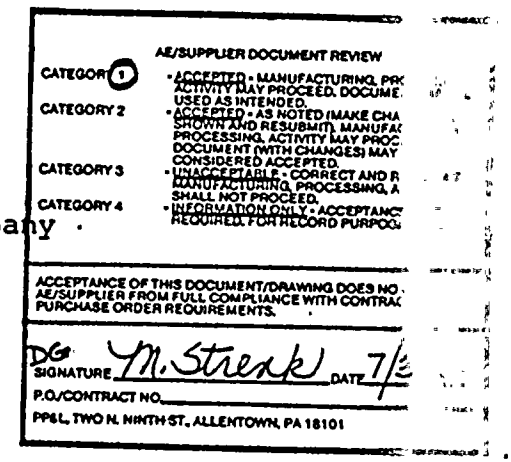
ISI-T-106.0
Revision 1
(114.4001.0207)

INSERVICE INSPECTION PROGRAM PLAN
FIRST TEN YEAR INSPECTION INTERVAL

SUSQUEHANNA STEAM ELECTRIC STATION
UNIT 1



Prepared for:
Pennsylvania Power & Light Company

Prepared by:
NUTECH Engineers
Chicago, Illinois

Prepared by:

Richard C. Bean
R. C. Bean
Project Engineer

Issued by:

J. B. Martin, P.E.
Engineering Director

Approved by:

John M. Clauss
J. M. Clauss, P.E.
Engineering Manager

Date: July 25, 1984

REVISION CONTROL SHEET

TITLE: Inservice Inspection Program Plan
First Ten Year Inspection Interval

Susquehanna Steam Electric Station
Unit 1

R. C. Bean
Project Engineer — RCB
PREPARER'S NAME/TITLE — INITIAL

J. M. Clauss, P.E.
Engineering Manager — JME
REVIEWER'S NAME/TITLE — INITIAL

EFFECTIVE PAGE(S)	REVISION	PREPARED	ACCURACY CHECK	CRITERIA CHECK
i to v	1	RCB	JME	JME
1-1	1			
2-1 to 2-3	1			
3-1 to 3-4	1			
4-1 to 4-4	1			
5-1, 5-2	1			
6-1 to 6-18	1			
7-1 to 7-39	1			
8-1, 8-2	1			
9-1	1			
10-1 to 10-8	1	RCB	JME	JME

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

The plan contained herein outlines the Inservice Inspection (ISI) Program for Pennsylvania Power and Light's (PP&L) Susquehanna Steam Electric Station Unit 1 (SSES Unit #1) for the first ten year (120 month) inspection interval. SSES Unit #1 is an 1100 MW Boiling Water Reactor (BWR). This program complies with the applicable requirements set forth in 10CFR50 and Section XI of the ASME Boiler and Pressure Vessel Code, Rules for Inservice Inspection of Nuclear Power Plant Components.

As stated in 10CFR50.55a(g)(4), throughout the service life of SSES Unit #1, components (including supports), which are classified as ASME Code Class 1, 2, and 3, shall meet the requirements, except design and access provisions, set forth in Section XI editions that subsequently become effective and are incorporated by reference in 10CFR50.55a(b), to the extent practical within the limitations of design, geometry, and materials of construction of the components.

This ISI Program is subject to change. Changes will be effected via relief requests or miscellaneous document revisions that will be submitted during the interval. The SSES Unit #1 ISI Program shall be updated every ten years, plus or minus one year, per 10CFR50.55a, or more frequently to reflect optional Owner upgrades or regulatory commitments.

This document does not include the pump and valve testing (IWP and IWV) commitments.

2.0 APPLICABLE CODE

2.0.1 Operating License Date

During the initial ten year (120 month) inspection interval for which this program is applicable, inservice examinations must comply with the requirements in the latest edition and addenda of the Code incorporated in 10CFR50.55a(b) on the date 12 months prior to the date of issuance of the operating license. The date of issuance of the operating license for SSES Unit #1 is July 17, 1982. The Code in effect 12 months prior to this date is the 1980 Edition, through and including the Winter 1980 Addenda. Use of this Code Edition and Addenda for SSES Unit #1 is subject to the limitations and modifications listed in 10CFR50.55a(b)(2)(ii), and (iv) A and B as stated below:

(ii) Pressure-retaining welds in ASME Code Class 1 piping (applies to Table IWB-2500 and IWB-2500-1 and Category B-J). If the facility's application for a construction permit was docketed prior to July 1, 1978, the extent of examination for Code Class 1 pipe welds may be determined by the requirements of Table IWB-2500 and Table IWB-2600 Category B-J of Section XI of the ASME Code in the 1974 Edition and addenda through the Summer 1975 Addenda, or other requirements the Commission may adopt.

(iv) Pressure-retaining welds in ASME Code Class 2 piping (applies to Tables IWC-2520 or IWC-2520-1, Category C-F).

(A) Appropriate Code Class 2 pipe welds in Residual Heat Removal Systems, Emergency Core Cooling Systems, and Containment Heat Removal Systems, shall be examined. The extent of examination for these systems shall be determined by the requirements of paragraph IWC-1200, Table IWC-2520 Category C-F and C-G, and paragraph IWC-2411 in the 1974 Edition and Addenda through the Summer 1975 Addenda of Section XI of the ASME Code.

(B) For a nuclear power plant whose application for a construction permit is docketed prior to July 1, 1978, the extent of examination for Code Class 2 pipe welds may be determined by the requirements of paragraph IWC-1220, Table IWC-2520 Category C-F and C-G and paragraph IWC-2411 in the 1974 Edition and Addenda through the Summer 1975 Addenda of Section XI of the ASME Code or other requirements the Commission may adopt.

2.0.2 Commercial Operation Date

The commercial operation date and the beginning of the first ten year interval for SSES Unit #1 is June 8, 1983.

2.0.3 Program Plan Scope

The SSES Unit #1 Inservice Inspection Program meets the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition through and including the Winter 1980 Addenda. This document is applicable to Subsections: IWA, IWB, IWC, IWD, and IWE. All references in this document to Section XI, - the Code,

Examination Categories, Item Numbers, etc. - refer to the 1980 Edition through the Winter 1980 Addenda unless otherwise noted.

2.0.4 Relief Requests

Per 10CFR50.55a(g)(5)(iii), where the requirements of the governing Code Edition or Addenda are determined to be impractical, within the limitations of design, geometry and materials of construction of the components, specific relief is requested.

Relief requests are included as Section 7.0 of this document.

3.0 INSERVICE INSPECTION CLASSIFICATION BOUNDARIES

The systems or portions of systems subject to the examination requirements of the ISI Program for SSES Unit #1 and the associated Class 1, 2, and 3 boundaries are documented on coded piping and instrument diagrams (P&IDs). The ISI Classification Boundary Drawings, which form a part of the ISI Program are listed in Table 3.0-1.

The system Inservice Inspection classifications, developed specifically to define the extent to which Section XI requirements will be applied, differ somewhat from the ASME Section III design classifications. These differences occur because systems, or portions of systems, have been optionally upgraded in design and because ISI classifications are limited to safety related systems which contain water, steam, or radioactive materials. NUREG-0800, Regulatory Guide 1.26, and 10 CFR50 were the documents used in identifying these boundaries.

TABLE 3.0-1

SUSQUEHANNA UNIT 1 ISI CLASSIFICATION BOUNDARY DRAWINGS (P&IDs)

Drawing Title	System(s) Shown	PP&L Drawing No.(s)	ISI Classification Boundary Drawing No.
Main Steam	MS	C-193231	ISI-M-101
Process Sampling	MS	C-193236-4	ISI-M-123 Sht.4
Process Sampling	RHR	C-193236-5	ISI-M-123 Sht.5
Service Water	ESW	C-193232	ISI-M-109
Service Water	ESW	C-193233	ISI-M-110
Emergency Service Water System	ESW	C-193234-1	ISI-M-111 Sht.1
Emergency Service Water System	ESW	C-193234-2	ISI-M-111 Sht.2
Emergency Service Water System	ESW	C-193253	ISI-M-2111
Diesel Auxiliaries	ESW	C-193237	ISI-M-134
RHR Service Water System	RHRSW	C-193235	ISI-M-112
RHR Service Water System	RHRSW	C-193254	ISI-M-2112
MSIV Leakage Control	MSLC	C-193238	ISI-M-139

TABLE 3.0-1

SUSQUEHANNA UNIT 1 ISI CLASSIFICATION BOUNDARY DRAWINGS (P&IDs) (Cont'd)

Drawing Title	System(s) Shown	PP&L Drawing No.(s)	ISI Classification Boundary Drawing No.
Nuclear Boiler	NBVI MS FW HPCI CS	C-193239	ISI-M-141
Nuclear Boiler Vessel Instrumentation	NBVI SBLC	C-193240	ISI-M-142
Reactor Recirculation	RR	C-193241	ISI-M-143
Reactor Water Clean Up	RWCU	C-193242	ISI-M-144
Control Rod Drive System Part B	CRD	C-193243	ISI-M-147
Standby Liquid Control System	SBLC	C-193244	ISI-M-148
Reactor Core Isolation Cooling	RCIC	C-193245	ISI-M-149
RCIC Turbine-Pump	RCIC	C-193246	ISI-M-150
Division I Residual Heat Removal System	RHR	C-193247-1	ISI-M-151 Sht.1
Division II Residual Heat Removal System	RHR	C-193247-2	ISI-M-151 Sht.2

TABLE 3.0-1

SUSQUEHANNA UNIT 1 ISI CLASSIFICATION BOUNDARY DRAWINGS (P&IDs) (Cont'd)

Drawing Title	System(s) Shown	PP&L Drawing No.(s)	ISI Classification Boundary Drawing No.
Core Spray System	CS	C-193248	ISI-M-152
Fuel Pool Cooling and Cleanup	FPCC	C-193249	ISI-M-153
High Pressure Coolant Injection	HPCI	C-193250	ISI-M-155
HPCI Turbine-Pump	HPCI	C-193251	ISI-M-156
Control Structure Chilled Water	CSCW	C-193252	ISI-M-186

4.0 EXEMPTIONS

Certain components (or parts of components) may be exempted from the inservice examination requirements of ASME Section XI per provisions contained in the Code. This section lists the "Code Allowed Exemptions" as applicable to the SSES Unit #1 ISI Program. These exemptions are further detailed on the Inservice Inspection Classification Boundary Drawings.

4.0.1 ISI Class 1 Exemptions

The following Class 1 components are exempt from volumetric and surface examination requirements of IWB-2500:

IWB-1220(a) – Components that are connected to the reactor coolant system and part of the reactor coolant pressure boundary and that are of such size and shape so that upon postulated rupture the resulting flow of coolant from the reactor coolant system under normal plant operating conditions is within the capacity of makeup systems which are operable from on-site emergency power.

