	Reactor Vessel Dissimilar Metal Nozzle-to-Safe End Butt Welds NPS 4 or Larger	28	Volumetric & Surface	PRR-24
	B5.20	Reactor Vessel Dissimilar Metal Nozzle-to-Safe End Butt Welds Less than NPS 4	3	Surface	
	B5.130	Dissimilar Metal Butt Welds in Piping NPS 4 or Larger	5	Volumetric & Surface	PRR-24
	B5.140	Dissimilar Metal Butt Welds in Piping Less than NPS 4	2	Surface	
	B5.150	Dissimilar Metal Socket Welds in Piping	1	Surface	
B-G-1	B6.10	Reactor Vessel Closure Head Nuts	56	Surface	
	B6.20	Reactor Vessel Closure Studs, in Place	52	Volumetric	PRR-24
	B6.30	Reactor Vessel Closure Studs, when Removed	4	Volumetric & Surface	PRR-24
	B6.40	Threads in Reactor Vessel Flange	56	Volumetric	PRR-24
	B6.50	Reactor Vessel Closure Washers, Bushings	56	Visual, VT-1	
	B6.180	Bolts & Studs in Pumps	2	Volumetric	PRR-24
	B6.190	Flange Surface, When Connection Disassembled, in Pumps	2	Visual, VT-1	
	B6.200	Nuts, Bushings, & Washers in Pumps	2	Visual, VT-1	

**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
B-G-2	B7.10	Bolts, Studs, & Nuts in Reactor Vessel	3	Visual, VT-1	
	B7.50	Bolts, Studs, & Nuts in Piping	4	Visual, VT-1	
	B7.70	Bolts, Studs, & Nuts in Valves	62	Visual, VT-1	
	B7.80	Bolts, Studs, & Nuts in CRD Housings	145	Visual, VT-1	
B-H	B8.10	Integrally Welded Attachments to Reactor Vessel	9	No Requirements for 3rd Interval	
B-J	B9.11	Circumferential Welds in Piping NPS 4 or Larger	437	Volumetric & Surface	PRR-1 PRR-22 PRR-24
	B9.12	Longitudinal Welds in Piping NPS 4 or Larger	280	Volumetric & Surface	PRR-1 PRR-22 PRR-23 PRR-24
	B9.21	Circumferential Welds in Piping Less than NPS 4	26	Surface	PRR-1 PRR-22
	B9.31	Branch Pipe Connection Welds NPS 4 or Larger	12	Volumetric & Surface	PRR-22 PRR-24
	B9.32	Branch Pipe Connection Welds Less than NPS 4	7	Surface	PRR-22
	B9.40	Socket Welds	110	Surface	PRR-22

**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
B-K-1	B10.10	Integrally Welded Attachments to Piping	52	No Requirements for 3rd Interval	
	B10.20	Integrally Welded Attachments to Pumps	6	No Requirements for 3rd Interval	
B-L-2	B12.20	Pump Casings	2	Visual, VT-3	
B-M-1	B12.30	Valve Body Welds, Valves Less Than NPS 4	2	Surface	
	B12.40	Valve Body Welds, Valves NPS 4 and Larger	2	Volumetric	PRR-24
B-M-2	B12.50	Valve Bodies, Exceeding NPS 4	48	Visual, VT-3	
B-N-1	B13.10	Vessel Interior	1	Visual, VT-3	
B-N-2	B13.20	Interior Attachments within Beltline Region in Reactor Vessel	23	Visual, VT-1	
	B13.30	Interior Attachments beyond Beltline Region in Reactor Vessel	48	Visual, VT-3	
	B13.40	Core Support Structure in Reactor Vessel	1	Visual, VT-3	

**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
B-O	B14.10	Welds in CRD Housing	145 Total (36 Peripheral)	Volumetric or Surface	PRR-24
B-P	B15.10	Reactor Vessel - System Leakage Test	1	Visual, VT-2	
	B15.11	Reactor Vessel - System Hydrostatic Test	See Note 4	Visual, VT-2	
	B15.50	Piping - System Leakage Test	See Note 1	Visual, VT-2	PRR-21
	B15.51	Piping - System Hydrostatic Test	See Notes 1, 4	Visual, VT-2	
	B15.60	Pumps - System Leakage Test	See Note 1	Visual, VT-2	PRR-21
	B15.61	Pumps - System Hydrostatic Test	See Notes 1, 4	Visual, VT-2	
	B15.70	Valves - System Leakage Test	See Note 1	Visual, VT-2	PRR-21
	B15.71	Valves - System Hydrostatic Test	See Notes 1, 4	Visual, VT-2	
C-A	C1.10	Shell Circumferential Welds in Pressure Vessels	6	Volumetric	PRR-24
	C1.20	Head Circumferential Welds in Pressure Vessels	4	Volumetric	PRR-24

**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
C-B	C2.31	Reinforcing Plate Welds to Nozzle & Vessel for Nozzles with Reinforcing Plates in Vessels > 1/2" Nominal Thickness	8	Surface	
	C2.33	Nozzle-to Shell (or Head) Welds when Inside of Vessel is Inaccessible, for Vessels > 1/2" Nominal Thickness with Reinforcing Plates	4	Visual, VT-2	
C-C	C3.10	Integrally Welded Attachments to Pressure Vessels	16	Surface	
	C3.20	Integrally Welded Attachments to Piping	26	Surface	
	C3.30	Integrally Welded Attachments to Pumps	6	Surface	
C-F-1	C5.11	Circumferential Welds in Austenitic Stainless Steel or High Alloy Piping $\geq 3/8$ " Nominal Wall Thickness for Piping > NPS 4	8 <sup>2</sup>	Volumetric & Surface	PRR-22 PRR-24
C-F-2	C5.51	Circumferential Welds in Carbon or Low Alloy Steel Piping $\geq 3/8$ " Nominal Wall Thickness for Piping > NPS 4	798 <sup>2</sup>	Volumetric & Surface	PRR-7 PRR-17 PRR-22 PRR-24
	C5.81	Circumferential Welds in Carbon or Low Alloy Steel Pipe Branch Connections of Branch Piping > NPS 4 (Reference Table IWC-2500-1, Note 1)	14 <sup>2</sup>	Surface	PRR-22



**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
C-G	C6.20	Valve Body Welds	24	Surface	
C-H	C7.10	Pressure Vessels - System Pressure Test	See Note 1	Visual, VT-2	
	C7.20	Pressure Vessels - System Hydrostatic Test	See Notes 1, 5	Visual, VT-2	
	C7.30	Piping - System Pressure Test	See Note 1	Visual, VT-2	PRR-13
	C7.40	Piping - System Hydrostatic Test	See Notes 1, 5	Visual, VT-2	PRR-13
	C7.50	Pumps - System Pressure Test	See Note 1	Visual, VT-2	
	C7.60	Pumps - System Hydrostatic Test	See Notes 1, 5	Visual, VT-2	
	C7.70	Valves- System Pressure Test	See Note 1	Visual, VT-2	PRR-13
	C7.80	Valves - System Hydrostatic Test	See Notes 1, 5	Visual, VT-2	PRR-13
D-B	D2.10	Pressure Retaining Components for Systems in Support of ECC, CHR, AC or RHR - System Functional Test - System Hydrostatic Test	See Notes 1, 5	Visual, VT-2	PRR-11
	D2.20	Integral Attachments - Component Supports and Restraints for Systems in Support of ECC, CHR, AC or RHR	69	Visual, VT-3	

