

INSERVICE INSPECTION AND TESTING PROGRAM

QUAD CITIES NUCLEAR POWER STATION

UNITS 1 AND 2

COMMONWEALTH EDISON COMPANY

JULY 18, 1979

8409210097 840907  
PDR ADDCK 05000254  
Q PDR

## TABLE OF CONTENTS

	<u>PAGE</u>
1.0 INTRODUCTION	
1.1 General Information.....	1-1
1.2 System Classifications.....	1-2
2.0 INSERVICE INSPECTION PROGRAM	
2.1 Description of ISI Program.....	2-1
2.2 Program Tables.....	2-8
A. Quad Cities Unit-1	
B. Quad Cities Unit-2	
2.3 Relief Requests.....	2-9
3.0 INSERVICE TESTING PROGRAM FOR PUMPS	
3.1 Description of IST Program for Pumps.....	3-1
3.2 Program Tables.....	3-2
A. Quad Cities Unit-1	
B. Quad Cities Unit-2	
3.3 Relief Requests.....	3-3
4.0 INSERVICE TESTING PROGRAM FOR VALVES	
4.1 Description of IST Program for Valves.....	4-1
4.2 Program Tables.....	4-10
A. Quad Cities Unit-1	
B. Quad Cities Unit-2	
4.3 Relief Requests.....	4-11



## 1.0 INTRODUCTION

### 1.1 GENERAL INFORMATION

The Inservice Inspection (ISI) and Inservice Testing (IST) Programs for Quad Cities Nuclear Power Station, Units 1 and 2, are developed in compliance with the rules and regulations of 10CFR50.55a and Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition including the Addenda through Summer 1975. Where these rules are determined to be impractical, specific relief is requested in writing.

The Inservice Inspection Programs for Class 1, 2 and 3 Components are applicable for the forty month period beginning October 18, 1979 and November 10, 1979 for Quad Cities Units 1 and 2, respectively. The Inservice Testing Programs for Class 1, 2 and 3 Pumps and Valves are applicable for the twenty month period beginning on the same above mentioned dates. It should be noted that the proposed rule change to 10CFR50.55a dated January 18, 1979, if adopted, would extend the applicable period for the Inservice Testing Programs from 20 months to 40 months. The upcoming 40 month period is the third and final period of the first inspection interval for both Quad Cities Units 1 and 2.

## 1.2 SYSTEM CLASSIFICATION

The construction permits for Quad Cities Units 1 and 2 were issued on February 15, 1967. At that time the ASME Boiler and Pressure Vessel Code covered only nuclear vessels. Piping, pumps, and valves were built primarily to the rules of USAS B31.1.0, therefore, the station has essentially no ASME Code Class 1, 2 or 3 designed systems. The system classifications used as a basis for the Inservice Inspection and Testing Programs are based on the requirements set forth in 10CFR50 and Regulatory Guide 1.26 and were developed for the sole purpose of assigning the appropriate inservice inspection requirements. Components within the primary coolant pressure boundary, as defined in 10CFR50.2(v), are designated as ISI-Class 1 while other safety-related components are designated as ISI-Class 2 and 3 in accordance with the guidelines of Regulatory Guide 1.26. Pursuant to 10CFR50 paragraph (g)(1), inservice inspection requirements of Section XI of the ASME Code are then assigned to these components, within the constraints of existing plant design.

Color-coded Piping and Instrument Diagrams (P&IDs) documenting the system classifications were developed to aid in the review and implementation of the subject programs. A legend explaining the color-coding scheme is included on the first page of the P&IDs.

## 2.0 INSERVICE INSPECTION PROGRAM

### 2.1 PROGRAM DESCRIPTION

2.1.1 The Inservice Inspection Program for ISI Class 1, 2 and 3 components meets the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda. Where these requirements are determined to be impractical, specific requests for relief have been written and included in Section 2.3.

2.1.2 The ISI Program is presented in Section 2.2 in a tabular format. The components and associated requirements are listed according to ascending Code Category and Item Numbers. The following information is included in the tables:

- A. Code Category lists the Section XI examination categories as defined in Table IWB-2500 for Class-1 components and Table IWC-2520 for Class 2 components. Since there are no such categories for pressure testing requirements or for Class 3 component examinations, the applicable paragraphs of the Code are referenced. Only those categories applicable to Boiling Water Reactors are included.

- B. Item Number and Description lists the Item Number and its description as listed in Table IWB-2600 and IWC-2600. All applicable item numbers are listed for each Code Category.
- C. Exam Method lists the examination method or methods that will be performed for each component. Where no relief has been requested, this reflects the Section XI requirements. Where relief has been requested, the exam methods that will be performed in lieu of the required Section XI methods are listed. The abbreviations used are as follows:
- VOL - Volumetric
- SUR - Surface
- V-A - Visual examination per IWA-2210 for components such as bolting and vessel internal parts.
- V-B - Visual examination for evidence of leakage conducted in conjunction with pressure testing requirements of IWB, IWC and IWD-5000.
- V-C - Visual examination of component supports to determine general condition as related to operability.
- D. System lists the applicable Class 1, 2 or 3 system as indicated below. If NONE is listed in this column, there are no components applicable to that Item Number.

<u>SYSTEM NAME</u>	<u>CLASS</u>
Control Rod Drive	1&2
Residual Heat Removal (RHR)	1&2
RHR Service Water	3
Standby Liquid Control (SBLC)	1&2
Reactor Water Cleanup	1
Reactor Core Isolation Cooling (RCIC)	1
Core Spray	1&2
High Pressure Coolant Injection (HPCI)	1&2
Main Steam	1
Feedwater	1&2
Diesel Generator Cooling Water	3

- E. Line or Component Numbers lists all line numbers or component numbers applicable to each Item Number. The first digit of the number indicates the appropriate unit number. The letter designation at the end of each line number indicates the piping material (A - stainless steel, B, C, DX, L and LX - carbon steel).
- F. P&ID and Coordinates references the applicable color-coded P&ID and Coordinates for the line or component.
- G. No. of Items indicates the total number of components (i.e. welds, supports, valves, etc.) that apply to



the particular Item Number. Where this number appears in parentheses, it refers to the number of components exempted by the referenced relief request. For example, if an entry reads - 16 (1) - then sixteen of seventeen total components will be examined per the Code and one component is exempted from a Code required examination by the referenced relief request.