The maximum size line break that can be made up by the reactor coolant system has been calculated to be 1.41 inches (inside diameter) for liquid carrying lines and 2.82 inches (inside diameter) for steam carrying lines.

IWB-1220(b)(1) Piping of 1 in. nominal pipe size and smaller, and

(2) components and their connection in piping of 1 inch nominal pipe size and smaller.

IWB-1220(c) - Reactor vessel head connections and associated piping, 2 in. nominal pipe size and smaller, made inaccessible by control rod drive penetrations.

Table IWB-2500-1, Examination Category B-H, Footnote No. 1 — integral welded attachments with a base material design thickness less than 5/8 in. and weld buildup on nozzles that serve as supports.

Table IWB-2500-1, Examination Category B-K-1, Footnote No. 3 — integral welded attachment with a base material design thickness less than 5/8 inch.

4.0.2 ISI Class 2 Exemptions

The following Class 2 components are exempt from the volumetric and surface examinations requirements of IWC-2500:

IWC-1220(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 or above a temperature of 200°F.

IWC-1220(c) - Component connections (including nozzles in vessels and pumps), piping and associated valves, and vessels and their attachments that are 4 in. nominal pipe size and smaller.

IWC-5222(d) - For open ended portions of discharge lines beyond the last shutoff valve in nonclosed systems, demonstration of an open flow path test shall be performed in lieu of the system hydrostatic test.

Table IWC-2500-1, Examination Category C-C, Footnote No. 1 - integral welded attachment with a base material design thickness less than 3/4 inch.

4.0.3 ISI Class 3 Exemptions

The following Class 3 components are exempt from the examination requirements of IWD-2600:

IWD-1220.1 - Integral attachments of supports and restraints to components that are 4 in. nominal pipe size and smaller within the system boundaries of examination categories D-A, D-B, and D-C of Table IWD-2500-1 shall be exempt from the visual examination VT-3.

IWD-1220.2 - Integral attachments of supports and restraints to components exceeding 4 in. nominal pipe size may be exempted from the visual examination VT-3 of Table IWD-2500-1 provided:

a) The components are located in systems (or portions of systems) whose function is not required in support of reactor residual heat removal, containment heat removal, and emergency core cooling.

b) The components operate at a pressure of 275 psig or less and a temperature of 200°F or less.

IWD-5223(d) - For open ended portions of discharge lines beyond the last shutoff valve in nonclosed systems (e.g., service water systems), confirmation of adequate flow during system operation shall be acceptable in lieu of system hydrostatic test.

IWD-5223(e) - Open ended vent and drain lines from components extending beyond the last shutoff valve and open ended safety or relief valve discharge lines shall be exempt from hydrostatic test.

5.0 PROGRAM DESCRIPTION

The Inservice Inspection Plan Summary Table is included as Section 6.0 of this document. The following describes the information presented in the table:

A. Category and Category Description - The Section XI Examination Category and its description as defined in Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, and IWF-2500-2 for Class 1, 2, and 3 components and their supports are listed.

B. Item Number and Item Number Description - The Item Number and its description as defined in Tables IWB-2500-1, IWC-2500-1, IWD-2500-1, and IWE-2500-2 are listed. All Item Numbers and applicable Item Number Descriptions are listed for each Category.

C. Section XI Exam Required - The examination method or methods required as defined in Tables IWB-2500-1, IWC-2500-1, IWD-2500-1 and IWF-2500-2 are listed. The abbreviations used are as follows:

SNUB	-	Snubber inservice test per IWF-5000
SURF	-	Surface examination per IWA-2220
VOL	-	Volumetric examination per IWA-2230
VT-1	-	Visual examination per IWA-2211
VT-2	-	Visual examination per IWA-2212
VT-3	-	Visual examination per IWA-2213
VT-4	-	Visual examination per IWA-2214

D. Relief Requests - Relief request numbers (IRR-XXX) reference a specific relief request contained in Section 7.0.

E. Alternate Exam - The examination method(s) that will be performed in lieu of the required Section XI method(s), when relief has been requested, are included. Refer to the relief request for the specific components affected.

F. Remarks - General clarification remarks have been included where appropriate.

Notes which clarify PP&L's understanding of Section XI requirements can be found in Section 10.0 of this document.

SECTION 6.0

INSERVICE INSPECTION PLAN SUMMARY TABLE

FOR

SUSQUEHANNA STEAM ELECTRIC STATION UNIT-1

TABLE 6.0-1

PENNSYLVANIA POWER & LIGHT COMPANY

SUSQUEHANNA STEAM ELECTRIC STATION - UNIT 1

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM '	REMARKS
B-A		PRESSURE RETAINING WELDS IN REACTOR VESSEL				
	B1.10	Shell Welds				
	B1.11	Circumferential	VOL			
	B1.12	Longitudinal	VOL			
	B1.20	Head Welds				ACCESSIBLE LENGTH OF
	B1.21	Circumferential	VOL			ALL WELDS
	B1.22	Meridional	VOL			
	B1.30	Shell-to-Flange Weld	VOL			
	B1.40	Head-to-Flange Weld	VOL AND SURF			
	B1.50	Repair Welds				
	B1.51	Beltline Region	VOL			NO REPAIR WELDS AS OF DATE OF DOCUMENT PREPARATION
B-B		PRESSURE RETAINING WELDS IN VESSELS OTHER THAN REACTOR VESSELS				NO COMPONENTS (BWR)
B-D		FULL PENETRATION WELDS OF NOZZLES IN VESSELS - INSPECTION PROGRAM B				SSES UNIT 1 IS ON INSPECTION PROGRAM B
		Reactor Vessel				
	B3.90	Nozzle-to-Vessel Welds	VOL	IRR-7		
	B3.100	Nozzle Inside Radius Section	VOL			

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
		Pressurizer				NO COMPONENTS (BWR)
	B3.110	Nozzle-to-Vessel Welds				
	B3.120	Nozzle Inside Radius Section				
		Steam Generators (Primary Side)				NO COMPONENTS (BWR)
	B3.130	Nozzle-to-Vessel Welds				
	B3.140	Nozzle Inside Radius Section				
		Heat Exchangers (Primary Side)				NO COMPONENTS (BWR)
	B3.150	Nozzle-to-Vessel Welds				
	B3.160	Nozzle Inside Radius Section				
B-E		PRESSURE RETAINING PARTIAL PENETRATION WELDS IN VESSELS				NOTE 1
	B4.10	Partial Penetration Welds				EXTERNAL SURFACES
	B4.11	Vessel Nozzles	VT-2			25% NOZZLES AMONG
	B4.12	Control Rod Drive Nozzles	VT-2			EACH GROUP OF
	B4.13	Instrumentation Nozzles	VT-2			PENETRATIONS OF COMPARABLE SIZE AND FUNCTION
		Pressurizer				NO COMPONENTS (BWR)
	B4.20	Heater Penetration Welds				
B-F		PRESSURE RETAINING DISSIMILAR METAL WELDS				NOTE 2
		Reactor Vessel				
	B5.10	Nominal Pipe Size $\geq$ 4 in.				ALL WELDS
		Nozzle-to-Safe End Butt Welds	VOL AND SURF			

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
	B5.11	Nominal Pipe Size < 4 in. Nozzle-to-Safe End Butt Welds	SURF			ALL WELDS
	B5.12	Nozzle-to-Safe End Socket Welds				NO NOZZLE TO SAFE END SOCKET WELDS
		Pressurizer				NO COMPONENTS (BWR)
	B5.20	Nominal Pipe Size ≥ 4 in. Nozzle-to-Safe End Butt Welds				
	B5.21	Nominal Pipe Size < 4 in. Nozzle-to-Safe End Butt Welds				
	B5.22	Nozzle-to-Safe End Socket Welds				
		Steam Generator				NO COMPONENTS (BWR)
	B5.30	Nominal Pipe Size ≥ 4 in. Nozzle-to-Safe End Butt Welds				
	B5.31	Nominal Pipe Size < 4 in. Nozzle-to-Safe End Butt Welds				
	B5.32	Nozzle-to-Safe End Socket Welds				
		Heat Exchangers				NO COMPONENTS (BWR)
	B5.40	Nominal Pipe Size ≥ 4 in. Nozzle-to-Safe End Butt Welds				
	B5.41	Nominal Pipe Size < 4 in. Nozzle-to-Safe End Butt Welds				
	B5.42	Nozzle-to-Safe End Socket Welds				
		Piping				
	B5.50	Nominal Pipe Size ≥ 4 in. Dissimilar Metal Butt Welds	VOL AND SURF			ALL WELDS
	B5.51	Nominal Pipe Size < 4 in. Dissimilar Metal Butt Welds	SURF			ALL WELDS

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
	B5.52	Dissimilar Metal Socket Welds				NO DISSIMILAR METAL SOCKET WELDS
B-G-1		PRESSURE RETAINING BOLTING, GREATER THAN 2 in. IN DIAMETER				
		Reactor Vessel				ALL BOLTS, STUDS, NUTS BUSHINGS, THREADS IN FLANGE STUD HOLES
	B6.10	Closure Head Nuts	SURF			
	B6.20	Closure Studs, in place	VOL			
	B6.30	Closure Studs, when removed	SURF AND VOL			
	B6.40	Threads in Flange	VOL			EXAMINED ONLY WHEN CONNECTIONS ARE DISASSEMBLED
	B6.50	Closure Washers, Bushings	VT-1			
		Pressurizer				NO COMPONENTS (BWR)
	B6.60	Bolts and Studs				
	B6.70	Flange Surface, when connection disassembled				
	B6.80	Nuts, Bushings, and Washers				
		Steam Generators				NO COMPONENTS (BWR)
	B6.90	Bolts and Studs				
	B6.100	Flange Surface, when connection disassembled				
	B6.110	Nuts, Bushings, and Washers				
		Heat Exchangers				NO COMPONENTS (BWR)
	B6.120	Bolts and Studs				
	B6.130	Flange Surface, when connection disassembled				
	B6.140	Nuts, Bushings, and Washers				

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
		Piping				
	B6.150	Bolts and Studs				NO BOLTS, STUDS, NUTS, ETC. GREATER THAN 2 INCHES.
	B6.160	Flange Surface, when connection disassembled				
	B6.170	Nuts, Bushings, and Washers				
		Pumps				
	B6.180	Bolts and Studs	VOL	IRR-5		
	B6.190	Flange Surface, when connection disassembled	VT-1			
	B6.200	Nuts, Bushings, and Washers	VT-1			
		Valves				
	B6.210	Bolts and Studs				NO BOLTS, STUDS, NUTS, ETC. GREATER THAN 2 INCHES.
	B6.220	Flange Surface, when connection disassembled				
	B6.230	Nuts, Bushings, and Washers				
B-G-2		PRESSURE RETAINING BOLTING, 2 in. AND LESS IN DIAMETER				BOLTING MAY BE EXAMINED a) IN PLACE UNDER TENSION b) WHEN CONNECTION IS DISASSEMBLED c) WHEN THE BOLTING IS REMOVED
		Reactor Vessel				
	B7.10	Bolts, Studs, and Nuts				NO BOLTS, STUDS AND NUTS ≤ 2 INCHES
		Pressurizer				NO COMPONENTS (BWR)
	B7.20	Bolts, Studs, and Nuts				