**TABLE 3.1**  
**ASME SECTION XI**  
**INSERVICE INSPECTION SUMMARY TABLE**

Examination Category	Item Number	Description	Number of Components	Examination Method(s)	Relief Request
F-A <sup>3</sup>	F1.10 <sup>3</sup>	Class 1 Piping Supports	220	Visual, VT-3	PRR-18 PRR-22
	F1.20 <sup>3</sup>	Class 2 Piping Supports	288	Visual, VT-3	PRR-18 PRR-22
	F1.30 <sup>3</sup>	Class 3 Piping Supports	174	Visual, VT-3	PRR-22
	F1.40 <sup>3</sup>	Supports Other than Piping Supports (Class 1, 2, 3, and MC)	26	Visual, VT-3	PRR-22

Notes:

1. Pressure retaining components (e.g., pressure vessels, piping, pumps and valves) that are subject to system pressure tests or hydrostatic tests are identified on the Inservice Inspection Boundary Drawings listed in Section 2 of this ISI Plan.
2. The number of components identified includes those welds in piping < 3/8" nominal wall thickness in accordance with Note 2 of Table IWC-2500-1, Categories C-F-1 and C-F-2.
3. The Examination Category and Item Numbers used for the inservice inspection of supports are in accordance with Code Case N-491.
4. A system leakage test shall be performed in lieu of a hydrostatic test as allowed by Code Case N-498-1.
5. A system pressure test shall be performed in lieu of a hydrostatic test as allowed by Code Case N-498-1.

**SECTION 4.0**  
**ALTERNATIVE REQUIREMENTS TO ASME SECTION XI, 1989 EDITION**

This section lists the alternative requirements to ASME Section XI, 1989 Edition, being adopted for the Third Interval Inservice Inspection Program at the Pilgrim Station. The alternative requirements presented are in accordance with ASME Section XI and 10 CFR 50.55a, as applicable.

**4.1    Adoption of Code Cases**

This Section addresses the adoption of Code Cases during the Third Inservice Inspection Interval at the Pilgrim Station. Code Cases adopted for Inservice Inspection use during the Third Interval will be listed in Tables 4.1 and 4.2 of this Inservice Inspection Plan. Code Cases for Repair/Replacement activities are not addressed in this Inservice Inspection Plan. In all cases, the use and adoption of Code Cases will be in accordance with ASME Section XI, IWA-2440 and 10 CFR 50.55a. The methodology for adopting Code Cases is divided into the four categories clarified below.

**4.1.1    Adoption of Code Cases Listed for Generic Use in Regulatory Guide 1.147**

Code Cases that are listed for generic use in Regulatory Guide 1.147, Revision 11 and later, will be adopted for use during the Third Inservice Inspection Interval by listing them in Table 4.1 of this Inservice Inspection Plan. All conditions or limitations delineated in Regulatory Guide 1.147 for a particular Code Case will apply.

**TABLE 4.1**  
**LIST OF ADOPTED CODE CASES**

<b>CODE CASE NUMBER</b>	<b>TITLE</b>	<b>REG. GUIDE 1.147 REVISION</b>	<b>DATE ADOPTED</b>
N-491	Alternative Rules for Examination of Class 1, 2, 3 and MC Component Supports of Light Water Cooled Power Plants	11	7/1/95

**4.1.2    Adoption of Code Cases Not Listed for Generic Use in Regulatory Guide 1.147**

Adoption of Code Cases that have been approved by the Board of Nuclear Codes and Standards, but that have not been listed for generic use in Regulatory Guide 1.147, may be submitted in the form of a Relief Request in accordance with 10 CFR 50.55a(a)(3). Once approved, these Relief Requests will be available for use at the Pilgrim Station until such time that the Code Cases are adopted into

Regulatory Guide 1.147, at which time BECo will comply with any additional limitations stated therein.

Table 4.2 lists those Code Cases which have been previously approved for use at the Pilgrim Station. Relief Requests for the Code Cases listed below were approved by the NRC in a letter entitled, "Request to use ASME Boiler and Pressure Vessel Code Cases N-416-1 and N-498-1 at Pilgrim Nuclear Power Station (TAC No. M91513)", dated March 10, 1995. As stipulated in this letter, for the application of Code Case N-416-1 criteria, BECo will perform additional surface examinations on the root pass of butt and socket welds on the pressure retaining boundary of Class 3 components when the surface examination method is used in accordance with ASME Section III.

**TABLE 4.2**  
**CODE CASES APPROVED THROUGH RELIEF REQUESTS**

CODE CASE NUMBER	TITLE	DATE APPROVED
N-416-1	Alternative Pressure Test Requirement for Welded Repairs or Installation of Replacement Items by Welding	3/10/95
N-498-1	Alternative Rules for 10-Year System Hydrostatic Testing for Class 1, 2 and 3 Systems	3/10/95

#### 4.1.3 Adoption of Code Cases Listed for Generic Use in Regulatory Guide 1.147 But Subsequently Annulled by ASME Section XI

Under certain circumstances, it may be necessary to adopt a Code Case that has been listed for generic use in Regulatory Guide 1.147, but subsequently annulled by ASME Section XI. Therefore, Boston Edison Company endorses all revisions of Regulatory Guide 1.147 from Revision 11 up to and including the most recent revision. Endorsement of these revisions of Regulatory Guide 1.147 does not commit the Pilgrim Station to all Code Cases listed therein, but rather allows for selection of a previously accepted Code Case. The purpose of this endorsement is to identify all Code Cases that could potentially be incorporated into the Inservice Inspection Plan in accordance with IWA-2441.

4.1.4 Adoption of Code Cases Issued Subsequent to this Inservice Inspection Plan

Code Cases issued by ASME Section XI subsequent to filing this Inservice Inspection Plan will be proposed for use in amendments to this Plan in accordance with ASME Section XI, IWA-2441(d).

4.2 **Use of Subsequent Editions of ASME Section XI**

In accordance with 10 CFR 50.55a(g)(3)(v), components (including supports) may meet the requirements set forth in subsequent editions of Codes and Addenda, or portions thereof, which are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed therein. This Section of the Inservice Inspection Plan provides for alternative requirements from approved subsequent Code editions that may be adopted during the Third Inservice Inspection Interval. This Inservice Inspection Plan will be amended for adoption of subsequent Code rules.

### 4.3 Inservice Inspection Relief Request Index

This section provides a summary listing and revision status of all Relief Requests related to inservice inspections at the Pilgrim Station.