Since this number indicates the total number of components for a particular Item Number, the number to be inspected each interval is some percentage of this total, based on the requirements stated in Section XI for each Category.

- H. Relief Request references either a specific relief request contained in Section 2.3 or references one of the Code allowed exemptions listed below. If the latter is referenced, the particular line or component has been exempted from volumetric or surface examination by the applicable Code paragraph.

EX-1 - IWB-1220(b)(3): lines 1-inch nominal pipe size (n.p.s.) and less

EX-2 - IWB-1220(b)(1): liquid carrying lines 2-inch n.p.s. and less (see 2.1.3)

EX-3 - IWB-1200(b)(1): steam carrying lines 3-inch n.p.s. and less (see 2.1.3)



- EX-4 - IWC-1220(a): design pressure and temperature less than 200° F and 275 psig
- EX-5 - Deleted
- EX-6 - IWC-1220(d): 4-inch n.p.s. and less
- EX-7 - IWC-5222(c): open ended piping - hydro exempt
- EX-8 - IWD-5223(c): open ended piping - hydro exempt

It should be noted that Section 2.3 - contains some generic relief requests that are not specifically referenced in the tables but apply to the ISI Program in general.

I. Remarks - lists general clarification remarks.

2.1.3 Pursuant to paragraph IWE-1220(b)(1), the maximum size line break that can be made up by the reactor coolant makeup system has been calculated to be 2.08 inches inside diameter for liquid carrying lines and 4.16 inches for steam carrying lines. In applying this exemption to the program, liquid carrying lines less than or equal to 2 inch nominal pipe size and steam carrying lines less than or equal to 3.0 inches n.p.s. were exempted.

2.1.4 Quad Cities Station will be implementing Class 2 and 3 inspection requirements for the first time with the acceptance of this program. For the remainder of the

current ten year interval the percentage of the required examinations completed will be only that which would have been scheduled had Class 2 and 3 requirements been implemented at the beginning of the interval and the required examinations divided evenly among each of the three periods.

## SECTION 2.2

### TABLES FOR INSERVICE INSPECTION PROGRAM

A. QUAD CITIES UNIT-1

B. QUAD CITIES UNIT-2



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-A PRESSURE RETAINING WELDS IN VESSEL BELTLINE REGION			CLASS	REVISION - DATE	PAGE	
					1	1 - 6-1-82	Page 1 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.1	LONGITUDINAL AND CIRCUMFERENTIAL SHELL WELDS IN CORE REGION	NONE	REACTOR VESSEL	1-201	NONE	(7)	CR-1	



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-B PRESSURE RETAINING WELDS IN VESSELS		CLASS	REVISION	DATE	PAGE	
				1	1 -	6-1-82	Page 2 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.2	LONGITUDINAL AND CIRCUMFERENTIAL WELDS IN SHELL (OTHER THAN THOSE OF CATEGORY B-A and B-C) AND MERIDIONAL AND CIRCUMFERENTIAL SEAM WELDS IN BOTTOM HEAD AND CLOSURE HEAD (OTHER THAN THOSE OF CATEGORY B-C)	VOL	REACTOR VESSEL	1-201	NONE	10(18)	CR-2	



Commonwealth  
Edison

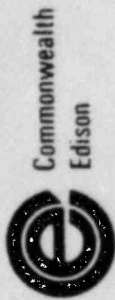
# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-C PRESSURE RETAINING WELDS, VESSEL-TO-FLANGE AND HEAD-TO-FLANGE					CLASS	REVISION - DATE	PAGE
							1	1 - 6-1-82	Page 3 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.3	VESSEL-TO-FLANGE AND HEAD-TO-FLANGE CIRCUMFERENTIAL WELDS	VOL	REACTOR VESSEL	1-201	NONE	2			





# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-D FULL PENETRATION WELDS OF NOZZLES IN VESSELS			CLASS	REVISION - DATE	PAGE	
					1	1 - 6-1-82	Page 4 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.4	PRIMARY NOZZLE-TO-VESSEL WELDS AND NOZZLE INSIDE RADIUSED SECTION	VOL	REACTOR VESSEL	1-201	35-1&2	29		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		3-E PRESSURE RETAINING PARTIAL PENETRATION WELDS IN VESSELS			CLASS	REVISION - DATE	PAGE	
					1	1 - 6-1-82	Page 5 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.5	VESSEL PENETRATIONS, INCLUDING CONTROL ROD DRIVE AND INSTRUMENTATION PENETRATIONS	V-B	REACTOR VESSEL	1-201	35-1&2	235		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-F PRESSURE RETAINING DISSIMILAR METAL WELDS				CLASS	REVISION - DATE	PAGE
						1	1 6-1-82	Page 6 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.6	NOZZLE-TO-SAFE-END WELDS	VOL&SUR	REACTOR VESSEL	1-201	35-1&2	20		
B4.1	SAFE-END-TO-PIPING WELDS AND SAFE-ENDS IN BRANCH PIPING WELDS	VOL&SUR	RX HEAD VENT	1-0215-4"	35-1 B-4	1		
		"	CRD	1-0308-3"	41 D-2	1		
		"	RHRS	1-1025-20"	39 C-6	1		
		VOL&SUR	"	1-1011-4"	39 A-6	1		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY					CLASS	REVISION - DATE		PAGE
B-G-1 PRESSURE RETAINING BOLTING, 2 INCHES DIAMETER AND LARGER					1	1 - 6-1-82		Page 7 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
	<u>RX VESSEL:</u>							
B1.7	CLOSURE STUDS IN PLACE	VOL	REACTOR VESSEL	1-201	NONE	92		
B1.8	CLOSURE STUDS AND NUTS, WHEN REMOVED	VOL&SUR	"	"	"	184		
B1.9	LIGAMENTS BETWEEN THREADED STUD HOLES	VOL	"	"	"	92		
B1.10	CLOSURE WASHERS, BUSHINGS	V-A	"	"	"	184		
	<u>PIPING PRESSURE BOUNDARY:</u>							
B4.2	PRESSURE-RETAINING BOLTS,							
B4.3	STUDS AND BOLTING	NA	NONE	NA	NA	0		
B4.4	.							
	<u>PUMPS:</u>							
B5.1	PRESSURE-RETAINING BOLTS AND STUDS, IN PLACE	VOL	RECIRCULATION	1A&B-202	35-2 B-6,3	32		
B5.2	PRESSURE-RETAINING BOLTS AND STUDS, WHEN REMOVED	VOL&SUR	"	"	" "	*		* NUMBER OF BOLTS OR STUDS REMOVED
B5.3	PRESSURE-RETAINING BOLTING	V-A	"	"	" "	32		





# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-G-1 PRESSURE RETAINING BOLTING, 2 INCHES DIA AND LARGER (Cont)				CLASS	REVISION - DATE	PAGE
						1	1 - 6-1-82	Page 8 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B6.1	VALVES: PRESSURE-RETAINING BOLTS AND STUDS, IN PLACE	V-A	RECIRCULATION	1-0202-4A&B	35-2 C-7,2	48	CR-3	
		V-A	"	1-0202-5A&B	" C-6,3	48	CR-3	
B6.2	PRESSURE-RETAINING BOLTS AND STUDS, WHEN REMOVED	V-A	RECIRCULATION	1-202-4A&B	35-2 C-7,2	*	CR-3	* NUMBER OF BOLTS AND STUDS REMOVED
		V-A	"	1-202-5A&B	" C-6,3	*	CR-3	
B6.3	PRESSURE-RETAINING BOLTING	V-A	RECIRCULATION	1-202-4A&B	35-2 C-7,2	48		
		V-A	"	1-202-5A&B	" C-6,3	48		



Commonwealth  
Edison

**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-G-2 PRESSURE RETAINING BOLTING, SMALLER THAN 2 INCHES IN DIAMETER				CLASS	REVISION - DATE	PAGE
						1	1 6-1-82	Page 9 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.11	PEACTOR VESSEL: PRESSURE-RETAINING BOLTING	NA	NONE	NA	NA	0		
B4.12	<u>PIPING:</u> PRESSURE-RETAINING BOLTING	V-A	INSTRUMENT	1-0201	NONE	1		RPV HEAD FLANGE
B5.9	<u>PUMPS:</u> PRESSURE-RETAINING BOLTING	NA	NONE	NA	NA	0		





Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-G-2 PRESSURE RETAINING BOLTING, SMALLER THAN 2 IN. IN DIA. (Cont)				CLASS	REVISION - DATE		PAGE
						1	1 6-1-82		Page 10 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B6.9	VALVES								
	PRESSURE-RETAINING BOLTING	V-A	RECIRCULATION	VARIOUS	35-2	6		NO. OF ITEMS INDICATES NUMBER OF VALVES WITH BOLTING < 2".	
		"	CRD	"	41	3			
		"	RHRS	"	39	10			
		"	RX WTR CLEANUP	"	47	2			
		"	CORE SPRAY	"	36	6			
		"	HPCI	"	46	2			
		"	MAIN STEAM	"	13-1&2	21			
		V-A	FEEDWATER	"	15	6			



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-H		VESSEL SUPPORTS		CLASS	REVISION	DATE	PAGE
						1	1	6-1-82	Page 11 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.12	INTEGRALLY-WELDED VESSEL SUPPORTS	VOL	REACTOR VESSEL	1-201	NONE	1		SUPPORT SKIRT	



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-I-1 INTERIOR CLAD SURFACES OF REACTOR VESSELS					CLASS	REVISION - DATE	PAGE
							1	1 6-1-82	Page 12 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.13	CLOSURE HEAD CLADDING	NONE	REACTOR VESSEL	1-201	NONE	(6)	CR-4		
B1.14	VESSEL CLADDING	NONE	REACTOR VESSEL	1-201	NONE	(6)	CR-4		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY

B-J PRESSURE RETAINING WELDS IN PIPING

CLASS

1

REVISION - DATE

1 6-i-82

PAGE

Page 13 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.5	CIRCUMFERENTIAL AND LONGITU- DINAL PIPE WELDS	VOL	RECIRCULATION	1-0201A-28"A	35-2 B-6	10		
		"	"	1-0202A-28"A	" E-5	8		
		"	"	1-0201B-28"A	" B-3	10		
		"	"	1-0202B-28"A	" E-4	10		
		"	"	1-0201-22"A	" B-4	2		
		"	"	1-0201A-22"A	" D-4	5		
		"	"	1-0201B-22"A	" D-5	5		
		"	"	1-0201C-12"A	" D-4	4		
		"	"	1-0201D-12"A	" D-4	4		
		"	"	1-0201E-12"A	" D-4	4		
		"	"	1-0201F-12"A	" D-4	4		
		"	"	1-0201G-12"A	" D-4	4		
		"	"	1-0201H-12"A	" D-5	4		
		"	"	1-0201J-12"A	" D-5	4		
		"	"	1-0201K-12"A	" D-5	4		
		"	"	1-0201L-12"A	" D-5	4		
		"	"	1-0201M-12"A	" D-5	4		
		"	RX HEAD VENT	1-0215-4"	35-1 F-4	3		
		"	CRD RETURN	1-0308-4"A	41 D-3	16(1)	CR-5	
		"	RHRS	1-1011-4"A/B	39 A-5	30(1)	CR-5	
		"	"	1-1012A-16"A	39 B-4	13		
		"	"	1-1012B-16"B	39 B-5	17		
		"	"	1-1025-20"A	39 C-5	15		
		VOL	RX WTR CLEANUP	1-1202-6"A	47 B-6	24		