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
		Steam Generators				NO COMPONENTS (BWR)
	B7.30	Bolts, Studs, and Nuts				
		Heat Exchangers				NO COMPONENTS (BWR)
	B7.40	Bolts, Studs, and Nuts				
		Piping				ALL BOLTS, STUDS, AND NUTS
	B7.50	Bolts, Studs, and Nuts	VT-1			
		Pumps				ALL BOLTS, STUDS, AND NUTS
	B7.60	Bolts, Studs, and Nuts	VT-1			
		Valves				ALL BOLTS, STUDS, AND NUTS
	B7.70	Bolts, Studs, and Nuts	VT-1			
		CRD Housings				
	B7.80	Bolts, Studs, and Nuts	VT-1			WHEN DISASSEMBLED
B-H		INTEGRAL ATTACHMENTS FOR VESSELS				
		Reactor Vessel				100% OF THE LENGTH OF THE
	B8.10	Integrally Welded Attachments	VOL OR SURF			WELD
		Pressurizer				NO COMPONENTS (BWR)
	B8.20	Integrally Welded Attachments				
		Steam Generator				NO COMPONENTS (BWR)
	B8.30	Integrally Welded Attachments				
		Heat Exchangers				NO COMPONENTS (BWR)
	B8.40	Integrally Welded Attachments				

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
B-J		PRESSURE RETAINING WELDS IN PIPING		IRR-6 IRR-10		
	B9.10	Nominal Pipe Size ≥ 4 in.				
	B9.11	Circumferential Welds	SURF AND VOL			25% OF THE CIRC WELDS
	B9.12	Longitudinal Welds	SURF AND VOL			EACH LONG WELD INTERSECTING A SELECTED CIRC WELD
	B9.20	Nominal Pipe Size < 4 in.				
	B9.21	Circumferential Welds	SURF			25% OF THE CIRC WELDS
	B9.22	Longitudinal Welds	SURF			LONG WELDS INTERSECTING CIRC WELDS REQUIRED TO BE EXAMINED
	B9.30	Branch Pipe Connection Welds				25% OF BRANCH CONNECTION
	B9.31	Nominal Pipe Size ≥ 4 in.	SURF AND VOL			WELDS
	B9.32	Nominal Pipe Size < 4 in.	SURF			
	B9.40	Socket Welds	SURF			25% OF SOCKET WELDS
B-K-1		INTEGRAL ATTACHMENTS FOR PIPING, PUMPS AND VALVES				NOTE 4
		Piping				100% OF THE WELD LENGTH
	B10.10	Integrally Welded Attachments	VOL OR SURF			
		Pumps				
	B10.20	Integrally Welded Attachments	VOL OR SURF			
		Valves				
	B10.30	Integrally Welded Attachments	VOL OR SURF			

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
B-L-1		PRESSURE RETAINING WELDS IN PUMP CASINGS				
	B12.10	Pump Casing Welds				NO PUMP CASING WELDS
B-L-2		PUMP CASINGS				
	B12.20	Pump Casing	VT-3	IRR-1		
B-M-1		PRESSURE RETAINING WELDS IN VALVE BODIES				
	B12.30	Valve Body Welds				NO VALVE BODY WELDS
B-M-2		VALVE BODIES				
	B12.40	Valve Body, Exceeding 4 in. Nominal Pipe Size	VT-3	IRR-2		
B-N-1		INTERIOR OF REACTOR VESSEL				
	B13.10	Reactor Vessel Vessel Interior	VT-3			ACCESSIBLE AREAS

PENNSYLVANIA POWER & LIGHT COMPANY

SUSQUEHANNA STEAM ELECTRIC STATION – UNIT 1

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
B-N-2		INTEGRALLY WELDED CORE SUPPORT STRUCTURES AND INTERIOR ATTACHMENTS TO REACTOR VESSELS				
		Reactor Vessel (BWR)				
	B13.20	Interior Attachments	VT-1			ACCESSIBLE WELDS
	B13.21	Core Support Structure	VT-1			ACCESSIBLE SURFACES
B-N-3		REMOVABLE CORE SUPPORT STRUCTURES				
		Reactor Vessel (PWR)				NO COMPONENTS (BWR)
	B13.30	Core Support Structure				
B-O		PRESSURE RETAINING WELDS IN CONTROL ROD HOUSINGS				
		Reactor Vessel				
	B14.10	Welds in CRD Housing	VOL OR SURF			10% PERIPHERAL CRD HOUSINGS
B-P		ALL PRESSURE RETAINING COMPONENTS				
		Reactor Vessel				
	B15.10	Pressure Retaining Boundary	VT-2			SYSTEM LEAKAGE TEST EACH REFUELING OUTAGE
	B15.11	Pressure Retaining Boundary	VT-2			SYSTEM HYDROTEST

PENNSYLVANIA POWER & LIGHT COMPANY

SUSQUEHANNA STEAM ELECTRIC STATION – UNIT 1

ISI-T-106.0 Revision 1

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
		Pressurizer				NO COMPONENTS (BWR)
	B15.20	Pressure Retaining Boundary				
	B15.21	Pressure Retaining Boundary				
		Steam Generators				NO COMPONENTS (BWR)
	B15.30	Pressure Retaining Boundary				
	B15.31	Pressure Retaining Boundary				
		Heat Exchangers				NO COMPONENTS (BWR)
	B15.40	Pressure Retaining Boundary				
	B15.41	Pressure Retaining Boundary				
		Piping				
	B15.50	Pressure Retaining Boundary	VT-2			SYSTEM LEAKAGE TEST EACH REFUELING OUTAGE PRIOR TO PLANT STARTUP
	B15.51	Pressure Retaining Boundary	VT-2			SYSTEM HYDROTEST
		Pumps				
	B15.60	Pressure Retaining Boundary	VT-2			SYSTEM LEAKAGE TEST EACH REFUELING OUTAGE PRIOR TO PLANT STARTUP
	B15.61	Pressure Retaining Boundary	VT-2			SYSTEM HYDROTEST
		Valves				
	B15.70	Pressure Retaining Boundary	VT-2			SYSTEM LEAKAGE TEST EACH REFUELING OUTAGE PRIOR TO PLANT STARTUP
	B15.71	Pressure Retaining Boundary	VT-2			SYSTEM HYDROTEST

PENNSYLVANIA POWER & LIGHT COMPANY

SUSQUEHANNA STEAM ELECTRIC STATION - UNIT 1

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
B-Q		STEAM GENERATOR TUBING				NO COMPONENTS (BWR)
	B16.10	Steam Generator Tubing in Straight Tube Design				
	B16.20	Steam Generator Tubing in U-Tube Design				

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
C-A		PRESSURE RETAINING WELDS IN PRESSURE VESSELS				
	C1.10	Shell Circumferential Welds	VOL			RHR HEAT EXCHANGER WELDS AT GROSS STRUCTURAL DISCONTINUITY ONLY
	C1.20	Head Circumferential Welds	VOL			RHR HEAT EXCHANGER HEAD TO SHELL WELD
	C1.30	Tubesheet-to-Shell Weld				NO TUBE SHEET TO SHELL HEADS
C-B		PRESSURE RETAINING NOZZLE WELDS IN VESSELS				
	C2.10	Nozzles in Vessel $\leq 1/2$ in. Nominal Thickness				NO NOZZLES $\leq$ 1/2"
	C2.20	Nozzles in Vessel $> 1/2$ in. Nominal Thickness				
	C2.21	Nozzle-to-Shell Weld	VOL AND SURF			RHR HEAT EXCHANGER
	C2.22	Nozzle Inside Radius Section	VOL			RHR HEAT EXCHANGER
C-C		INTEGRAL ATTACHMENTS FOR VESSELS, PIPING, PUMPS, AND VALVES				NOTE 4
		Pressure Vessels				
	C3.10	Integrally Welded Attachments	SURF			RHR HEAT EXCHANGER

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
		Piping				
	C3.40	Integrally Welded Attachments	SURF			
		Pumps				
	C3.70	Integrally Welded Attachments				NO INTEGRALLY WELDED ATTACHMENTS
		Valves				
	C3.100	Integrally Welded Attachments				NO INTEGRALLY WELDED ATTACHMENTS
C-D		PRESSURE RETAINING BOLTING GREATER THAN 2 in. IN DIAMETER				
		Pressure Vessels				
	C4.10	Bolts and Studs				NO BOLTS AND STUDS > 2"
		Piping				
	C4.20	Bolts and Studs				NO BOLTS AND STUDS > 2"
		Pumps				
	C4.30	Bolts and Studs				NO BOLTS AND STUDS > 2"
		Valves				
	C4.40	Bolts and Studs				NO BOLTS AND STUDS > 2"
C-F		PRESSURE RETAINING WELDS IN PIPING		IRR-3		NOTE 3
	C5.10	Piping Welds $\leq \frac{1}{2}$ in. Nominal Wall Thickness				

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
	C5.11	Circumferential Weld	SURF	IRR-3		
	C5.12	Longitudinal Weld	SURF	IRR-3		
	C5.20	Piping Welds > 1/2 in. Nominal Wall Thickness				
	C5.21	Circumferential Weld	SURF AND VOL	IRR-3		
	C5.22	Longitudinal Weld	SURF AND VOL			
	C5.30	Pipe Branch Connections				
	C5.31	Circumferential Weld	SURF			
	C5.32	Longitudinal Weld				NO LONGITUDINAL PIPE BRANCH CONNECTION WELDS
C-G		PRESSURE RETAINING WELDS IN PUMPS AND VALVES				
		Pumps				
	C6.10	Pump Casing Welds	SURF	IRR-4	VT-3	
		Valves				
	C6.20	Valve Body Welds				NO VALVE BODY WELDS
C-H		ALL PRESSURE RETAINING COMPONENTS				
		Pressure Vessels				
	C7.10	Pressure Retaining Components	VT-2			SYSTEM PRESSURE TEST DURING SYSTEM OR COMPONENT FUNCTIONAL TEST
	C7.11	Pressure Retaining Components	VT-2			SYSTEM HYDROSTATIC TEST

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
		Piping				
	C7.20	Pressure Retaining Components	VT-2			SYSTEM PRESSURE TEST DURING SYSTEM OR COMPONENT FUNCTIONAL TEST
	C7.21	Pressure Retaining Components	VT-2			SYSTEM HYDROSTATIC TEST
		Pumps				
	C7.30	Pressure Retaining Components	VT-2			SYSTEM PRESSURE TEST DURING SYSTEM OR COMPONENT FUNCTIONAL TEST
	C7.31	Pressure Retaining Components	VT-2			SYSTEM HYDROSTATIC TEST
		Valves				
	C7.40	Pressure Retaining Components	VT-2			SYSTEM PRESSURE TEST DURING SYSTEM OR COMPONENT FUNCTIONAL TEST
	C7.41	Pressure Retaining Components	VT-2			SYSTEM HYDROSTATIC TEST