**TABLE 4.3**  
**INSERVICE INSPECTION**  
**RELIEF REQUEST INDEX**

Relief Request	Page(s)	Rev.	Date	Topic
PRR-1	4-7 to 4-10	4	7/1/95	Alternate Examinations for Inaccessible Welds Located at Containment Penetrations
PRR-2	4-11	N/A	7/1/95	Withdrawn for the Third Interval
PRR-3	4-12	N/A	7/1/95	Withdrawn for the Third Interval
PRR-4	4-13	N/A	N/A	Withdrawn during the Second Interval
PRR-5	4-14	N/A	N/A	Withdrawn during the Second Interval
PRR-6	4-15	N/A	N/A	Withdrawn during the Second Interval
PRR-7	4-16 to 4-18	2	7/1/95	Examination of Welds in Containment Atmosphere Control System Piping
PRR-8	4-19	N/A	7/1/95	Withdrawn for the Third Interval
PRR-9	4-20 to 4-21	2	7/1/95	Examination of Reactor Vessel Nozzles
PRR-10	4-22	N/A	7/1/95	Withdrawn for the Third Interval
PRR-11	4-23 to 4-24	1	7/1/95	Alternate Provisions for the Pressure Testing of Salt Service Water Pumps
PRR-12	4-25	N/A	N/A	Withdrawn during the Second Interval
PRR-13	4-26 to 4-28	1	7/1/95	Alternate Provisions for Pressure Testing Code Class 2 Piping and Valves at Containment Penetrations where the Balance of the System is Outside the Scope of Section XI
PRR-14	4-29	N/A	N/A	Withdrawn during the Second Interval



**TABLE 4.3**  
**INSERVICE INSPECTION**  
**RELIEF REQUEST INDEX**  
(cont.)

Relief Request	Page(s)	Rev.	Date	Topic
PRR-15	4-30	N/A	7/1/95	Withdrawn for the Third Interval
PRR-16	4-31	N/A	7/1/95	Withdrawn for the Third Interval
PRR-17	4-32 to 4-34	1	7/1/95	Alternate Examinations for Inaccessible Welds
PRR-18	4-35 to 4-37	1	7/1/95	Alternate Provisions for Inaccessible Supports
PRR-19	4-38	N/A	7/1/95	Withdrawn for the Third Interval
PRR-20	4-39	N/A	7/1/95	Withdrawn for the Third Interval
PRR-21	4-40 to 4-41	1	7/1/95	Alternate Criteria for Class 1 Pressure Tests
PRR-22	4-42 to 4-43	0	7/1/95	Alternate Documentation Submittal Process for Inaccessible Piping Welds and Supports
PRR-23	4-44 to 4-45	0	7/1/95	Alternate Examination Requirements for Longitudinal Welds in Class 1 Piping
PRR-24	4-46 to 4-47	0	7/1/95	Exemption from Appendix VII Ultrasonic Examination Personnel Qualification Requirements

4.4 **Inservice Inspection Relief Requests**

- 4.4.1 This section contains Relief Requests written in accordance with 10 CFR 50.55a(g)(5) when specific ASME Section XI requirements for inservice inspection are considered impractical. The enclosed Relief Requests are subject to change throughout the inspection interval. If examination requirements are determined to be impractical during the course of the interval, additional or modified relief requests shall be submitted in accordance with 10 CFR 50.55a(g)(5).
- 4.4.2 Exceptions to Code required examinations may also be authorized by NRR, as allowed by 10 CFR 50.55a (a)(3), provided that design, fabrication, installation, testing and inspection performed in compliance with Codes and Section XI requirements would result in hardship without a compensating increase in the level of quality and safety, or provided that the proposed alternative examination will assure an acceptable level of quality and safety. Specific exceptions may also be documented in the form of Relief Requests and included in this Section, as applicable.

**RELIEF REQUEST NUMBER: PRR-1**

**REVISION 4**

(Page 1 of 4)

**COMPONENT IDENTIFICATION**

Code Class:	1
References:	IWB-2500 Table IWB-2500-1
Examination Category:	B-J
Item Numbers:	B9.11, B9.12, B9.21
Description:	Alternate Examinations for Inaccessible Welds Located at Containment Penetrations
Component Numbers:	See Table PRR-1.1

**CODE REQUIREMENT**

Table IWB-2500-1 requires volumetric and surface examinations to be performed on welds in piping NPS 4 and larger, and a surface examination to be performed on welds in piping less than NPS 4.

**BASIS FOR RELIEF**

Each of the lines identified in Table PRR-1.1 penetrates the primary containment by means of a penetration assembly similar in design to that shown in Figure PRR-1.1. Each of these lines have a pressure retaining circumferential weld that is inaccessible for surface and volumetric examinations due to the design of the penetration assembly.

As stated in 10CFR50.55a(g)(1) and (g)(4), for plants whose construction permits were issued prior to January 1, 1971, components shall meet the requirements set forth in ASME Section XI to the extent practical within the limitations of design, geometry and materials of construction of the components. Since ASME Section XI examination requirements did not exist at the time the Pilgrim Nuclear Power Station was designed, examination accessibility was not a primary consideration. As Figure PRR-1.1 clearly illustrates, the penetration design prohibits the performance of surface or volumetric examination on the weld inside the penetration.

Based on the information provided above, Boston Edison Company requests relief from the ASME Section XI requirements for surface and volumetric examination of the subject welds.

**RELIEF REQUEST NUMBER: PRR-1**

**REVISION 4**

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**PROPOSED ALTERNATE EXAMINATIONS**

Surface and volumetric examinations will be performed each interval on the first accessible pipe weld outside each penetration, as listed in Table PRR-1.1. Weld B-11-178 will only be examined by the surface examination method because it is a socket weld which cannot be volumetrically examined.

The examinations required by Table IWB-2500-1, Examination Category B-P, and IWB-5000 will be conducted on the alternate weld in accordance with the ASME Section XI Code.

A VT-3 examination of the penetrations listed in Table PRR-1.1 will be conducted each interval, to the extent practical.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-1**

**REVISION 4**

(Page 3 of 4)

**TABLE PRR-1.1**

**PENETRATIONS WITH INACCESSIBLE WELDS**

SYSTEM	PENETRATION	LINE NO.	LINE SIZE	ALTERNATE WELD
RHR (Shutdown Cooling Return)	X-12	20"-EL-10	20"	10-0-17
RHR (LPCI & Shutdown Cooling Return)	X-51A X-51B	18"-DC-10 18"-DCA-10	18" 18"	10-IA-14 10-IB-14
Core Spray	X-16A X-16B	10"-DC-14 10"-DC-14	10" 10"	14-A-17 14-B-17
RCIC	X-53	3"-EB-13	3"	13-0-18
RWCU	X-14	6"-EA-12	6"	12-0-24
SBLC	X-42	1 1/2"-DC-11	1 1/2"	B-11-178
Feedwater	X-9A X-9B	18"-DL-6 18"-DL-6	18" 18"	6-A-10 6-B-8
Main Steam	X-7A X-7B X-7C X-7D X-8	20"-EB-1"A" 20"-EB-1"B" 20"-EB-1"C" 20"-EB-1"D" 3"-EL-1	20" 20" 20" 20" 3"	1-A-15 1-B-15 1-C-15 1-D-15 1-SD-9
HPCI	X-52	10"-EB-23	10"	23-0-17