**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		PRESSURE RETAINING WELDS IN PIPING (Cont)					CLASS	REVISION	DATE	PAGE
B-J							1	1	6-1-82	Page 14 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS		
B4.5	CONTINUED	VOL	CORE SPRAY	1-1403-10"A	36	C-3	17			
		"	"	1-1404-10"A	36	C-4	15			
		"	HPCI	1-2305-10"B	46	C-9	17			
		"	MAIN STEAM	1-3001A-20"B	13-1&2	E-8	27			
		"	"	1-3001B-20"B	"	D-8	30			
		"	"	1-3001C-20"B	"	C-8	28			
		"	"	1-3001D-20"B	"	B-8	27			
		"	FEEDWATER	1-3204A-18"C	15	E-3	12			
		"	"	1-3204B-18"C	"	F-3	11			
		"	"	1-3204C-12"C	"	F-4	6			
		"	"	1-3204D-12"C	"	F-4	8			
		"	"	1-3204E-12"C	"	E-4	7			
		VOL	"	1-3204F-12"C	"	E-4	9			



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY B-J PRESSURE RETAINING WELDS IN PIPING (Cont)					CLASS 1	REVISION - DATE 1- 6-1-82		PAGE Page 15 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES		NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.5	CONTINUED								
	(WELDS THAT ARE INACCES- SIBLE DUE TO CONTAINMENT PENETRATION DESIGN)	NONE	CRD	PENETRATION X-36	41	D-2	(1)	CR-6	
		"	RHRS	X-17	39	A-6	(1)	"	
		"	"	X-13A	"	B-5	(1)	"	
		"	"	X-13B	"	B-6	(1)	"	
		"	"	X-12	"	B-5	(1)	"	
		"	RX WTR CLEANUP	X-14	47	B-6	(1)	"	
		"	CORE SPRAY	X-16A	36	C-3	(1)	"	
		"	"	X-16B	"	C-4	(1)	"	
		"	HPCI	X-11	46	C-9	(1)	"	
		"	MAIN STEAM	X-7A	13-1	E-3	(1)	"	
		"	"	X-7B	"	D-3	(1)	"	
		"	"	X-7C	"	C-3	(1)	"	
		"	"	X-7D	"	B-3	(1)	"	
		"	FEEDWATER	X-9A	15	E-3	(1)	"	
		NONE	"	X-9B	"	F-3	(1)	CR-6	





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY						CLASS	REVISION - DATE	PAGE
B-J PRESSURE RETAINING WELDS IN PIPING (Cont)						1	1 6-1-82	Page 16 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.6	BRANCH PIPE CONNECTION WELDS EXCEEDING SIX INCH DIAMETER	VOL	RECIRCULATION	1-0201A-22"A	35-2 D-5	4		
		"	"	1-0201B-22"A	D-3	4		
		"	MAIN STEAM	1-3001A-20"B	13-1 E-8	3		
		"	"	1-3001B-20"B	D-8	4(1)	CR-7	10" BPC
		"	"	1-3001C-20"B	C-8	3		
		VOL	"	1-3001D-20"B	B-8	3		
		NONE	FEEDWATER	1-3204A-18"C	15 E-3	(1)	CR-7	12" BPC
		NONE	"	1-3204B-18"C	F-3	(1)	CR-7	12" BPC
B4.7	BRANCH PIPE CONNECTION WELDS SIX INCHES DIAMETER AND SMALLER	SUR	RECIRCULATION	1-0201A-28"A	35-2 B-6	2		
		"	"	1-0202A-28"A	E-5	1		
		"	"	1-0201B-28"A	B-3	2		
		SUR	"	1-0202B-28"A	E-4	1		
		NONE	RHRS	1-1025-20"A	39 C-5	(1)	CR-7	6" BPC
B4.8	SOCKET WELDS $\leq$ 2" NPS SOCKET WELDS $>$ 2" NPS	NONE	VARIOUS*	NA	NA	*		*SEE B4.11
		NONE	NONE	NA	NA	0		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY					CLASS	REVISION	DATE	PAGE
B-K-1 SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS					1	1	6-1-82	Page 17 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.9	INTEGRALLY WELDED SUPPORTS IN PIPING	VOL	RECIRCULATION	1-0201A-28"A	35-2 B-6	4		
		"	"	1-0202A-28"A	" E-5	1		
		"	"	1-0201B-28"A	" B-3	4		
		VOL	"	1-0202B-28"A	" E-4	1		
		(SUR)	"	1-0201A-22"A	" D-2	(1)	CR-8	
		(SUR)	"	1-0201B-22"A	" D-3	(1)	CR-8	
		VOL	"	1-0201-22"A	" B-4	1		
		"	CRD RETURN	1-0308-3&4"A	41 D-3	2		
		"	RHRS	1-1011-4"A/B	39 A-5	2		
		"	"	1-1012A-16"A	" B-4	4		
		"	"	1-1012B-16"A	" B-5	4		
		"	"	1-1025-20"A	" C-5	5		
		"	RX WTR CLEANUP	1-1202-6"A	47 B-6	5		
		"	CORE SPRAY	1-1403-10"A	36 C-3	2		
		"	"	1-1404-10"A	" C-4	2		
		"	HPCI	1-2305-10"B	46 C-9	2		
		"	MAIN STEAM	1-3001A-20"B	13-1&2 E-8	4		
		"	"	1-3001B-20"B	" D-8	5		
		"	"	1-3001C-20"B	" C-8	5		
		VOL	"	1-3001D-20"B	" B-8	4		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY

B-K-1 SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS (Cont)