TABLE 6.0-1

PENNSYLVANIA POWER & LIGHT COMPANY

SUSQUEHANNA STEAM ELECTRIC STATION - UNIT 1

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
D-A		SYSTEMS IN SUPPORT OF REACTOR SHUTDOWN FUNCTION				NO SYSTEMS
D-B		SYSTEMS IN SUPPORT OF EMERGENCY CORE COOLING, CONTAINMENT HEAT REMOVAL, ATMOSPHERE CLEANUP, AND REACTOR RESIDUAL HEAT REMOVAL				
	D2.10	Pressure Retaining Components	VT-2			SYSTEM FUNCTIONAL TEST
			VT-2			SYSTEM HYDROSTATIC TEST
	D2.20	Integral Attachment - Component Supports and Restraints	VT-3			
	D2.30	Integral Attachment - Mechanical and Hydraulic Snubbers	VT-3			
	D2.40	Integral Attachment - Spring Type Supports	VT-3			
	D2.50	Integral Attachment - Constant Load Type Supports	VT-3			
	D2.60	Integral Attachment - Shock Absorbers	VT-3			
D-C		SYSTEMS IN SUPPORT OF RESIDUAL HEAT REMOVAL FROM SPENT FUEL STORAGE POOL				NO SYSTEMS

PENNSYLVANIA POWER & LIGHT COMPANY

SUSQUEHANNA STEAM ELECTRIC STATION - UNIT 1

ISI-T-106.0 Revision 1

ISI PLAN SUMMARY

CATEGORY	ITEM NUMBER	DESCRIPTION	EXAM REQUIREMENT	RELIEF REQUEST	ALTERNATE EXAM	REMARKS
F-A	F-1,2,3	PLATE AND SHELL TYPE SUPPORTS				
	F-1	Mechanical attachments, including bolting	VT-3	IRR-8	VT-2	
	F-2	Welded attachments	VT-3	IRR-8	VT-2	
	F-3	Component displacement, setting of guides and stops, misalignment of supports, assembly of support items	VT-3	IRR-8	VT-2	
F-B	F-1,2,3	LINEAR TYPE SUPPORTS				
	F-1	Mechanical attachments, including bolting	VT-3	IRR-8	VT-2	
	F-2	Welded attachments	VT-3	IRR-8	VT-2	
	F-3	Component displacement, setting of guides and stops, misalignment of supports, assembly of support items	VT-3	IRR-8	VT-2	
F-C	F-1,2,3,4	COMPONENT STANDARD SUPPORTS				
	F-1	Mechanical attachments, including bolting	VT-3	IRR-8	VT-2	
	F-2	Welded attachments	VT-3	IRR-8	VT-2	
	F-3	Component displacement, setting of guides and stops, misalignment of supports, assembly of support items	VT-3	IRR-8	VT-2	
	F-4	Spring type and constant load type supports, shock absorbers, hydraulic and mechanical snubbers	VT-4 SNUB	IRR-8 IRR-9	VT-2 VT-2	

SECTION 7.0

RELIEF REQUESTS

FOR

SSES UNIT #1.

RELIEF REQUEST NO. IRR-1

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Susquehanna SES Unit-1 has an ISI Class-1 recirculation pump in each of the two 28-inch diameter recirculation loops. These pumps (1P401A AND 1P401B) function during normal reactor operation to provide forced recirculation through the reactor core.

Section XI requires that one of these recirculation pumps be examined visually (VT-3) during each inspection interval. Specifically, the area of examination includes all pump casing internal pressure boundary surfaces (Category B-L-2).

As discussed in detail below, Pennsylvania Power & Light requests relief from the Section XI examination requirement to visually examine the recirculation pump internal surfaces on the basis of impracticality.

II. BASIS FOR RELIEF

The basis for this relief request is predicated on the following two points:

1. The hardships associated with pump disassembly far exceeds any beneficial safety improvements that might be achieved by such an examination, and

2. The structural integrity afforded by the pump casing material utilized will not significantly degrade over the lifetime of the pump.

RELIEF REQUEST NO. IRR-1 (cont'd)

It is expected that approximately 1000 man-hours and 50 man-rem exposure would be required to disassemble, inspect, and reassemble one pump. Performing this visual examination under adverse conditions such as high dose rate (30-40 R/hr) and poor as-cast surface condition, realistically, provides little additional information as to the pump casing integrity.

The recirculation pump casing material, cast stainless steel (ASTM A351-CF-8), is widely used in the nuclear industry and has performed extremely well. The presence of some delta ferrite (typically 5% or more) imparts substantially increased resistance to intergranular stress corrosion cracking. The delta ferrite also results in improved pitting corrosion resistance in chloride containing environments.

Pennsylvania Power & Light feels that adequate safety margins are inherent in the basic pump design and that the health and safety of the public will not be adversely effected by performing the visual examination of the pump internal pressure boundary surfaces only when the pumps are required to be disassembled for maintenance. Furthermore both pumps will be VT-2 examined every refueling outage during leakage tests and once in the interval during hydrostatic tests.

III. ALTERNATE PROVISIONS

As stated above, it is not felt that the visual examination required by Code each ten year interval is warranted. However, as standard maintenance practice dictates, when a recirculation pump is disassembled for maintenance, a VT-3 examination of the internal casing pressure boundary surfaces will be performed. The pump maintenance procedure will address the need for this examination while the pump is disassembled.

RELIEF REQUEST NO. IRR-2

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The Susquehanna SES Unit-1 Class-1 systems contain 57 valves which are greater than four inches nominal pipe size. These valves vary in size, design, and manufacturer but are all manufactured from either cast or forged stainless steel or carbon steel. None of the valve bodies are welded.

Section XI requires a visual examination (VT-3) on the internal pressure boundary surfaces of one (1) valve body in each group of valves of the same constructional design and manufacturing method that perform similar functions in the system. These examinations are required to be completed each inspection interval (Category B-M-2).

Since these examinations must be performed whether or not the valves have to be disassembled for maintenance, this requirement is considered impractical.

II. BASIS FOR RELIEF

The requirement to disassemble primary system valves for the sole purpose of performing a visual examination of the internal pressure boundary surfaces has only a very small potential of increasing plant safety margins and a very disproportionate impact on expenditures of plant manpower and radiation exposure.

Performing these visual examinations on poor as-cast surfaces provides little additional information as to the valve body integrity.

For approximately 20 percent of these valves, the reactor vessel core must be completely unloaded and the vessel drained to permit disassembly for examination.

The performance of both carbon and stainless cast and forged valve bodies has been excellent in all BWR applications. Based on this experience and both industry and regulatory acceptance of these alloys, continued excellent service performance is anticipated.

A more practical approach that would essentially provide an equivalent sampling program and significantly reduced radiation exposure to plant personnel is to inspect the internal pressure boundary of only those valves that require disassembly for maintenance purposes. This would still provide a reasonable sampling of primary system valves and give adequate assurance that the integrity of these components is being maintained.

III. ALTERNATE PROVISIONS

When a valve within a particular valve grouping is disassembled for maintenance purposes, the internal pressure boundary surface of that valve body will be examined to meet the Section XI requirement for that group of valves. The valve maintenance procedure will address the need for this examination.

RELIEF REQUEST NO. IRR-3

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

ISI Class 2 pressure retaining welds in piping are the subject of this relief request.

In accordance with 10CFR50.55a (b)(2)(iv);

(A) Appropriate Code Class 2 pipe welds in Residual Heat Removal Systems, Emergency Core Cooling Systems and Containment Heat Removal Systems, shall be examined. The extent of examination for these systems shall be determined by the requirements of paragraph IWC-1220, Table IWC-2520 Category C-F and C-G, and paragraph IWC-2411 in the 1974 Edition and Addenda through the Summer 1975 Addenda of Section XI of the ASME Code.

(B) For a nuclear power plant whose application for a construction permit is docketed prior to July 1, 1978, the extent of examination for Code Class 2 pipe welds may be determined by the requirements of paragraph IWC-1220, Table IWC-2520 Category C-F and C-G and paragraph IWC-2411 in the 1974 Edition and Addenda through the Summer 1975 Addenda of Section XI of the ASME Code or other requirements the Commission may adopt.

PP&L has elected to implement 10CFR50.55(a)(b)(2)(iv)(B). Therefore, the extent of examination for all ISI Class 2 systems will be determined by the requirements of ASME Section XI, 1974 Edition through and including the Summer 1975 Addenda.

Relief is requested from the following code requirements:

1.) Paragraph IWC-1220 in the 1974 Edition through and including the Summer 1975 Addenda of ASME Section XI (74S75) defines the components that may be exempted from the examination requirements of IWC-2520.

2.) Paragraph IWC-2411(e) in the 1974 Edition through and including the Summer 1975 Addenda of ASME Section XI (74S75) indicates that the required examinations assigned to the components in each stream of the system shall be completed by the end of the service lifetime.

In lieu of the above, Pennsylvania Power and Light proposes to upgrade these specific Code sections to the corresponding Code requirements found in the 1980 Edition through and including the Winter 1980 Addenda of ASME Section XI.

II. BASIS FOR RELIEF

1.) Certain exemption criteria in ASME Section XI, 1974 Edition through and including the Summer 1975 Addenda, paragraph IWC-1220 do not have a sound technical basis. More recent Edition and Addenda of the Code provide updated exemption criteria. Pennsylvania Power & Light will exempt ISI Class 2 pressure retaining welds based on the exemption criteria provided in the Alternate Provisions section of this relief request.

2.) ASME Section XI, 1977 Edition through and including the Summer 1978 Addenda to present (Summer 1983 Addenda) has incorporated requirements for focused weld selection. The purpose of focused weld selectior

is to examine a group of welds most likely to develop indications. This group of welds is examined during the first interval and reexamined during subsequent intervals. The requirement of paragraph IWC-2411(e), 74S75 is impractical because the superior technical approach of focused weld selection cannot be implemented. Per IWC-2411(e), 74S75, a different group of welds must be examined each interval.

Pennsylvania Power & Light will examine ISI Class 2 pressure retaining piping welds based on the extent of examination definition provided in the Alternate Provisions section of this relief request.

III. ALTERNATE PROVISIONS

1.) The exemption criteria for ISI Class 2 pressure retaining piping welds will be taken from ASME Section XI, 1980 Edition through and including the Winter 1980 Addenda:

IWC-1220 Components Exempt from Examination

The following components shall be exempted from the inservice examination requirements of IWC-2500:

a. Components of systems or portions of systems that during normal plant operating conditions are not required to operate or perform a system function but remain floodec under static conditions at a pressure of at

least 80% of the pressure that the component or system will be subjected to when required to operate.