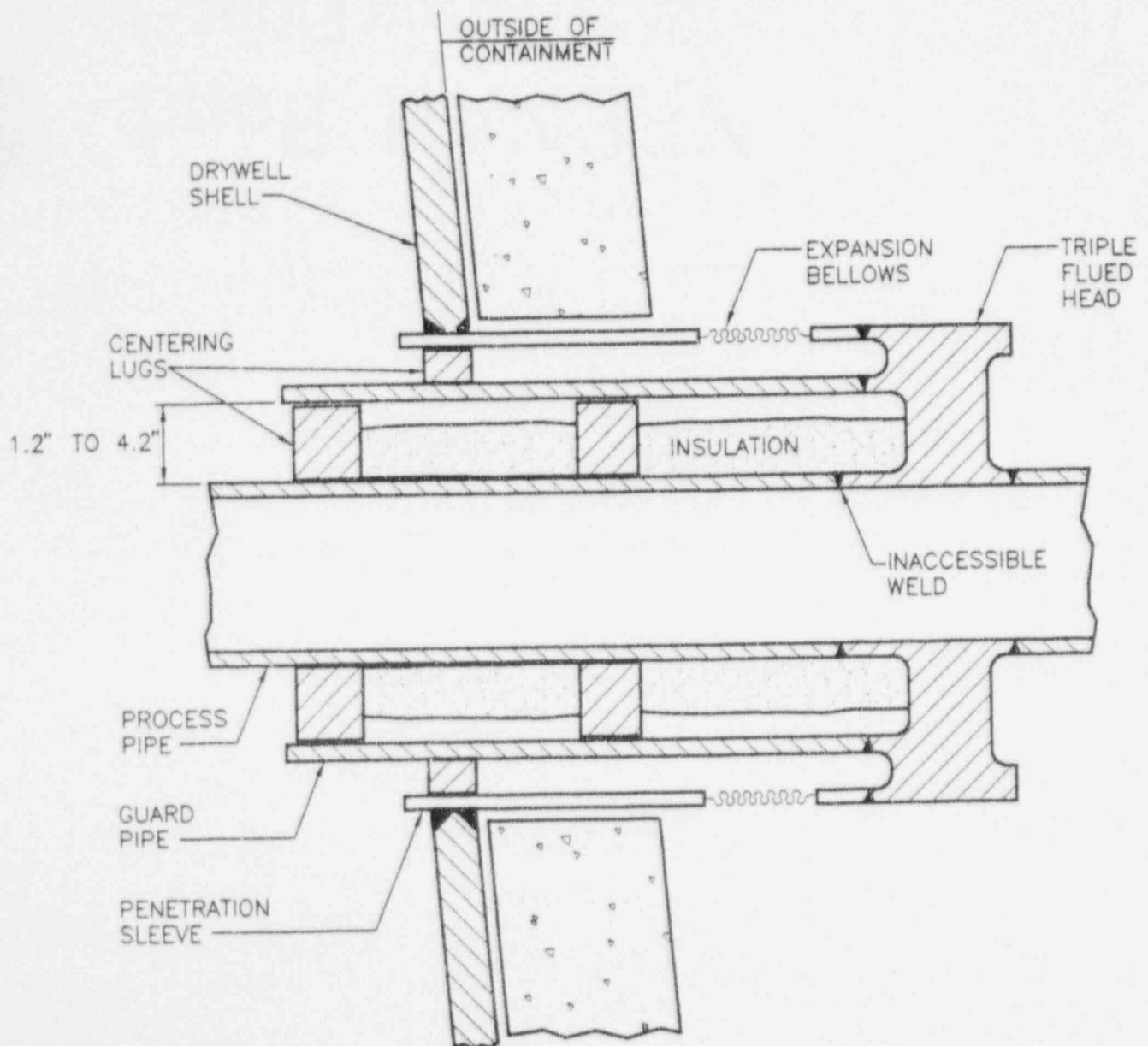
RELIEF REQUEST NUMBER: PRR-1

**REVISION 4**

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FIGURE PRR-1.1

**TYPICAL DESIGN OF PRIMARY CONTAINMENT PENETRATION**





**RELIEF REQUEST NUMBER: PRR-2**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-3**  
**REVISION 1**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-4**  
**REVISION 2**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-5**  
**REVISION 1**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-6**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-7**

**REVISION 2**

(Page 1 of 3)

**COMPONENT IDENTIFICATION**

Code Class: 2  
References: IWC-2500, Table IWC-2500-1  
Examination Category: C-F-2  
Item Number: C5.51  
Description: Examination of Welds in Containment Atmosphere Control System Piping  
Component Numbers: Piping welds on the lines identified below. This piping is also shown on Pilgrim Boundary Drawing ISI-M-227 Sht. 1, and ISI Isometric Drawing ISI I-50-1.

LINE(S)	FUNCTION	EXTENT OF EXAMINATIONS
20"-HM-45/ 20"-HE-45	Purge Line to Torus	From Torus Penetration X-205 to Valve AO-5036B
20"-HM-45/ 20"-HBB-45/ 8"-HBB-45	Vent Line from Torus	From Torus Penetration X-227 to: 1) Secondary Containment Vacuum Breakers X-212A and X-212B 2) Valve AO-5042A 3) Valve AO-5025
20"-HM-45/ 20"-HE-45	Purge Line to Drywell	From Drywell Penetration X-26 to Valve AO-5035B
18"-HM-45/ 8"-HM-45/ 8"-HE-45	Vent Line from Drywell	From Drywell Penetration X-25 to Valve AO-5044A

**CODE REQUIREMENT**

ASME Section XI, Table IWC-2500-1, Examination Category C-F-2 requires that a surface and volumetric examination be performed on piping welds  $\geq 3/8"$  nominal wall thickness for piping  $> \text{NPS } 4$ .

**BASIS FOR RELIEF**

Boston Edison Company requests relief from the requirement to perform nondestructive examinations in accordance with ASME Section XI, Table IWC-2500-1, Examination Category C-F-2 on the Code Class 2 lines listed above. Based on the discussion below, these examinations are considered redundant and without a compensating increase in the level of quality or safety.



**RELIEF REQUEST NUMBER: PRR-7**

**REVISION 2**

(Page 2 of 3)

**BASIS FOR RELIEF (con't)**

The lines listed above are portions of non-safety related piping systems that penetrate the primary reactor containment. At each containment penetration, the process pipe classification has been upgraded to Code Class 2 in accordance with commitments made in the Pilgrim Station FSAR. The piping and valves are considered part of the primary reactor containment and upgraded to Code Class 2 at the penetration only to support the primary reactor containment safety function. Except for this, the lines listed above provide no safety function.

The function of Containment Atmosphere Control piping is to maintain an inert atmosphere inside containment and to provide a flow path to release excess pressure build-up into secondary containment under extreme conditions. This system normally operates at a temperature of 50° F and a pressure of 1 psig. Since the system is normally dry, and not subject to high temperatures or pressures, the probability of failure is negligible. Even in the highly unlikely event of a failure occurring in a weld on one of these lines, the consequences of the failure would be insignificant.

The primary reactor containment integrity, including all containment penetrations, is periodically verified by performing leakage tests in accordance with a 10 CFR 50, Appendix J. Each of the Code Class 2 segments of the lines listed above and their associated isolation valves are tested during an Appendix J, Type A, B or C leakage test. The Type A leakage test is performed three times in a ten year interval and the Type B and C leakage tests are performed at intervals not greater than 24 months. Performance of these Appendix J leak tests will verify the integrity of the subject Code Class 2 lines at each respective penetration. The performance of ASME Section XI, Examination Category C-F-2 nondestructive examinations on these same lines will provide little, if any, additional verification of primary reactor containment integrity. Based on this, the performance of Examination Category C-F-2 examinations on these lines is considered by Boston Edison to be unnecessary and provides a negligible increase in the level of quality or safety.

NOTE: The portions of the Containment Atmosphere Control piping that are NPS 8 have a nominal wall thickness which is less than 3/8". In accordance with Table IWC-2500-1, Examination Category C-F-2, no nondestructive examinations are required on these small sections of piping.

**PROPOSED ALTERNATE PROVISIONS**

Boston Edison shall perform 10 CFR 50, Appendix J leakage tests on the primary reactor containment penetration lines listed above, and on their associated valves, in accordance with Pilgrim Station procedures. No further alternate examinations are necessary in this case.