CLASS

1

REVISION - DATE

1 - 6-1-82

PAGE

Page 18 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES		NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.9	CONTINUED	VOL	FEEDWATER	1-3204A-18"C	15	E-3	2		
		"	"	1-3204B-18"C	"	F-3	3		
		"	"	1-3204C-12"C	"	F-4	1		
		"	"	1-3204D-12"C	"	F-4	2		
		"	"	1-3204E-12"C	"	E-4	1		
		VOL	"	1-3204F-12"C	"	E-4	3		
B5.4	INTEGRALLY WELDED SUPPORTS FOR PUMPS	(SUR)	RECIRCULATION	1A-202	35-2	B-6	(3)	CR-8	
		(SUR)	"	1B-202	"	B-3	(3)	CR-8	
B6.4	INTEGRALLY WELDED SUPPORTS FOR VALVES	(SUR)	RECIRCULATION	1-202-5A	35-2	D-6	(1)	CR-8	
		(SUR)	"	1-202-5B	"	D-3	(1)	CR-8	



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY					CLASS	REVISION - DATE		PAGE	
B-K-2 SUPPORT COMPONENTS FOR PIPING, VALVES AND PUMPS					1	1 - 6-1-82		Page 19 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES		NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.10	SUPPORT COMPONENTS FOR PIPING	V-C	RECIRCULATION	1-0201A-28"A	35-2	B-6	4		
		"	"	1-0202A-28"A	"	E-5	1		
		"	"	1-0201B-28"A	"	B-3	4		
		"	"	1-0202B-28"A	"	E-4	1		
		"	"	1-0201-22"A	"	B-4	2		
		"	"	1-0201A-22"A	"	D-4	4		
		"	"	1-0201B-22"A	"	D-5	3		
		"	CRD RETURN	1-G308-3"/4"A	41	D-3	3		
		"	RHRS	1-1011-4"A/B	39	A-5	3		
		"	"	1-1012A-16"A	"	B-4	4		
		"	"	1-1012B-16"A	"	B-5	4		
		"	"	1-1025-20"A	"	C-5	5		
		"	RX WTR CLEANUP	1-1202-6"A	"	B-6	6		
		"	CORE SPRAY	1-1403-10"A	36	C-3	4		
		"	"	1-1404-10"A	"	C-4	4		
		"	HPCI	1-2305-10"B	46	C-9	2		
		"	MAIN STEAM	1-3001A-20"B	13-1	E-8	4		
		"	"	1-3001B-20"B	"	D-8	5		
		"	"	1-3001C-20"B	"	C-8	5		
		V-C	"	1-3001D-20"B	"	B-8	4		





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		SUPPORT COMPONENTS FOR PIPING, VALVES AND PUMPS (Cont)			CLASS	REVISION	DATE	PAGE
					1	1 -	6-1-82	Page 20 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B.4.10	CONTINUED	V-C	FEEDWATER	1-3204A-18"C	15 E-3	2		
		"	"	1-3204B-18"C	" F-3	3		
		"	"	1-3204C-12"C	" F-4	1		
		"	"	1-3204D-12"C	" F-4	2		
		"	"	1-3204E-12"C	" E-4	1		
		V-C	"	1-3204F-12"C	" E-4	3		
B5.5	SUPPORT COMPONENTS FOR PUMPS	V-C	RECIRCULATION	1A-202	35-2 B-6	6		
		"	"	1B-202	" B-3	6		
B6.5	SUPPORT COMPONENTS FOR VALVES	"	RECIRCULATION	1-0202-5A	" D-6	1		
		"	"	1-0202-5B	" D-3	1		
		"	"	1-0202-4A	" C-7	1		
		V-C	"	1-0202-4B	" C-2	1		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		PRESSURE RETAINING WELDS IN PUMP CASINGS					CLASS	REVISION - DATE	PAGE
B-L-1 B-L-2		PUMP CASINGS					1	1 - 6-1-82	Page 21 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B5.6	PUMP CASING WELDS	NA	NONE	NA	NA	0			
B5.7	PUMP CASINGS	*	RECIRCULATION	1A-202	35-2	(1)	CR-9	* SEE CR-9	
		*	"	1B-202	"	(1)	CR-9		





Commonwealth  
Edison

**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-M-1 B-M-2	PRESSURE RETAINING WELDS IN VALVE BODIES			CLASS 1	REVISION - DATE 1 - 6-1-82	PAGE Page 22 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITFMS	RELIEF REQUESTS	REMARKS
B6.6	VALVE BODY WELDS	NA	NONE	NA	NA	0		
B6.7	VALVE BODIES	*	RECIRCULATION	VARIOUS	35-2	6	CR-10	* SEE CR-10
		*	RHRS	"	37&39	8	CR-10	
		*	RX WTR CLEANUP	"	47	2	CR-10	
		*	CORE SPRAY	"	36	6	CR-10	
		*	HPCI	"	46	2	CR-10	
		*	MAIN STEAM	"	13-1&2	21	CR-10	
		*	FEEDWATER	"	15	6	CR-10	



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		INTERIOR OF REACTOR VESSELS INTEGRALLY WELDED CORE SUP. STR. & INT. ATTACH. TO RX VES.				CLASS	REVISION - DATE		PAGE
B-N-1 B-N-2						1	1 - 6-1-82		Page 23 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.15	VESSEL INTERIOR	V-A	REACTOR VESSEL	1-201	NONE	*		* PER TABLE IWB-2500 CATEGORY B-N-1	
B1.16	INTERIOR ATTACHMENTS AND CORE SUPPORT STRUCTURE	V-A	REACTOR VESSEL	1-201	NONE	**		** PER TABLE IWB-2500 CATEGORY B-N-2	



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		B-O PRESSURE RETAINING WELDS IN CONTROL ROD DRIVE HOUSING			CLASS	REVISION	DATE	PAGE
					1	1	6-1-82	Page 24 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.18	CONTROL ROD DRIVE HOUSINGS	NONE	REACTOR VESSEL	1-201	NA	32	EX-2	