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 (1900 kPa) or above a temperature of 200°F (93°C).

c. Component connections (including nozzles in vessels and pumps), piping and associated valves, and vessels and their attachments that are 4" in. nominal pipe size and smaller.

(2) The extent of examination for ISI Class 2 piping welds is defined such that the welds initially selected for examination during the 1st inspection interval shall be reexamined during each subsequent inspection interval. By focusing the examination program on those welds having a historically higher probability of failure, this inspection program is more likely to detect incipient generic defects. Examination of the same welds each inspection interval permits meaningful data trending not possible when different welds are being examined each interval. See Note 3 in Section 10.0 of this document for specific information on Class 2 Weld Selection.

RELIEF REQUEST NO. IRR-4

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS.

Susquehanna SES Unit-1 has four (4) Core Spray Pumps and four (4) Residual Heat Removal Pumps. The primary functions of these pumps are decay heat removal, suppression pool heat removal, and emergency core cooling.

Section XI requires a surface examination of the discharge elbow to sleeve forging weld and the discharge elbow to bottom plate flange weld, and the pump casing welds located below floor elevation 645'-0" (Category C-G).

Since this requirement is impractical due to inaccessibility, relief is requested from the aforementioned examination requirements.

II. BASIS FOR RELIEF

Both the discharge elbow to sleeve forging and the discharge elbow to bottom plate flange weld are located within the pump casing (see Figure IRR-4.1, welds 361-6-7, 361-2-6 and 361-7-8 are typical), thus they are not accessible without removal of the pump motors. Failure of either weld would cause the discharge water to be circulated back to the suction water.

The pump casing welds located below floor elevation 645'-0" (359-1-2, 359-2-L2, 359-2-2, 359-2-L1, 359-2-3, and 359-3-7 typical) are surrounded by concrete and the pump casing is flooded with water, thus they are not accessible.

The hardships associated with pump motor removal and/or pump disassembly far exceed any beneficial safety improvements that might be achieved by such an examination.

These pumps are subject to testing under IWP. Since each pump is subject to a quarterly test for pressure differential and flow, any loss of integrity of the subject welds would be detected by these tests. Furthermore these components are subject to the pressure testing requirements of IWC-5000.

Additionally, the statistical significance to the inspection sampling program will be negligible due to the small number of welds involved.

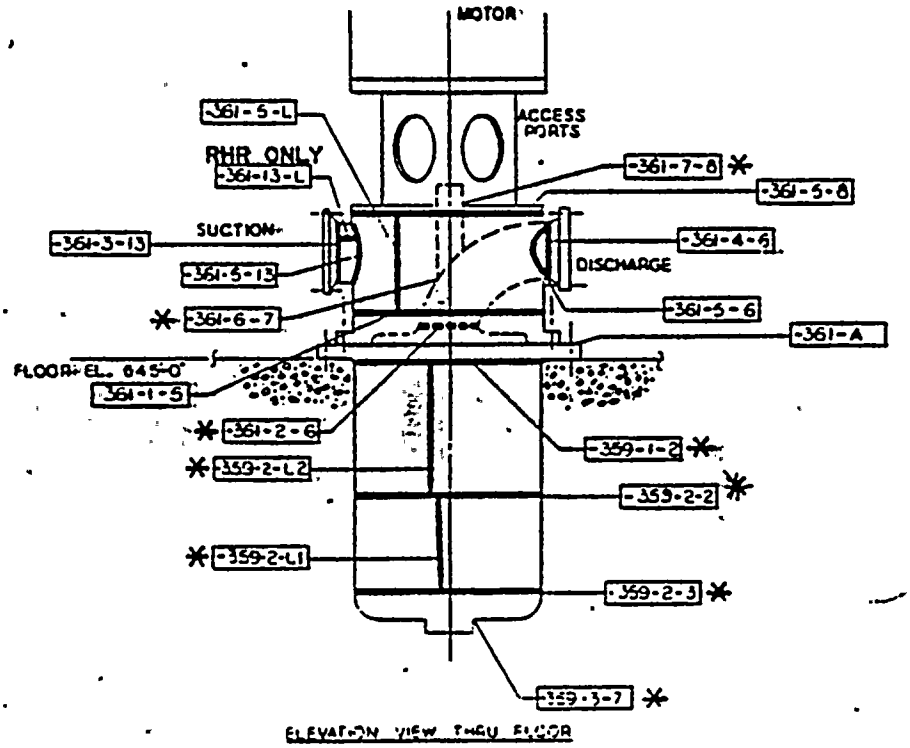
III. ALTERNATE PROVISIONS

Those welds on the subject pumps made accessible during pump motor removal or pump disassembly as required for maintenance purposes will be visually (VT-3) examined.

FIGURE IRR-4.1

PUMP CASING WELDS

CORE SPRAY PUMP IP-206A, B, C, D AND
RESIDUAL HEAT REMOVAL PUMP IP-202A, B, C, D



* INACCESSIBLE WELDS

RELIEF REQUEST NO. IRR-5

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS.

Susquehanna SES Unit-1 has two ISI Class 1 recirculation pumps each containing 16 bolts which attach the pump motor to the pump casing.

Section XI requires that all pump bolts be volumetrically examined during the inspection interval (Category B-G-1).

Pennsylvania Power & Light requests relief from Section XI examination requirements for one of the bolts (1P401B-STUD-14) based on inaccessibility.

II. BASIS FOR RELIEF

On Reactor Recirculation Pump "B", the bolt located at 300° pump azimuth is partially inaccessible for ultrasonic examination due to a small pipe obstruction. Removal of the bolt for examination would result in expenditures of manpower and radiation exposures that would not be commensurate with the added assurance of safety.

The entire bolt can be examined from the center hole of the bolt. The partially restricted scan would be from the top face of the bolt.

III. ALTERNATE PROVISIONS

The subject bolt will be volumetrically examined to the extent possible during the inspection interval. Additionally, the bolt will be examined during system

leakage testing every refueling outage and once every interval during the hydrostatic pressure test.

Should the pump be disassembled during the inspection interval, a complete examination will be performed.

RELIEF REQUEST NO. IRR-6

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Susquehanna SES Unit 1 has two reactor recirculation loops whose function during normal plant operation is to provide forced coolant recirculation through the reactor core.

In accordance with NUREG-0313, Revision 1, piping welds on non-conforming, service sensitive lines are subject to augmented volumetric examination. These examinations are to be performed in accordance with the requirements of Section XI.

The ring header sweepolet/reducer to riser welds (Figure IRR-6.1) in the reactor recirculation system can not be examined in accordance with the requirements of Section XI.

II. BASIS FOR RELIEF

Due to geometric and metallurgical constraints, the heat affected zones and weld root of the subject components can only be partially examined. As shown in Figure IRR-6.1, the construction of these weld joints is extremely complex. The signals obtained from ultrasonic examination of these joints are very difficult to interpret and the results are not easily duplicated.

As specified in NUREG-0313, the risers have corrosion resistant cladding to minimize the joint's susceptability to Inter Granular Stress Corrosion Cracking. In addition, Susquehanna SES Unit 1's leak detection system design conforms to the requirements of NUREG-0313.

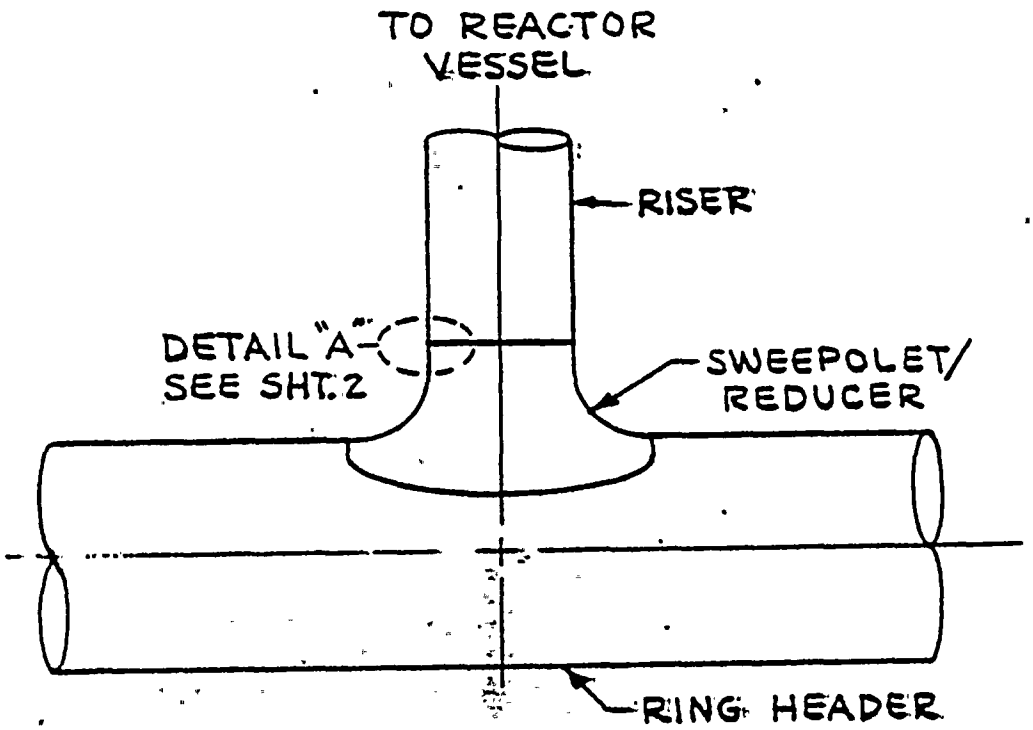
RELIEF REQUEST NO. IRR-6 (cont'd)

III. ALTERNATE PROVISIONS

Visual examinations of the weld will be performed during system pressure tests required by IWB-5000 of Section XI. Volumetric examinations of the weld will be performed to the extent practical due to the geometric and metallurgical constraints described above.