**RELIEF REQUEST NUMBER: PRR-7**

**REVISION 2**

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**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-8**  
**REVISION 1**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-9**

**REVISION 2**

(Page 1 of 2)

**COMPONENT IDENTIFICATION**

Code Class: 1  
References: IWB-2500  
Table IWB-2500-1  
Examination Category: B-D  
Item Numbers: B3.90, B3.100  
Description: Examination of Reactor Vessel Nozzles  
Component Numbers: The Reactor Nozzle-to-Vessel Welds and Nozzle Inside  
Radius Section Listed Below

SYSTEM	NOZZLE	NOZZLE-TO-VESSEL WELD NUMBER
Recirculation Outlet	N1A	RPV-N1A-NV
	N1B	RPV-N1B-NV
Recirculation Inlet	N2A	RPV-N2A-NV
	N2B	RPV-N2B-NV
	N2C	RPV-N2C-NV
	N2D	RPV-N2D-NV
	N2E	RPV-N2E-NV
	N2F	RPV-N2F-NV
	N2G	RPV-N2G-NV
	N2H	RPV-N2H-NV
	N2J	RPV-N2J-NV
	N2K	RPV-N2K-NV
Feedwater	N4A	RPV-N4A-NV
	N4B	RPV-N4B-NV
	N4C	RPV-N4C-NV
	N4D	RPV-N4D-NV
Core Spray	N6A	RPV-N6A-NV
	N6B	RPV-N6B-NV
Jet Pump Inst.	N9A	RPV-N9A-NV
	N9B	RPV-N9B-NV
CRD Hydraulic	N10	RPV-N10-NV

SYSTEM	NOZZLE	NOZZLE INSIDE RADIUS SECTION
Recirculation Outlet	N1B	RPV-N1B-NIR

**RELIEF REQUEST NUMBER: PRR-9**

**REVISION 2**

(Page 2 of 2)

**CODE REQUIREMENT**

Table IWB-2500-1, Examination Category B-D requires that a volumetric examination be performed each interval on all reactor vessel nozzle-to-vessel welds (Code Item No. B3.90) and nozzle inside radius sections (Code Item No. B3.100).

**BASIS FOR RELIEF**

As stated in 10CFR50.55a(g)(1) and (g)(4), for plants whose construction permits were issued prior to January 1, 1971, components shall meet the requirements set forth in ASME Section XI to the extent practical within the limitations of design, geometry and materials of construction of the components. Since ASME Section XI examination requirements did not exist at the time the Pilgrim Nuclear Power Station was designed, examination accessibility was not a primary consideration. This is evident from the fact that 21 nozzle-to-vessel welds are not sufficiently accessible due to interference with the biological shield wall and vessel insulation to allow 100% examination coverage.

Relief is requested for the 21 Code Item B3.90 nozzle-to-vessel welds referenced above on the basis that full access is not achievable due to the reactor vessel/ biological shield configuration and associated non-removable vessel insulation.

Relief is requested for the Code Item B3.100 nozzle inside radius examination for the N1B nozzle due to interference with a thermocouple pad which is installed on the nozzle in the area of required examination, thereby preventing 100% examination of the nozzle inner radius.

**PROPOSED ALTERNATE PROVISIONS**

The reactor nozzle-to-vessel welds and the nozzle inner radius on nozzle N1B will be volumetrically examined to the maximum extent possible.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-10**  
**REVISION 1**

**WITHDRAWN**



**RELIEF REQUEST NUMBER: PRR-11**

**REVISION 1**

(Page 1 of 2)

**COMPONENT IDENTIFICATION**

Code Class:	3
Reference:	IWD-2500, Table IWD-2500-1
Examination Category:	D-B
Item Number:	D2.10
Description:	Alternate Provisions for the Pressure Testing of Salt Service Water Pumps
Component Numbers:	P-208A P-208B P-208C P-208D P-208E

**CODE REQUIREMENT**

Table IWD-2500-1, Examination Category D-B, Item Number D2.10 requires that a system functional (pressure) test and system hydrostatic test be performed on all pressure retaining components.

As addressed in Section 4.1 of this Third Interval ISI Plan, Code Case N-498-1 has been approved for use at the Pilgrim Station by the NRC. In accordance with Code Case N-498-1, a system pressure test would be performed each interval in lieu of the system hydrostatic test.

**BASIS FOR RELIEF**

The Salt Service Water System has been designated Class 3 and provides cooling to the Reactor Building and Turbine Building Closed Cooling Water Systems. The system includes 5 suction pumps that are submerged under water.

System pressure testing of the Salt Service Water System pumps and associated discharge lines would require disassembly and removal, special testing, and reassembly of the pumps. The requirements to remove the pumps for the sole purpose of performing a test of the pressure boundary has a negligible impact on plant safety and a disproportionate impact on expenditures of plant manpower. The integrity and function of the pumps is already verified by the performance of quarterly full flow tests. In addition, in the unlikely event of a pump failure, there is multiple redundancy provided by the remaining 4 pumps.

**RELIEF REQUEST NUMBER: PRR-11**

**REVISION 1**

(Page 2 of 2)

**BASIS FOR RELIEF (con't)**

Relief is requested from the requirements to perform a system pressure test on the Salt Service Water pumps up to the expansion joints in the pump discharge lines on the basis of impracticality and a negligible affect on plant safety.

**PROPOSED ALTERNATE PROVISIONS**

VT-2 examination of the pump discharge piping up to the expansion joints will be conducted during system functional pressure tests performed on the remainder of the system once each period as required by ASME Section XI.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-12**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-13**

**REVISION 1**

(Page 1 of 3)

**COMPONENT IDENTIFICATION**

Code Class: 2  
Reference: IWC-2500, Table IWC-2500-1  
Examination Category: C-H  
Item Numbers: C7.30, C7.40, C7.70, and C7.80  
Description: Alternate Provisions for Pressure Testing Code Class 2 Piping and Valves at Containment Penetrations Where the Balance of the System is Outside the Scope of Section XI.

Component Numbers:

PEN. NO	P&ID NO.	LINE NO.	DESCRIPTION
X-2	M227 Sht. 1	45-HO-134	Personnel Airlock Test Line
X-6	M227 Sht. 1	45-HO-172	Drive Removal Test Line
X-21	M220 Sht. 1	2"-JB-32	Service Air
X-22	M220 Sht. 1	3"-HCB-31	Instrument Air
X-23	M215 Sht. 3	6"-HE-30	RBCCW Supply
X-24	M215 Sht. 3	8"-HE-30	RBCCW Return
X-25	M227 Sht. 1	18"-HM-45	Vent from Drywell
X-26	M227 Sht. 1	18"-HM-9	Vent to Drywell
X-33A	M251 Sht. 1	1"-DC-10	Recirculation Pump Seal Leak Detector
X-33B	M251 Sht. 1	1"-DC-10	Recirculation Pump Seal Leak Detector
X-43	M227 Sht. 1	45-HO-166	Drywell Test Connection
X-46A	M251 Sht. 1	1"-DCB-2	Recirculation Pump Seal Purge
X-46B	M251 Sht. 1	1"-DCB-2	Recirculation Pump Seal Purge
X-46D	M227 Sht. 1	1"-HCB-45	Drywell Pressure Line
X-46E	M227 Sht. 1	1"-DC-45	Reference Vessel Pressure Line
X-47	M227 Sht. 1	45-HO-102	Drywell Test Connection
X-49A	M251 Sht. 2	1"-DC-2	Recirculation Pump Seal
X-49B	M251 Sht. 2	1"-DC-2	Recirculation Pump Seal
X-205	M227 Sht. 1	20"-HM-45	Torus Purge Inlet
X-218	M227 Sht. 1	4"-HCB-45	Torus Spare
X-219	M227 Sht. 1	4"-HCB-45	HPCI Turbine Exhaust Vacuum and Hydrogen Recombiner Vent
X-227	M227 Sht. 1	20"-HM-45	Torus Purge Exhaust Vacuum Relief and Direct Torus Vent
X-228A	M227 Sht. 1	1"-DC-45	Torus Pressure
X-228B	M227 Sht. 1	1"-DC-45	Reference Vessel Pressure

**RELIEF REQUEST NUMBER: PRR-13**

**REVISION 1**

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**CODE REQUIREMENT**

ASME Section XI, Table IWC-2500-1, Examination Category C-H, requires the performance of a visual VT-2 examination during a system pressure test on Code Class 2 pressure retaining components. Note 7 of this table states, "The pressure boundary includes only those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required."