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY

B-P COMPONENTS EXEMPTED FROM EXAMINATION BY IWB-1220

CLASS

1

REVISION - DATE

1 - 6-1-82

PAGE

Page 25 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.19	EXEMPTED COMPONENTS	V-B " V-B	REACTOR VESSEL " "	FLANGE NOZZLES IN-CORE FLANGE BOLTS CRD FLANGE BOLTS	35-2 E-4 NONE NONE	2 53 177	EX-1 EX-2 EX-2	
B4.11	EXEMPTED COMPONENTS	V-B V-B V-B	PIPING PRESSURE BOUNDARY PIPING PRESSURE BOUNDARY PIPING PRESSURE BOUNDARY	ALL COMPONENTS ≤ 1" NPS LIQUID CARRY- ING COMPONENTS > 1" BUT ≤ 2" STEAM CARRY- ING COMPONENTS > 1" BUT ≤ 3"	ALL CLASS 1 P&ID'S " "	SEE P&IDs " "	EX-1 EX-2 EX-3	
B5.8	EXEMPTED COMPONENTS	NA	PUMP PRESSURE BOUNDARY	NONE	NA	0		
B6.8	EXEMPTED COMPONENTS	NA	VALVE PRESSURE BOUNDARY	NONE	NA	0		



Commonwealth  
Edison

**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		PRESSURE TESTING			CLASS 1	REVISION 1 -	DATE 6-1-82	PAGE Page 26 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
NA	SYSTEM PRESSURE TESTING AS REQUIRED BY IWB-5000	V-B	ALL	ALL COMPONENTS	ALL CLASS 1 P&ID'S	ALL	CR-12	





Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI-CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		C-A PRESSURE RETAINING WELDS IN PRESSURE VESSELS					CLASS	REVISION - DATE		PAGE
							2	1 - 6-1-82		Page 27 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS		
C1.1	CIRCUMFERENTIAL BUTT WELDS	VOL	RHRS	1A-1003	37 B-2	4		RHR HT EXCHANGER		
		VOL	"	1B-1003	" B-10	4		SEE FIGURE 5		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		C-B PRESSURE RETAINING NOZZLE WELDS IN VESSELS				CLASS	REVISION - DATE	PAGE
						2	1 - 6-1-82	Page 28 Of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C1.2	NOZZLE-TO-VESSEL WELDS	NONE	RHRS	1A-1003	37 B-2	(2)	CR-11	RHR HT EXCHANGER
		NONE	"	1B-1003	" B-10	(2)	CR-11	SEE FIGURE 5



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		C-C INTEGRALLY WELDED SUPPORT ATTACHMENTS TO VESSELS				CLASS	REVISION - DATE	PAGE
						2	1 - 6-1-82	Page 29 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P 6 ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C1.3	INTEGRALLY WELDED SUPPORTS	SUR	PHRS	1A-1003	37	4		RHR HT EXCHANGER SEE FIGURE 5
		SUR	"	1B-1003	" B-10	4		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY					CLASS	REVISION - DATE		PAGE	
C-D PRESSURE RETAINING BOLTING EXCEEDING 1 INCH IN DIAMETER					2	1 - 6-1-82		Page 30 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES		NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C1.4	PRESSURE RETAINING BOLTING IN PRESSURE VESSELS	NONE	RHRS	1A-1003	37	A-2	(2)	CR-3	BOLTING FOR 2 FLANGES
		"	"	1B-1003	"	A-10	(2)	CR-3	BOLTING FOR 2 FLANGES
C2.4	PRESSURE RETAINING BOLTING	"	RHRS	1-1009B-16"DX	37&39	A-10	(1)	CR-3	ITEMS LISTED
		"	"	1-1015A-24"LX	"	F-6	(2)	CR-3	INDICATES NO.
		"	"	1-1015B-24"LX	"	A-6	(2)	CR-3	OF FLANGES
		"	CORE SPRAY	1-1401-18"LX	36	E-3	(4)	CR-3	WITH BOLTING
		"	"	1-1402-18"LX	"	E-4	(4)	CR-3	
		"	"	1-1403-12"DX	"	E-6	(2)	CR-3	
		"	"	1-1404-12"DX	"	E-9	(2)	CR-3	
		"	HPCI	1-2306-20"LX	46	A-6	(2)	CR-3	
		"	"	1-2306-24"LX	"	A-6	(1)	CR-3	
		"	NONE	"	1-2304-14"C	"	A-5	(2)	CR-3
C 3.2	PRESSURE RETAINING BOLTING IN PUMPS	V-A & VOL OR SUR	HPCI	1-2302	46	A-5	1		BOLTING FOR 1 PUMP
C4.2	PRESSURE RETAINING BOLTING IN VALVES	NONE	RHRS	VARIOUS	37&39		(24)	CR-3	ITEMS LISTED
		"	CORE SPRAY		36		(2)	CR-3	INDICATES NO.
		NONE	HPCI		46		(5)	CR-3	OF VALVES WITH BOLTING



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY

C-E-1

SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS

CLASS

2

REVISION - DATE

1 - 6-1-82

PAGE

Page 31 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.5	INTEGRALLY WELDED SUPPORTS IN PIPING	SUR	CRD	1-0318-10"B	41	2		
		"	RHRS	1-1006A-12"DX	37&39	1		
		"	"	1-1006B-12"DX	"	1		
		"	"	1-1006C-12"DX	"	1		
		"	"	1-1006D-12"DX	"	1		
		"	"	1-1008A-18"DX	"	1		
		"	"	1-1009A-18"DX	"	4		
		"	"	1-1009B-18"DX	"	6		
		"	"	1-1010-18"DX	"	1		
		"	"	1-1012A-16"DX	"	1		
		"	"	1-1012B-16"DX	"	1		
		"	"	1-1013A-16"DX	"	1		
		"	"	1-1013B-16"DX	"	1		
		"	"	1-1015A-24"LX	"	3		
		"	"	1-1015B-24"LX	"	1		
		"	"	1-1016A-14"LX	"	1		
		"	"	1-1016B-14"LX	"	1		
		"	"	1-1016C-14"LX	"	2		
		"	"	1-1016D-14"LX	"	1		
		"	"	1-1018A-14"L	"	1		
		"	"	1-1018B-14"L	"	1		
		"	"	1-1018C-14"L	"	1		
		"	"	1-1018D-14"L	"	1		
		"	"	1-1024A-14"LX	"	1		
		"	"	1-1024B-14"LX	"	1		
		"	"	1-1024D-14"LX	"	1		
		SUR	"	1-1086-6"DX	"	1		