FIGURE IRR-6.1 (Sheet 1 of 2)

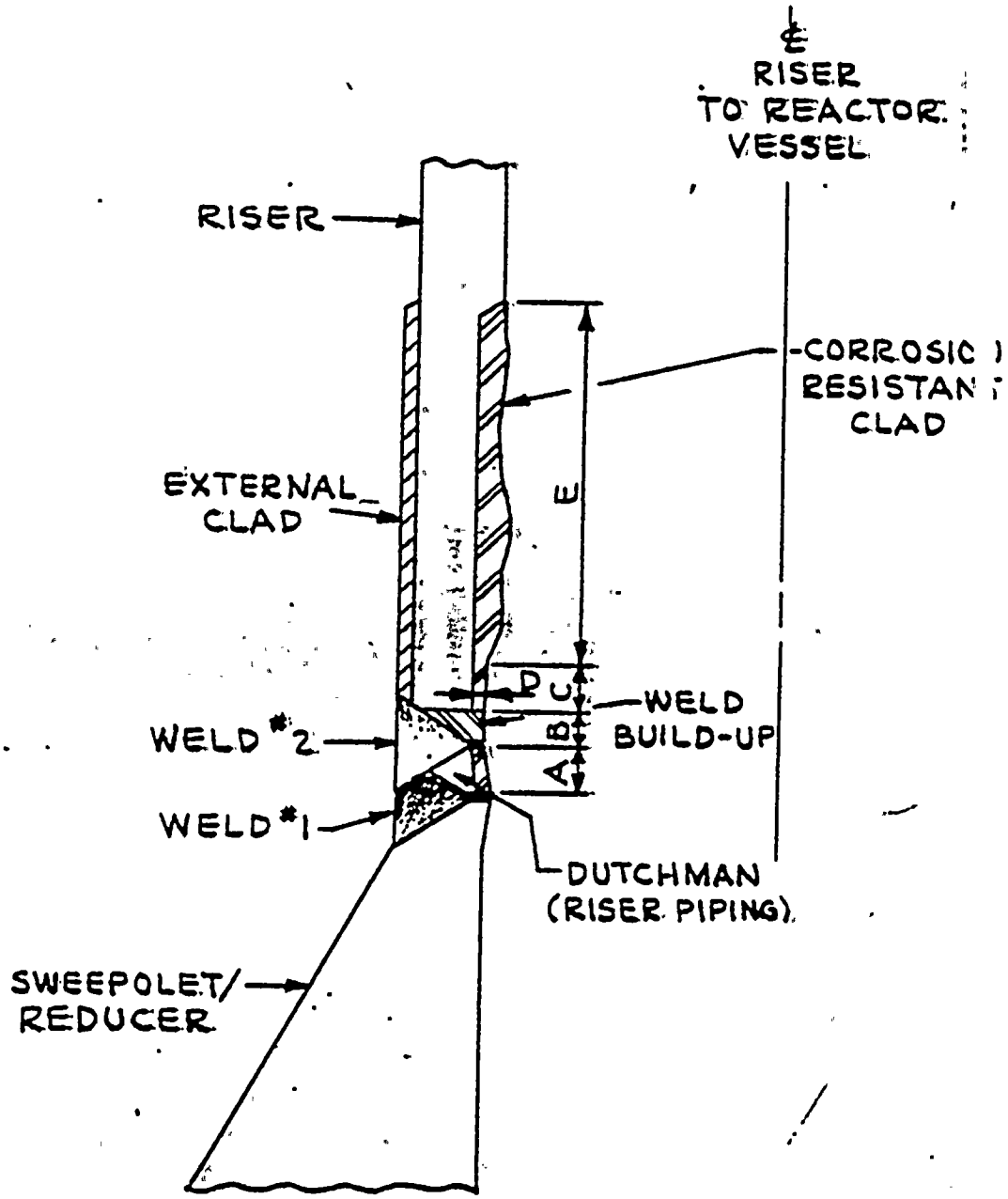
Reactor Recirculation Ring Header Sweepolet to Riser Weld



Weld Identification Number	Dutchman Length "A"	Buildup Length "B"	Counterbore Length "C"	Clad Thickness "D"	Cladding to Inboard Break Length "E"
VRR-B31-1-FWA10,A10M	23/32	11/64	26/64	6/32	2-15/64
VRR-B31-1-FWA11,A11M	19/32	18/64	45/64	7/32	2-5/64
VRR-B31-1-FWA12,A12M	16/32	31/64	58/64	7/32	2-18/64
VRR-B31-1-FWA13,A13M	18/32	11/64	52/64	7/32	2-5/64
VRR-B31-1-FWA14,A14M	21/32	2/64	40/64	6/32	2-24/64
VRR-B31-2-FWB10,B10M	18/32	21/64	54/64	6/32	2-8/64
VRR-B31-2-FWB11,B11M	14/32	25/64	52/64	6/32	2-35/64
VRR-B31-2-FWB12,B12M	17/32	31/64	1-3/64	7/32	2-19/64
VRR-B31-2-FWB13,B13M	18/32	22/64	53/64	6/32	2-26/64
VRR-B31-2-FWB14,B14M	19/32	9/64	45/64	7/32	2-12/64

FIGURE IRR-6.1 (Sheet 2 of 2)

Reactor Recirculation Ring Header Sweepolet to Riser Wel



DETAIL "A"

RELIEF REQUEST NO. IRR-7

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS.

Susquehanna SES Unit-1 has two Feedwater Inlet Nozzles, N4A and N4D, which can not be completely examined.

Section XI requires 100% volumetric examination of the nozzle to vessel weld and adjacent areas as defined in Figure IWB-2500-7(b) each inspection interval (Category B-D).

Pennsylvania Power & Light requests partial relief from Section XI examination requirements for Feedwater Inlet Nozzles N4A and N4D due to geometric restrictions as discussed below.

II. BASIS FOR RELIEF

The close proximity of nozzles N11A and N11B to the subject feedwater nozzles preclude complete examination of the nozzle to vessel weld. The spacing of 4.5" between the nozzles does not permit automatic examination of approximately 60° of the subject welds.

The basis for this relief request is predicated upon the following.

1. the excluded area represents only 16.67 percent of the weld seam, the remainder can be completely examined.

2. The four remaining nozzles of the same configuration and service can be completely examined.

III. ALTERNATE PROVISIONS

The areas identified will be manually examined to the extent possible. Additionally, these nozzles will be visually examined each refueling outage during the leakage tests and each interval during the hydrostatic pressure test.

RELIEF REQUEST NO. IRR-8

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The purpose of this relief request is to define the exemptions and selection criteria for component supports that PP&L plans to implement in its first ten year interval. This request does not pertain to snubber functional testing (IWF-5000).

1.) Exemption -

Each subsection of the Code contains a subarticle on the components within the respective class that are exempt from examination. In subsection IWF (component support examination), subarticle IWF-1230 is reserved for the description of support exemptions. This subarticle is still in the course of preparation in the 1980 Edition through and including the Winter 1980 Addenda (the Code applicable to the first ten year interval for SSES, Unit #1) and the 1983 Edition. Therefore, it is the utility's responsibility to develop exemption criteria that provides a degree of safety and reliability commensurate with the other subsections of the Code.

2.) Selection Criteria -

Examining pipe supports on a statistical sampling basis is being requested to achieve a representative cross-section of all Class 1, 2 and 3 systems, all support types (e.g. snubber, spring, rigid, anchor) and all plant environments. Statistical sampling provides a high degree of confidence on the integrity of all the supports.

II. BASIS FOR RELIEF

1.) Exemption -

ASME Code Interpretation XI-1-79-14 is the basis for the exemption portion of this relief request. The code interpretation states that "it is the intent of Section XI to exempt from examination supports of Class 2 piping and components that are exempt from examination, as in IWC-1220." In IWC-1220 the intent of the word "examination" is limited to volumetric and surface examination only. The specific Class 2 interpretation provided in the Code has been extended to include Class 1 and 3 supports also.

2.) Selection Criteria -

A sampling plan is designed to penalize the plant that has supports in poor condition while not penalizing those plants with supports in good to excellent condition. This is the same philosophy that forms the basis of the snubber functional test frequency found in the plant Technical Specifications.

III. ALTERNATE PROVISIONS

1.) Exemption -

Component supports shall be exempt from the VT-3 and VT-4 examination requirements, as follows:

a) Class 1 and 2 components which are exempt from surface and volumetric examination in accordance with IWB-1220 and IWC-1220 respectively of the Code,

b) Class 3 components which are 4" inch nominal pipe size and smaller, in accordance with IWD-1220.1 of the Code.

The component supports exempt from VT-3 and VT-4 examination will not be completely neglected. A visual examination (VT-2) is required on all Class 1, 2 and 3 systems concurrent with a pressure test. This test and associated examination is conducted at a minimum once every period. During one of these tests in the ten-year interval, the associated VT-2 examination will include the requirement to verify that all accessible supports on these lines are intact; that is, properly connected from the point of pipe or component attachment to the building structure. The inspection record for this examination will be on system or isometric basis as will the pressure test record as opposed to a support by support basis as required for non-exempt support.

2.) Selection Criteria -

The selection criteria for the Class 1, 2 and 3 pipe supports (this relief request is not applicable to equipment supports) which are not exempt from examination is based on statistical sampling. The sampling plan used is a single sample, hypergeometric

distribution which provides 95% confidence that a support population which contains 10 percent or more unacceptable suppports will be rejected (95/90 hypothesis). Sampling will be performed completely each period.

All non-exempt supports will be separated into four populations. These populations will consist of snubber supports, spring type supports, rigid supports and anchor supports. A sample that corresponds with the population size for each type will be examined completely during a period, with a sample of different supports within each type to be examined in successive periods.

If the number of defective supports exceeds the maximum allowed, additional examinations are required in accordance with the sampling plan appropriate for the population size. For these additional examinations, the population will be based on the number of supports in the system associated with the defective support unless the defect is discovered on a spring or snubber type device. In this case, the population shall be based on the total of the respective type.

In the event that a second generation of additional examinations are necessary, it will be performed in accordance with Subarticle IWF-2430(b) of the Code.

RELIEF REQUEST NO. IRR-9

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

SSES Unit #1 Class 1, 2, and 3 piping systems are suspended by a variety of support components including snubbers. Snubbers in Class 1, 2, and 3 piping systems are the subject of this relief request.

The Code states that snubbers shall receive an inservice test in accordance with IWF-5300 and IWF-5400. IWF-5300 (In the course of preparation) applies to snubbers with a capacity of 50 kips or greater and IWF-5400 addresses snubbers with a capacity less than 50 kips.

Pennsylvania Power & Light requests relief from the Section XI inservice testing requirements in IWF-5300 and IWE-5400.

II. BASIS FOR RELIEF

The snubber inservice testing requirements in IWF-5300 and IWF-5400 of Section XI are not complete and Pennsylvania Power & Light has already implemented a comprehensive snubber testing program. Pennsylvania Power & Light's snubber testing program is defined in the plant Technical Specifications, Section 3/4.7.4. The applicable portions of the Technical Specifications have been included in Figure IRR-9.1.

III. ALTERNATE PROVISIONS

The functional testing requirements of Technical Specification 3/4.7.4 will be implemented in lieu of the Code requirements in IWF-5300 and IWF-5400. VT-3 and VT-4 examinations will be performed in accordance with Section XI.

FIGURE IRR-9.1

Snubber Functional Testing Technical Specification

Proposed Technical Specification Change (PLA-2208, N.W. Curtis to A. Schwencer, 5/18/84)

PLANT SYSTEMS

3/4.7.4 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.4 All snubbers shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3. OPERATIONAL CONDITIONS 4 and 5 for snubbers located on systems required OPERABLE in those OPERATIONAL CONDITIONS.