**BASIS FOR RELIEF**

Boston Edison Company requests relief from the requirement to perform a pressure test in accordance with ASME Section XI, Table IWC-2500-1, Examination Category C-H on the Code Class 2 lines listed above. Based on the discussion below, these pressure tests are considered redundant and without a compensating increase in the level of quality or safety.

The lines listed above are portions of non-safety related piping systems that penetrate the primary reactor containment. At each containment penetration, the process pipe classification has been upgraded to Code Class 2 in accordance with commitments made in the Pilgrim Station FSAR. The piping and valves are considered part of the primary reactor containment and upgraded to Code Class 2 at the penetration only to support the primary reactor containment safety function. Except for this, the lines listed above provide no safety function.

The lines shown on P&ID M227 Sht. 1 are containment atmospheric control lines which cannot be isolated for pressure testing because they are open to the primary containment atmosphere. The sample lines shown on M227 Sht. 1 can be isolated outside of containment, but would require that extensive supports, test taps, vent lines and drain lines be added for pressure testing the Class 2 piping segments. This same problem applies to many of the lines listed above which are isolable from both inside and outside containment.

The primary reactor containment integrity, including all containment penetrations, is periodically verified by performing leakage tests in accordance with a 10 CFR 50, Appendix J. Each of the Code Class 2 segments of the lines listed above and their associated isolation valves are tested during an Appendix J, Type A, B or C leakage test. The Type A leakage test is performed three times in a ten year interval and the Type B and C leakage tests are performed at intervals not greater than 24 months. Performance of these Appendix J leak tests will verify the integrity of the subject Code Class 2 lines at each respective penetration. The performance of ASME Section XI, Examination Category C-H pressure tests on these same lines will provide little, if any, additional verification of primary reactor containment integrity. Based on this, the performance of Examination Category C-H pressure tests on these lines is considered by Boston Edison to be unnecessary and provides a negligible increase in the level of quality or safety.

**RELIEF REQUEST NUMBER: PRR-13**

**REVISION 1**

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**PROPOSED ALTERNATE PROVISIONS**

Boston Edison shall perform 10 CFR 50, Appendix J leakage tests on the primary reactor containment penetration lines listed above, and on their associated valves, in accordance with Pilgrim Station procedures.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.



**RELIEF REQUEST NUMBER: PRR-14**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-15**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-16**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-17**

**REVISION 1**

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**COMPONENT IDENTIFICATION**

Code Class:	2
References:	IWC-2500, Table IWC-2500-1
Examination Category:	C-F-2
Item Number:	C5.51
Description:	Alternate Examinations for Inaccessible Welds
Component Numbers:	Piping Welds as Identified in Table PRR-17.1

**CODE REQUIREMENT**

ASME Section XI, Table IWC-2500-1, Examination Category C-F-2 requires that a surface and volumetric examination be performed on piping welds  $\geq 3/8$ " nominal wall thickness for piping > NPS 4.

**BASIS FOR RELIEF**

As stated in 10CFR50.55a(g)(1) and (g)(4), for plants whose construction permits were issued prior to January 1, 1971, components shall meet the requirements set forth in ASME Section XI to the extent practical within the limitations of design, geometry and materials of construction of the components. Since ASME Section XI examination requirements did not exist at the time the Pilgrim Nuclear Power Station was designed, examination accessibility was not a primary consideration.

Accessibility for the examination of the welds listed in Table PRR-17.1 was not provided in the original plant design. The limiting factors creating the inaccessibility of the welds listed in Table PRR-17.1 are as follows:

- Weld HB-10-F65 is located in a pipe chase enclosed by safety-related 30 inch thick blockwalls 63.10, 63.11 and 63.12. Boston Edison believes that no appreciable assurance of component or system integrity is gained by disassembling the blockwalls for inspection access every 10 years compared to the inspection of a similar accessible weld (HB-10-F63) on the same line.
- Weld GB-10-F244 is inaccessible for surface examination due to the close proximity of adjacent pipes in the ceiling of the "A" Auxiliary Bay. The selection of one of the nearest accessible welds (HB-10-F239) on the same line as an alternate, will provide an equivalent assurance of component and system integrity.

This constitutes a basis for relief from the examination requirements of ASME Section XI.

**RELIEF REQUEST NUMBER: PRR-17**

**REVISION 1**

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**BASIS FOR RELIEF (con't)**

NOTE: Relief was granted for these two welds during the Second Inservice Inspection Interval. Examination requirements in ASME Section XI have been revised since that time. Per the 1989 Edition of ASME Section XI, there are no examinations required for piping welds less than 3/8" nominal wall thickness. Since the nominal wall thickness for weld HB-10-F65 is less than 3/8", examinations are not required for this weld and therefore a request for relief is not necessary. It has been retained in Relief Request PRR-17 for reference only. Weld GB-10-F244 has a nominal wall thickness of 3/8" and therefore still requires relief.

**PROPOSED ALTERNATE EXAMINATIONS**

Alternate welds have been scheduled for examination during the Third Inservice Inspection Interval as shown on Table PRR-17.1. Continued reasonable assurance of component and system integrity is provided because the selected alternate welds are of the same system, pipe run, size and material as the inaccessible welds.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-17**  
**REVISION 1**  
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**TABLE PRR-17.1**

**INACCESSIBLE WELDS**

<b>WELD ID NUMBER</b>	<b>INTERFERENCE</b>	<b>ISOMETRIC DRAWING NO.</b>	<b>ALTERNATE WELD</b>
HB-10-F65	Blockwalls 63.10, 63.11 and 63.12	ISI I-10-1C	HB-10-F63
GB-10-F244	Inadequate clearance from adjacent piping	ISI I-10-4B	GB-10-F239

**RELIEF REQUEST NUMBER: PRR-18**

**REVISION 1**

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**COMPONENT IDENTIFICATION**

Code Classes:	1 and 2
References:	IWF-2500, Table IWF-2500-1, Code Case N-491
Examination Category:	F-A
Item Numbers:	F1.10, F1.20 (From Code Case N-491)
Description:	Alternate Provisions for Inaccessible Supports
Component Numbers:	Supports Identified in Table PRR-18.1

**CODE REQUIREMENT**

ASME Section XI, Subsection IWF provides the examination criteria for supports.

As approved by NRC Regulatory Guide 1.147, the alternative examination requirements of ASME Code Case N-491 will be used in lieu of Subsection IWF. Per Code Case N-491, a visual VT-3 examination shall be performed on those supports selected for examination.