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS (Cont)				CLASS	REVISION - DATE	PAGE
C-E-1						2	1 - 6-1-82	Page 32 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.5	CONTINUED	SUR	CORE SPRAY	1-1401-18"LC	36	4		
		"	"	1-1402-18"LX	"	4		
		"	"	1-1403-12"DX	"	3		
		"	"	1-1404-12"DX	"	6		
		"	HPCI	1-2301-16"LX	46	1		
		"	"	1-2302-16"LX	"	2		
		"	"	1-2304-14"C	"	3		
		"	"	1-2305-10"B	"	2		
		"	"	1-2306-24"LX	"	2		
		"	"	1-2325-6"LX	"	1		
C3.3	INTEGRALLY WELDED SUPPORTS IN PUMPS	SUR	"	1-2342-12"C	"	1		
		NA	NONE	NA	NA	0		
C4.3	INTEGRALLY WELDED SUPPORTS IN VALVES	NA	NONE	NA	NA	0		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY

C-E-2

SUPPORT COMPONENTS FOR PIPING, VALVES, AND PUMPS

CLASS  
2

REVISION - DATE  
1 - 6-1-82

PAGE  
Page 33 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.6	SUPPORT COMPONENTS FOR PIPING	V-C	CRD	1-0318-10"B	41	4		
		"	"	1-0380A,B,C,D-8"B	"	28		
		"	RHRS	1-1006A-12"DX	37&39	1		
		"	"	1-1006B-12"DX	"	1		
		"	"	1-1006C-12"DX	"	1		
		"	"	1-1006D-12"DX	"	1		
		"	"	1-1008A-18"DX	"	3		
		"	"	1-1008B-18"DX	"	1		
		"	"	1-1009A-18"DX	"	7		
		"	"	1-1009B-18"DX	"	11		
		"	"	1-1010-18"DX	"	6		
		"	"	1-1012A-16"DX	"	4		
		"	"	1-1012B-16"DX	"	4		
		"	"	1-1013A-16"DX	"	2		
		"	"	1-1013B-16"DX	"	2		
		"	"	1-1015A-24"LX	"	3		
		"	"	1-1015B-24"LX	"	1		
		"	"	1-1016A-14"LX	"	1		
		"	"	1-1016B-14"LX	"	1		
		"	"	1-1016C-14"LX	"	2		
		"	"	1-1016D-14"LX	"	1		
		"	"	1-1018A-14"L	"	1		
		"	"	1-1018B-14"L	"	1		
		"	"	1-1018C-14"L	"	1		
		"	"	1-1018D-14"L	"	1		
		"	"	1-1024A-14"LX	"	1		
		V-C	"	1-1024B-14"LX	"	1		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY					CLASS	REVISION - DATE	PAGE	
C-E-2 SUPPORT COMPONENTS FOR PIPING, VALVES, AND PUMPS (Cont)					2	1 - 6-1-82	Page 34 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
		V-C	RHRS	1-1024D-14"LX	"	1		
		"	"	1-1086-6"DX	"	8		
		"	CORE SPRAY	1-1401-18"LX	36	4		
		"	"	1-1402-18"LX	"	4		
		"	"	1-1403-12"DX	"	6		
		"	"	1-1404-12"DX	"	15		
		"	HPCI	1-2301-16"LX	46	1		
		"	"	1-2302-16"LX	"	4		
		"	"	1-2304-14"C	"	8		
		"	"	1-2305-10"B	"	11		
		"	"	1-2306-24"LX	"	7		
		"	"	1-2325-6"LX	"	9		
		"	"	1-2342-12"C	"	1		
		V-C	"	1-3204B-18"C	15	1		
C3.4	SUPPORT COMPONENTS FOR PUMPS	NA	NONE	NA	NA	0		
C4.4	SUPPORT COMPONENTS FOR VALVES	NA	NONE	NA	NA	0		





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY	C-F	PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES IN SYSTEMS WHICH CIRCULATE REACTOR COOLANT.			CLASS	REVISION	DATE	PAGE
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.1	CIRCUMFERENTIAL BUTT WELDS	NA	NONE	NA	NA	0		
C2.2	LONGITUDINAL WELD JOINTS IN FITTINGS	NA	NONE	NA	NA	0		
C2.3	BRANCH PIPE-TO-PIPE WELD JOINTS.	NA	NONE	NA	NA	0		
C3.1	PUMP CASING WELDS	NA	NONE	NA	NA	0		
C4.1	VALVE BODY WELDS	NA	NONE	NA	NA	0		



Commonwealth  
Edison

**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		C-G	PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES WHICH CIRCULATE OTHER THAN REACTOR COOLANT			CLASS	REVISION	DATE	PAGE
						2	1 -	6-1-82	Page 36 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
C2.1	CIRCUMFERENTIAL BUTT WELDS	NONE	ALL	COMPONENTS $\leq 4"$ N. P.S.	VARIOUS	ALL	EX-6		
		VOL	CRD	1-0318-10"B	41	6			
		"	"	1-0380A, B, C, D-8"B	"	12			
		VOL	RHRS	1-1006A, B, C, D-12"DX	37&39	33			
		"	"	1-1008A, B-18"DX	"	40			
		"	"	1-1009A, B-18"DX	"	81			
		"	"	1-1010-18"DX	"	24			
		VOL	"	1-1012A, B-16"DX	"	18			
		"	"	1-1012A, B-16"A	"	2			
		"	"	1-1013A, B-16"DX	"	21			
		"	"	1-1015A, B-16"DX	"	27			
		"	"	1-1016A, B, C, D-14"DX	"	42			
		"	"	1-1017A, B-6"DX	"	4			
		NONE	"	1-1018A, B, C, D-14"L	"	9	EX-4		
		"	"	1-1024A, B, C, D-14"DX	"	16	EX-4		
		VOL	"	1-1029A, B-10"DX	"	3			
		"	"	1-1086-6"DX	"	16			
		NONE	CORE SPRAY	1-1401-18"LX	36	18	EX-4		
		"	"	1-1402-18"LX	"	18	EX-4		
		VOL	"	1-1403-12"A	"	3			
		VOL	"	1-1404-12"A	"	2			