ACTION:

With one or more snubbers inoperable on any system, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.4g on the attached component or declare the attached system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.4 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

a. Inspection Types

As used in this specification, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these groups (inaccessible and accessible) may be inspected independently according to the schedule below. The first inservice visual inspection of each type of snubber shall be performed after 4 months but within 10 months of commencing POWER OPERATION and shall include all snubbers. If all snubbers of each type on any system are found OPERABLE during the first inservice visual inspection, the second inservice visual inspection of that system shall be performed at the first refueling outage. Otherwise, subsequent visual inspections of a given system shall be performed in accordance with the following schedule:

SUSQUEHANNA - UNIT 1

FIGURE IRR-9.1 (cont'd)

Proposed Technical Specification Change (PLA-2208, N.W. Curtis to A. Schwencer, 5/18/84)

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

No. Inoperable Snubbers of Each Type on Any System per Inspection Period	Subsequent Visual Inspection Period*
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3,4	124 days ± 25%
5,6,7	62 days ± 25%
8 or more	31 days ± 25%

c. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are secure. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, providing that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type on that system that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.4f. For those snubbers common to more than one system, the OPERABILITY of such snubbers shall be considered in assessing the surveillance schedule for each of the related systems.

d. Transient Event Inspection

An inspection shall be performed of all snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients as determined from a review of operational data and a visual inspection of the systems within 6 months following such an event. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

*The inspection interval for each type of snubber on a given system shall not be lengthened more than one step at a time unless a generic problem has been identified and corrected; in that event the inspection interval may be lengthened one step the first time and two steps thereafter if no inoperable snubbers of that type are found on that system.

#The provisions of Specification 4.0.2 are not applicable.

SUSQUEHANNA - UNIT 1

FIGURE IRR-9.1 (cont'd)

Proposed Technical Specification Change (See PLA-2208, N.W. Curtis to A. Schwencer, 5/18/84)

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

e. Functional Tests

During the first refueling shutdown and at least once per 18 months thereafter during shutdown, a representative sample of snubbers shall be tested using one of the following sample plans for each type of snubber. The sample plan shall be selected prior to the test period and cannot be changed during the test period. The NRC Regional Administrator shall be notified in writing of the sample plan selected prior to the test period or the sample plan used in the prior test period shall be implemented:

1) At least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.7.4f., an additional 10% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested; or

2) A representative sample of each type of snubber shall be functionally tested in accordance with Figure 4.7.4-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements of Specification 4.7.4f. The cumulative number of snubbers of a type tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 4.7.4-1. If at any time the point plotted falls in the "Reject" region all snubbers of that type shall be functionally tested. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or the "Reject" region, or all the snubbers of that type have been tested. Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time, providing all snubbers tested with the failed equipment during the day of equipment failure are retested; or

3) An initial representative sample of 55 snubbers of each type shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 - C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this sample plan shall be plotted using an "Accept" line which follows the equation N = 55(1 - C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing of that type of snubber may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type have been tested.

SUSQUEHANNA - UNIT 1

FIGURE IRR-9.1 (cont'd)

Proposed Technical Specification Change (See PLA-2208, N.W. Curtis to A. Schwencer, 5/18/84)

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure as far as practical that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type. Snubbers placed in the same locations as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional testing results shall be reviewed at the time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

f. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) Where required, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if these results can be correlated to the specified parameters through established methods.

g. Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

SUSQUEHANNA - UNIT 1

FIGURE IRR-9.1 (cont'd)

Proposed Technical Specification Change (See PLA-2208, H.W. Curtis to A. Schwencer, 5/18/84)

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen-in-place, the cause will be evaluated and if caused by manufacturer or design deficiency all snubbers of the same type subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated in Specification 4.7.4e. for snubbers not meeting the functional test acceptance criteria.

h. Functional Testing of Repaired and Replaced Snubbers

Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test result shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom-of-motion test must have been performed within 12 months before being installed in the unit.

i. Snubber Service Life Replacement Program

The service life of all snubbers shall be monitored to ensure that the service life is not exceeded between surveillance inspections. The maximum expected service life for various seals, springs, and other critical parts shall be determined and established based on engineering information and shall be extended or shortened based on monitored test results and failure history. Critical parts shall be replaced so that the maximum service life will not be exceeded during a period when the snubber is required to be OPERABLE. The parts replacements shall be documented and the documentation shall be retained in accordance with Specification 6.10.2.

SUSQUEHANNA - UNIT 1

FIGURE IRR-9.1 (cont'd)

Proposed Technical Specification Change (See PLA-2208, N.W. Curtis to A. Schwencer, 5/18/84)

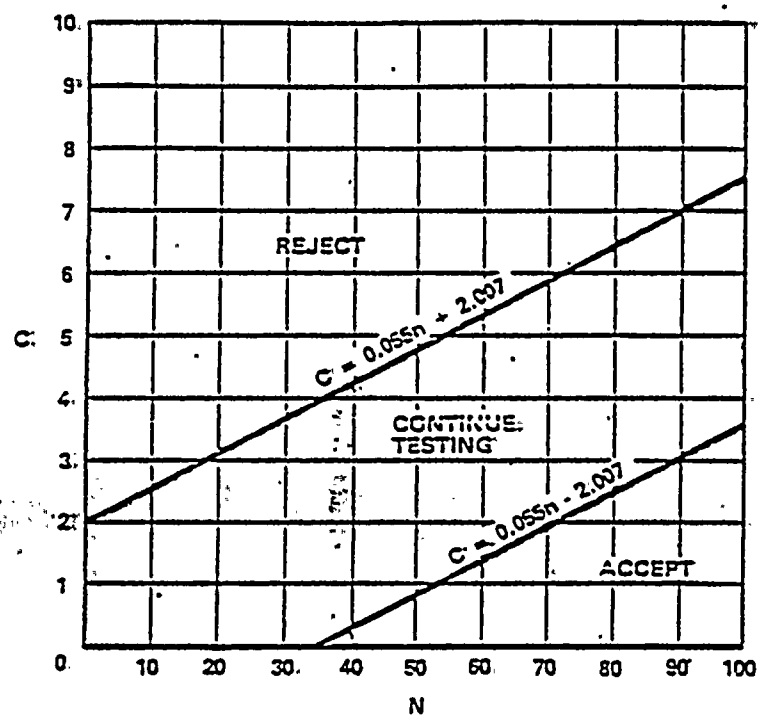


FIGURE 4.7.4-1
SAMPLE PLAN 2) FOR SNUBBER FUNCTIONAL TEST

SUSQUEHANNA - UNIT 1

RELIEF REQUEST NO. IRR-10

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

ISI Class 1 pressure retaining welds in piping are the subject of this relief request.

PP&L has chosen the allowed 10CFR50.55a(b) (2)(ii) option to use the 1974 Edition through and including Summer of 1975 Addenda for Class 1 weld selection. Relief is requested from the requirements of Tables IWB-2500 and IWB-2600 of the 1974 Summer 1975 Code in the following areas:

1.) It is unclear whether inspection schedule requirements are to be taken from the 1974 Edition through and including the Summer 1975 Addenda or later editions, and

2.) Table IWB-2600, specifies examination methods which have since been changed in later Code editions and addenda to methods more appropriate for the component being examined (e.g. ultrasonic examination vs. surface examination for small pipe welds and thin wall pipe).

II. BASIS FOR RELIEF

1.) Since 10CFR50.55a(b)(2)(ii) does not specifically reference the use of paragraph IWB-2420(c), it is uncertain what requirements are to be applied. Relief is being requested to utilize the

provisions of Table IWB-2500-1, Note #2 of the 1980 Edition through and including the Winter 1980 Addenda. This note states that the welds initially selected for examination during the first interval shall be re-examined during subsequent intervals.

Re-examination of the same welds, combined with a focused weld selection (whereby welds are selected that have a higher probability of failure that others) is more likely to detect incipient generic defects.

In addition, examination of the same welds each inspection interval permits meaningful data trending not possible when different welds are being examined each interval.

2.) By utilizing the Class 1 weld examination methods from the 1980 Edition through and including the Winter 1980 Addenda, a more conservative overall approach is taken.

The only exception is for piping greater than 1" NPS and less than 4" NPS where a surface exam is specified as opposed to a volumetric exam. Attempting to perform volumetric examinations on these welds is impractical due to weld configuration and/or wall thickness.

All other exam methods are either more conservative or the same between the two Code years.

III. ALTERNATE PROVISIONS

1.) Class 1 welds will be selected based on the following, focused selection guidelines. The welds initially selected will be re-examined during subsequent inspection intervals.

a) Terminal ends in pipe or branch runs connected to the reactor vessel (pipe to safe-end welds).

b) Terminal ends at the reactor coolant pump.

c) Terminal ends at containment penetrations.

d) Terminal ends at pipe support anchors.

e) Welds with a cumulative usage factor greater than 0.4.

f) Welds with the highest stress intensity ratio.

It is important to note that this is guidance and not mandatory weld selection criteria. Deviations from these guidelines may be necessary to avoid selecting the same corresponding weld on each loop of a multiple loop system, and to avoid selecting numerous welds adjacent to one another. In addition, welds that are inaccessible and/or are of such design that meaningful ultrasonic data is not possible, will not be selected.

RELIEF REQUEST NO. IRR-10 (cont'd)

2.) Class 1 welds will be examined per the examination requirements found in Examination Category B-J, of Table IWB-2500-1, of the 1980 Edition with Winter 1980 Addenda.

RELIEF REQUEST NO. IRR-11

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Susquehanna SES Unit #1 RPV circumferential shell weld "AD" and longitudinal shell welds "BK" and "BM" cannot be completely examined per Section XI Code Requirements.

ASME Section XI Examination Category B-A requires 100% volumetric examination of all circumferential and longitudinal shell welds (Figures No. IWB-2500-1, 2) during the first ten-year inspection interval.

Pennsylvania Power and Light requests partial relief from the Section XI examination requirements for weld seams "AD, BK and BM" due to plant design.

II. BASIS FOR RELIEF

An RPV insulation support steel ring girder is located from approximately 8.25 to 10.0 inches above weld "AD", thereby limiting the available scan path for inspection of weld "AD" and precluding access to portions of welds "BK" and "BM". Due to obstruction, approximately 20% of weld AD and 78% of BK/BM cannot be examined by manual or remote automatic inspection techniques.

III. JUSTIFICATION

The justification for requesting relief from ASME Section XI Examination Requirements is as follows:

1) Plant modification to provide adequate access for the inspection is impractical and imposes undue hardship in the form of extensive plant modification and ALARA exposure.

2) The accessible areas of the weld and required examination volume shall be examined to provide evidence of continued integrity.

3) The Class 1 system leakage test is required each refueling outage; system hydrotest is required each inspection interval.

IV. ALTERNATE PROVISIONS

The remote automated equipment has been modified to accomodate a special 45° wedge to increase examination coverage on weld "AD" (80% coverage of weld "AD" includes an additional scan with the special 45° wedge). No alternate exam provisions can be specified for welds BK/BM.