**BASIS FOR RELIEF**

As stated in 10CFR50.55a(g)(1) and (g)(4), for plants whose construction permits were issued prior to January 1, 1971, components shall meet the requirements set forth in ASME Section XI to the extent practical within the limitations of design, geometry and materials of construction of the components. Since ASME Section XI examination requirements did not exist at the time the Pilgrim Nuclear Power Station was designed, examination accessibility was not a primary consideration.

Accessibility for the examination of the supports listed in Table PRR-18.1 was not provided in the original plant design. The limiting factors creating the inaccessibility of the supports listed in Table PRR-18.1 are as follows:

- Support H-10-1-13SA is located in a pipe chase enclosed by safety-related 30 inch thick blockwalls 63.10, 63.11 and 63.12. Boston Edison believes that no appreciable assurance of component or system integrity is gained by disassembling the blockwalls for inspection access every 10 years compared to the inspection of similar supports on the same line.
- Support H-4-1-6 is located underneath the reactor pressure vessel. Due to the proximity of the control rod drive mechanisms, this support is not accessible for inspection.

The above information constitutes a basis for relief from the examination requirements of ASME Section XI and Code Case N-491.



**RELIEF REQUEST NUMBER: PRR-18**

**REVISION 1**

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**PROPOSED ALTERNATE PROVISIONS**

Boston Edison Co. is already performing visual examinations on a sufficient number of supports on the same system lines to meet the criteria of Code Case N-491. It is therefore reasonable to conclude that generic support problems, if existing, will be detected.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-18**

**REVISION 1**

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**TABLE PRR-18.1**

**INACCESSIBLE SUPPORTS**

<b>SUPPORT ID NUMBER</b>	<b>INTERFERENCE</b>	<b>ISOMETRIC DRAWING NO.</b>
H-10-1-13SA	Blockwalls 63.10, 63.11 and 63.12	ISI I-10-1C
H-4-1-6	Inadequate clearance from nearby control rod drive mechanisms underneath the reactor pressure vessel	ISI I-12-1

**RELIEF REQUEST NUMBER PRR-19**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER PRR-20**  
**REVISION 0**

**WITHDRAWN**

**RELIEF REQUEST NUMBER: PRR-21**

**REVISION 1**

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**COMPONENT IDENTIFICATION**

Code Class:	1
References:	IWB-2500, Table IWB-2500-1, IWB-5221
Examination Category:	B-P
Item Numbers:	B15.50, B15.60, B15.70
Description:	Alternate Criteria for Class 1 Pressure Tests
Component Numbers:	All Class 1 Pressure Boundary Piping

**CODE REQUIREMENT**

Table IWB-2500-1, Examination Category B-P, Item Nos. B15.50, B15.60 and B15.70 require the performance of a system leakage test per IWB-5221 criteria for all pressure retaining piping, pumps and valves each refueling outage.

IWB-5221(a) requires that the system leakage test be conducted at a test pressure not less than the nominal pressure associated with 100% rated reactor power.

**BASIS FOR RELIEF**

Relief is requested from the full pressure requirement of the IWB-5221(a) leakage tests on the basis of impracticality as cited in the cases below.

It is sometimes necessary to rework and examine mechanical connections after the Class 1 system leakage test has been completed. Examples include the following:

- Safety relief valve flanged connections which were blanked off for the system pressure test
- Leaking mechanical connections which were discovered during the system leakage test and reworked following depressurization
- Control rod drive mechanism repair or change out

The leakage acceptability of reworked mechanical joints is presently determined at the nominal pressure associated with 5% power just prior to drywell inerting. This translates to a reactor pressure of 930 psig rather than the 1035 psig nominal pressure associated with 100% reactor power.

**RELIEF REQUEST NUMBER: PRR-21**

**REVISION 1**

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**BASIS FOR RELIEF (con't)**

Inspection inside the drywell is not feasible above 5% power because of adverse radiation and temperature levels combined with an inert atmosphere. Requiring a VT-2 visual inspection during a system pressure test at operating pressure would require BECo to make a full power drywell entry. In this operating mode, examiners would be subjected to adverse conditions due to radiation and high temperature levels as well as the inert atmosphere. Imposing this requirement would require special precautions such as using ice packs and cool air supply lines to perform the VT-2 visual inspections. These conditions may compromise the quality of the inspection and impose potential safety concerns and hazardous conditions for examination personnel. Examiners performing VT-2 visual inspections in a less adverse environment are more likely to be able to perform a higher quality examination and see evidence of leakage, when occurring.

Full pressure testing at 1035 psig would require an alternate method of pressurization which potentially would only have a marginal increase in leakage rates and a disproportionate impact on outage schedule. When considering the minimal increase in pressure applied to piping systems at operating pressure versus the pressure attained at 5% power, it is believed that 930 psig will result in a detectable leakage rate, if leakage is going to occur.

**PROPOSED ALTERNATE PROVISIONS**

Boston Edison Co. will perform the system leakage test for the special situation mechanical joints at 930 psig. Disposition of observed leakage will consider the marginal increase in leakage rates that would occur at the nominal operating pressure associated with 100% rated reactor power.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-22**

**REVISION 0**

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**COMPONENT IDENTIFICATION**

Code Classes:	1, 2 and 3
References:	IWA-6230 IWB-2500, Table IWB-2500-1 IWC-2500, Table IWC-2500-1 Code Case N-491, Table 2500-1
Examination Categories:	B-J, C-F-1, C-F-2, F-A
Item Numbers:	B9.11, B9.12, B9.21, B9.31, B9.32, B9.40 C5.11, C5.51, C5.81 F1.10, F1.20, F1.30, F1.40
Description:	Alternate Documentation Submittal Process for Inaccessible Piping Welds and Supports
Component Numbers:	All Class 1 and 2 Piping Welds and Class 1, 2 and 3 Supports Subject to Inservice Inspection

**CODE REQUIREMENT**

Table IWB-2500-1, Examination Category B-J establishes the criteria for the inservice inspection of Class 1 pressure retaining welds in piping.

Table IWC-2500-1, Examination Categories C-F-1 and C-F-2 establish the criteria for the inservice inspection of Class 2 pressure retaining welds in piping.

Code Case N-491, Table 2500-1 establishes the criteria for the inservice inspection of Class 1, 2 and 3 piping and component supports.

IWA-6230 requires that an Owner shall submit an Inservice Inspection Summary Report within 90 days after completion of each refueling outage.

10 CFR 50.55a(a)(3) establishes that proposed alternatives may be used when authorized by the Director of the Office of Nuclear Reactor Regulation.

**BASIS FOR RELIEF**

As stated in 10CFR50.55a(g)(1) and (g)(4), for plants whose construction permits were issued prior to January 1, 1971, components shall meet the requirements set forth in ASME Section XI to the extent practical within the limitations of design, geometry and materials of construction of the components.



**RELIEF REQUEST NUMBER: PRR-22**

**REVISION 0**

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**BASIS FOR RELIEF (con't)**

Since ASME Section XI examination requirements did not exist at the time the Pilgrim Nuclear Power Station was designed, examination accessibility was not a primary consideration.

As inservice inspections are performed on piping welds and supports in accordance with ASME Section XI, physical interferences are sometimes encountered which reduce or prevent full examination coverage of the item. Depending on the severity of the interference, the examination will either be completed to the maximum extent possible, or a similar alternate item will be selected for inspection instead. In either case, the applicable information is documented in the Outage Inservice Inspection Summary Report as required by IWA-6230.

Boston Edison Co. requests relief from the regulatory requirement to obtain prior approval to perform examinations on alternate items when an examination is physically prevented on the piping weld or support originally selected for examination. The continual submittal of individual relief requests for each item that physically cannot be examined does not improve the quality or safety of the ISI Program.

**PROPOSED ALTERNATE CRITERIA**

The performance of examinations on alternate piping welds and supports, when the item originally selected for examination is physically inaccessible, will be documented in the Outage Inservice Inspection Summary Report submitted to regulatory authorities having jurisdiction at the plant within 90 days after completion of each outage. In addition, Relief Requests PRR-17 (inaccessible piping welds) and PRR-18 (inaccessible supports), will be revised to document each performance of an inspection on an alternate item. These relief requests will be submitted to the NRC at the completion of the Third Inservice Inspection Interval at the Pilgrim Station.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-23**

**REVISION 0**

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**COMPONENT IDENTIFICATION**

Code Class:	1
Reference:	Table IWB-2500-1
Examination Category:	B-J
Item Number:	B9.12
Description:	Alternate Examination Requirements for Longitudinal Welds in Class 1 Piping
Component Numbers:	All Class 1 Longitudinal Piping Welds Subject to Surface and Volumetric Examination

**CODE REQUIREMENTS**

Table IWB-2500-1 requires the performance of surface and volumetric examinations on Item No. B9.12 longitudinal welds. The examination includes at least a pipe diameter length, but not more than 12 in., of each longitudinal weld intersecting the circumferential welds required to be examined by Examination Categories B-F and B-J.

**BASIS FOR RELIEF**

Based on the reasons stated below, the performance of surface and volumetric examination on longitudinal piping welds has a negligible compensating effect on the quality or safety of Class 1 piping. In addition, there is little, if any, technical benefit associated with the performance of these examinations, but they result in a substantial man-rem exposure and cost.

- 1) Throughout the nuclear industry, there has been no evidence of rejectable service induced flaws being attributed to longitudinal piping welds.
- 2) During the first inservice inspection interval at the Pilgrim Station, no inservice flaws have been detected in longitudinal piping welds.
- 3) There are distinct differences between the processes used in the manufacturing of longitudinal and circumferential welds which enhance the integrity of longitudinal welds. First, longitudinal welds are typically manufactured under controlled shop conditions whereas circumferential welds are produced in the field under less ideal conditions. Secondly, longitudinal welds usually undergo heat treatment in the shop which improves their material properties and relieves the residual stresses created by welding. Finally, shop manufacturing inspections can be performed under more favorable conditions which further increase the confidence level of the longitudinal weld quality.

**RELIEF REQUEST NUMBER: PRR-23**

**REVISION 0**

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- 4) During field installation of piping, the ends of the longitudinal welds may be affected during welding of the intersecting circumferential field welds. This small area falls within the circumferential weld inspection boundaries. Therefore, the ends of the longitudinal welds will still be subject to examination.
- 5) From an industry-wide standpoint, there has been no evidence of longitudinal weld defects compromising safety at nuclear generating facilities.
- 6) No significant loading conditions or known material degradation mechanisms have become evident to date which specifically relate to longitudinal seam welds in nuclear plant piping.
- 7) There is a significant accumulation of man-rem exposure and cost associated with the inspection of Class 1 longitudinal piping welds.
- 8) The alternative examinations proposed below provide an acceptable level of quality and safety without causing undue hardship or difficulties.

**PROPOSED ALTERNATE EXAMINATION**

Surface and volumetric examinations shall be performed, as applicable, on the length of the longitudinal weld that is normally examined during inspection for the intersecting circumferential weld(s). The volumetric examination at the intersection of circumferential and longitudinal welds will include both transverse and parallel scans within the length of the longitudinal weld that falls within the circumferential weld examination boundary.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program, beginning July 1, 1995.

**RELIEF REQUEST NUMBER: PRR-24**

**REVISION 0**

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**COMPONENT IDENTIFICATION**

Code Classes:	1 and 2
References:	IWA-2311(b) and Appendix VII
Examination Categories:	B-A, B-D, B-F, B-G-1, B-J, B-M-1, B-O C-A, C-B, C-F-1, C-F-2
Item Numbers:	B1.11, B1.12, B1.21, B1.22, B1.30, B1.40, B3.90, B3.100, B5.10, B5.130, B6.20, B6.30, B6.40, B6.180, B9.11, B9.12, B9.31, B12.40, B14.10 C1.10, C1.20, C5.11, C5.51
Description:	Exemption from Appendix VII Ultrasonic Examination Personnel Qualification Requirements
Component Numbers:	All Class 1 and 2 components requiring ultrasonic examination

**CODE REQUIREMENT**

Paragraph IWA-2311(b) specifies that the training, qualification, and certification of ultrasonic examination personnel shall also comply with the requirements of Appendix VII.

Appendix VII provides requirements for the employer's written practice, qualification of ultrasonic examiners, qualification records, and the minimum content of initial training courses for the ultrasonic examination method in addition to those required in SNT-TC-1A.

**BASIS FOR RELIEF**

Boston Edison requests relief from implementation of Appendix VII until the performance demonstration requirements of Appendix VIII are fully implemented. Implementation of Appendix VII prior to full implementation of Appendix VIII is considered impractical and without a compensating increase in quality or safety.

Appendix VII was first introduced in the 1988 Addenda to Section XI. This Appendix represents a dramatic change from previous Code editions and current industry practices in the requirements for qualification of ultrasonic examination personnel. New training programs must be developed and taught by trained instructors, employer's written practices must be completely rewritten, examination question banks must be developed, flaw specimens containing actual or simulated flaws must be acquired, and performance demonstrations (practical examinations) must be completed.

**RELIEF REQUEST NUMBER: PRR-24**

**REVISION 0**

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Implementation of Appendix VII will require a substantial industry effort. Although work is progressing towards compliance with Appendix VII, full implementation has not yet been achieved. Since Appendix VII provides for use of specimens prepared for ultrasonic performance demonstrations per Appendix VIII, many NDE vendors are developing these two programs concurrently in order to avoid duplicated effort. Though currently not required, the nuclear industry anticipates that the Appendix VIII performance demonstration requirements will be mandated by a backfit ruling in the Federal Register. In anticipation of this ruling, the Performance Demonstration Initiative (PDI) Committee is currently leading an industry wide effort to implement Appendix VIII. The tentative completion dates for pipe weld performance demonstrations and reactor vessel performance demonstrations are January of 1996, and January of 1997, respectively.

The Boston Edison Company intends to fully implement Appendix VII when the performance demonstrations of Appendix VIII are mandated by a backfit ruling in the Federal Register.

**PROPOSED ALTERNATE PROVISIONS**

The Pilgrim Station shall utilize ultrasonic examination personnel qualified in accordance with the requirements of IWA-2300, except for IWA-2311(b). The additional Appendix VII training, qualification, and certification requirements referenced in IWA-2311(b) shall be fully implemented when the performance demonstrations of Appendix VIII are mandated by a ruling in the Federal Register.

**APPLICABLE TIME PERIOD**

Relief is requested for the third ten-year interval of the Pilgrim Station Inservice Inspection Program beginning July 1, 1995, and continuing until such time that Appendix VIII criteria is mandated by a ruling in the Federal Register.

SECTION 5.0  
NRC CORRESPONDENCE

This Section contains all NRC correspondence related to the Third Interval Inservice Inspection Plan at the Pilgrim Station. The purpose of this Section is to incorporate NRC correspondence directly into the Inspection Plan so that related requests for information, submittals, decisions and approvals are permanently documented.