SECTION 8.0

INSERVICE INSPECTION AUGMENTED COMMITMENTS

FOR

SSES UNIT #1

8.0 AUGMENTED COMMITMENTS

In addition to the requirements as specified in ASME Section XI, Pennsylvania Power & Light has committed to meet the inspection requirements contained in the following documents:

A. NUREG-0803 - "Integrity of BWR Scram Discharge Piping"

Referenced in letter PLA-987 dated December 29, 1981 From N. W. Curtis to A. Schwencer

B. NUREG-0313, Revision 1 - "Material Selection and Processing Guidelines for BWR Boundary Piping Coolant Pressure"

Referenced in letter PLA-927 dated September 15, 1981 From N. W. Curtis to A. Schwencer

C. NUREG-0619 - "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking"

Referenced in letter PLA-1075 dated May 3, 1982 From N. W. Curtis to A. Schwencer

D. FSAR Article 6.6.8 - Volumetric examination of high energy piping between containment isolation valves.

9.0 REFERENCES

9.0.1 Regulatory Guide 1.26, Revision 3, February 1976, "Quality Group Classifications and Standards for Water, Steam, and Radioactive Waste Containing Components of Nuclear Power Plants".

9.0.2 Code of Federal Regulations, Title 10, Part 50 (10CFR50), revised January 1, 1981, modified by Federal Register Vol. 46, No. 251, dated December 31, 1981, pgs. 63208 and 63209.

9.0.3 10CFR50.2(v), as of January 1, 1981.

9.0.4 Standard Review Plan (NUREG-0800) for the Review of Safety Analysis Reports for Nuclear Power Plants, LWR Edition, U.S. Nuclear Regulatory Commission Specifically Section 3.2.2 "System Quality Group Classification" Revision 1, July 1981.

9.0.5 Regulatory Guide 1.11, Instrument Lines Penetrating Primary Reactor Containment (Safety Guide 11, March 10, 1971) Supplement to Safety Guide 11, Backfitting Considerations, February 2, 1972.

9.0.6 Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition through and including the Winter 1980 Addenda.

9.0.7 SSES Unit #1 Final Safety Analysis Report (FSAR) Revision 1, August, 1978, through Revision 32 December 1982.

9.0.8 Generic Safety Evaluation Report (NUREG-0803) Regarding Integrity of BWR Scram System Piping, U.S. Nuclear Regulatory Commission. Published: August, 1981.

10.0 PP&L'S CODE CLARIFICATIONS

The notes included in this section define PP&L's interpretation of Code requirements that may be ambiguous. Each Code requirement subject to clarification is described by a separate note.

The note numbers are referenced in the ISI Summary Plan, Table 6.0-1 in the Remarks column.

NOTE 1

SECTION XI REQUIREMENT: Examination Category B-E, Pressure Retaining Partial Penetration Welds in Vessels.

The Code requires a visual (VT-2) examination of the external surfaces.

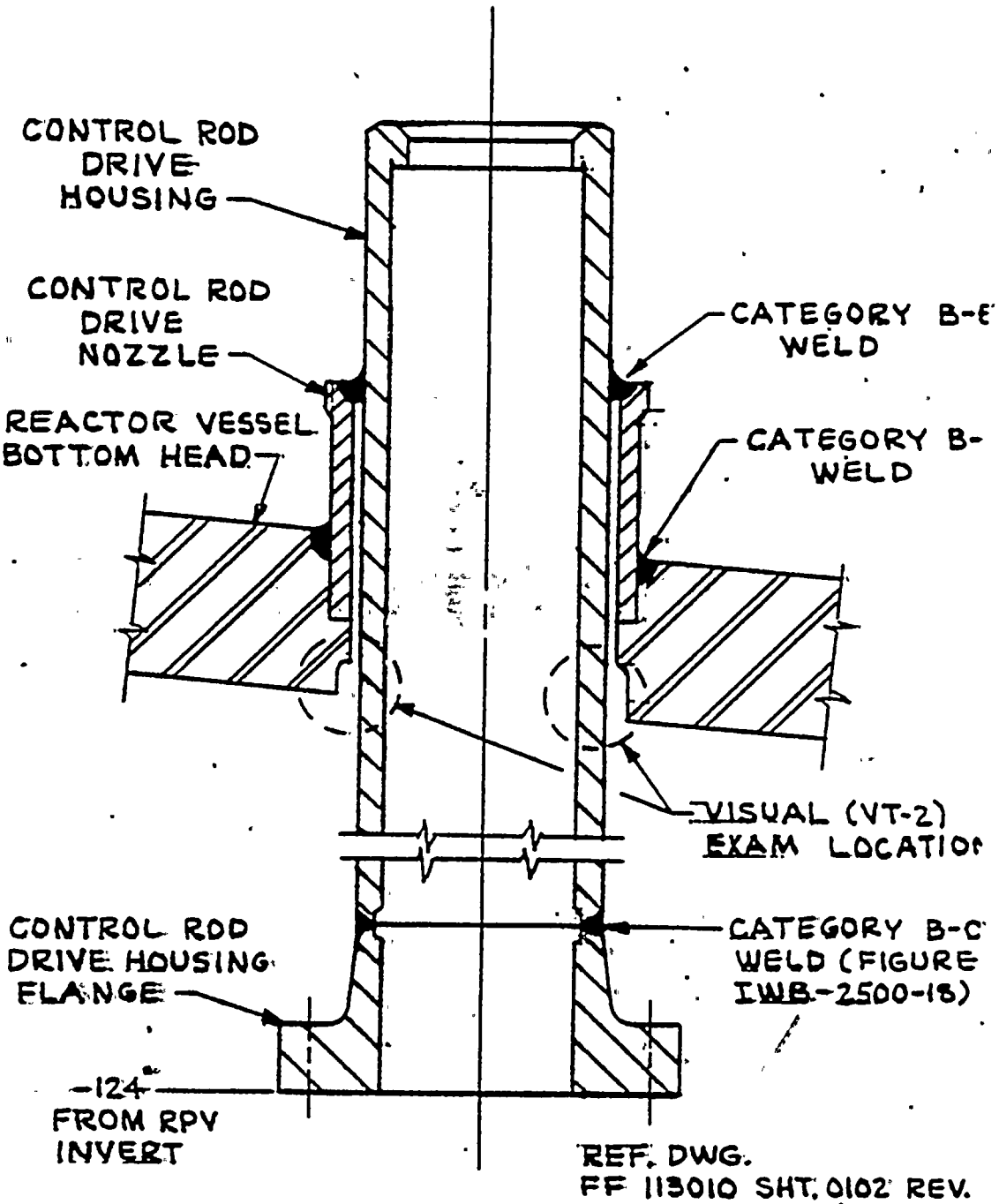
PP&L INTERPRETATION: The Code does not specify whether the visual (VT-2) examination of the external surfaces shall be a VT-2 examination of the partial penetration weld external surface or the vessel external surface.

PP&L will perform a VT-2 examination of the vessel external surface. The extent of examination is illustrated in Figure 10.0-1.

The external surfaces of the partial penetration welds shown in Figure 10.0-1 are inaccessible for examination. Evidence of leakage from the partial penetration welds can be obtained by performing a VT-2 examination of the vessel external surface. The VT-2 examination of the vessel external surface performed by PP&L will satisfy the intent of the Code.

FIGURE 10.0-1

Reactor Vessel Bottom Head to CRD Nozzle Weld



NOTE 2

SECTION XI REQUIREMENTS: Examination Category B-F, Pressure Retaining Dissimilar Metal Welds and Examination Category B-J, Pressure Retaining Welds in Piping.

Examination Category B-F and Examination Category B-J have duplicate examination requirements for dissimilar metal pressure retaining welds in piping.

While a nozzle is the part of a vessel designed for piping connections and a safe end is made of piping materials, the Code does define a transition point between vessel and piping components. Specifically, the Code does not define whether a vessel nozzle to safe end weld is a piping weld.

PP&L INTERPRETATION: Dissimilar metal nozzle to safe-end welds and dissimilar metal piping welds will come under the jurisdiction of Examination Category B-F, only. These welds will not be included in Examination Category B-J.

Similar metal nozzle to safe-end welds and similar metal piping welds will be subject to the examination requirements of Examination Category B-J. Similar metal pipe to safe-end welds will be considered terminal ends for the purpose of weld selection.

NOTE 3

CLASS 2 WELD SELECTION

I. WELD QUANTITY DETERMINATION

The quantity of Class 2 welds to be examined in the first ten-year interval is determined by application of the following steps:

a) Determine which portions of Class 2 systems are single stream vs. multiple stream (piping lines of the same size, geometry and function that perform redundant functions).

b) For multiple streams, the average number of welds per stream is the "equivalent of one loop".

c) In systems which circulate reactor coolant, 25% of the welds[1] on a single stream or the equivalent of one loop shall be selected for examination in accordance with the guidance provided in Section II.

d) In systems which circulate other than reactor coolant, 12.5% of the welds[1] on a single stream or the equivalent of one loop shall be selected for examination in accordance with the guidance provided in Section II.

e) For multiple streams, the number of examinations shall be spread equally to the extent practical among each of the streams and if the number of

[1] Pipe to pipe welds that are at structural discontinuities and dissimilar metal pipe to pipe welds shall be included in the weld total. All other pipe to pipe welds shall not be included.

areas subject to examination in a specific category is less than the number of streams, at least one such area shall be examined.

II. SPECIFIC WELD SELECTION GUIDANCE

Once the quantity of welds is determined, specific weld selection is from among the following:

a) Welds at locations where the stresses under the loadings resulting from Normal and Upset plant conditions as calculated by the sum of Eqs. (9) and (10) in NC-3652 exceed 0.8 $(1.2S_h + S_A)$;

b) Each type of terminal end in each system will be selected. In the Core Spray system, for example, there is a total of 8 terminal ends corresponding to the suction and discharge attachment welds on each pump. Examining all eight terminal ends would be redundant and skew the examination sample to those particular welds. A more meaningful examination program would result from selecting only one pump suction and one pump discharge terminal end for examination.

Terminal ends are identified at system anchor points, vessel and pump connections, and containment penetrations.

c) Dissimilar Metal Welds

d) Additional welds at structural discontinuities to achieve the required percentages identified in Section I. These random welds shall be the higher

stress welds that remain to be selected which are not located adjacent to welds selected under a, b, and c above.

Examinations will be performed per the examination requirements of Table IWB-2500-1, Examination Category C-F of the 1980 Code Edition through and including the Winter 1980 addenda (Footnote 1 excluded).

NOTE 4

INTEGRALLY WELDED ATTACHMENTS

Integrally welded attachments that are not loaded during Normal or Upset plant conditions will not be included in the extent of examination. Insulation lugs, lifting lugs, and other types of integrally welded attachments that are not part of a support component and integrally welded attachments associated with pipe whip restraints will not be subject to the requirements of Examination Categories B-K-1 or C-C.