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY	C-G	PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES WHICH CIRCULATE OTHER THAN REACTOR COOLANT (Cont)	CLASS	REVISION - DATE		PAGE		
				1	2			
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
		VOL	CORE SPRAY	1-1403-12"DX	"	29		
		"	"	1-1404-12"DX	"	35		
		"	"	1-1406-8"DX	"	2		
		"	"	1-1409-8"DX	"	3		
		NONE	"	1-1424A, B-12"LX	"	4	EX-4	
		NONE	HPCI	1-2301-16"LX	46	10	EX-4	
		"	"	1-2302-16"LX	"	24	EX-4	
		VOL	"	1-2304-14"C	"	26		
		"	"	1-2305-10"B	"	23		
		"	"	1-2306-24"LX	"	27		
		"	"	1-2321-10"B	"	2		
		"	"	1-2325-6"LX	"	14		
		"	"	1-2339-10"B	"	1		
		"	"	1-2342-12"C	"	4		
		VOL	FEEDWATER	1-3204B-18"C	15	5		
C2.2	LONGITUDINAL WELD JOINTS IN FITTINGS	NA	NONE	NA	NA	0		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		C-G	PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES WHICH CIRCULATE OTHER THAN REACTOR COOLANT			CLASS	REVISION - DATE	PAGE
						2	1 - 6-1-82	Page 38 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.3	BRANCH PIPE-TO-PIPE WELD JOINTS	VOL " " "	KJRS CORE SPRAY HPCI FEEDWATER	ALL	ALL CLASS 2 P&ID'S	ALL " " "		
C3.1	PUMP CASING WELDS	NA	NONE	NA	NA	0		
C4.1	VALVE BODY WELDS	NA	NONE	NA	NA	0		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		PRESSURE TESTING		CLASS	REVISION - DATE	PAGE		
				2	1- 6-1-82	Page 39 of 40		
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
NA	IWC-2510 EXEMPT AND NON-EXEMPT COMPONENTS	V-B	ALL	ALL LINES	ALL CLASS 2 P&IDs	ALL	CR-12	
		NONE	ALL	ALL CROSS-HATCHED LINES	ALL CLASS 2 P&IDs	ALL	EX-7	



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

CODE CATEGORY		PRESSURE TESTING					CLASS	REVISION	DATE	PAGE
							3	1 -	6-1-82	Page 40 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS		
NA	PRESSURE TESTING PER IWD-2410	V-B	D/G COOLING WATER	ALL LINES (SOLID AND SLASHED) .	22	ALL	CR-12			
		NONE	"	ALL LINES (CROSS- HATCHED) .	22	ALL	EX-8			
		V-B	RHRS SERVICE WATER	ALL LINES (SOLID AND SLASHED) .	37&39	ALL	CR-12			
		NONE	"	ALL LINES (CROSS- HATCHED) .	37&39	ALL	EX-8			
NA	VISUAL EXAMINATION OF HANGERS AND SUPPORTS PER IWD-2600 (C)	V-C	D/G COOLING WATER	LINES > 4"N.P.S.	22	ALL				
		V-C	RHRS SERVICE WATER	LINES > 4"N.P.S.	37&39	ALL				



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-A		PRESSURE RETAINING WELDS IN VESSEL BELTLINE REGION		CLASS	REVISION - DATE		PAGE	
						1	1 - 6-1-82		Page 1 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS		
B1.1	LONGITUDINAL AND CIRCUMFER- ENTIAL SHELL WELDS IN CORE REGION	NONE	REACTOR VESSEL	2-201	NONE	(7)	CR-1			





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-B PRESSURE RETAINING WELDS IN VESSELS		CLASS	REVISION	DATE	PAGE	
				1	1 -	6-1-82	Page 2 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.2	LONGITUDINAL AND CIRCUMFERENTIAL WELDS IN SHELL (OTHER THAN THOSE OF CATEGORY B-A and B-C) AND MERIDIONAL AND CIRCUMFERENTIAL SEAM WELDS IN BOTTOM HEAD AND CLOSURE HEAD (OTHER THAN THOSE OF CATEGORY B-C)	VOL	REACTOR VESSEL	2-201	NONE	10 (18)	CR-2	



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY	B-C	PRESSURE RETAINING WELDS, VESSEL-TO-FLANGE AND HEAD-TO-FLANGE	CLASS 1	REVISION - DATE 1 - 6-1-82	PAGE Page 3 of 40			
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.3	VESSEL-TO-FLANGE AND HEAD- TO-FLANGE CIRCUMFERENTIAL WELDS	VOL	REACTOR VESSEL	2-201	NONE	2		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-D		FULL PENETRATION WELDS OF NOZZLES IN VESSELS		CLASS	REVISION	DATE	PAGE
						1	1	6-1-82	Page 4 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.4	PRIMARY NOZZLE-TO-VESSEL WELDS AND NOZZLE INSIDE RADIUSED SECTION	VOL	REACTOR VESSEL	2-201	77-1&2	29			



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI-CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-E PRESSURE RETAINING PARTIAL PENETRATION WELDS IN VESSELS			CLASS	REVISION	DATE	PAGE
					1	1 -	6-1-82	Page 5 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.5	VESSEL PENETRATIONS, INCLUDING CONTROL ROD DRIVE AND INSTRUMENTATION PENETRATIONS	V-B	REACTOR VESSEL	2-201	77-1&2	235		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-F PRESSURE RETAINING DISSIMILAR METAL WELDS				CLASS	REVISION	DATE	PAGE
						1	1-	6-1-82	Page 6 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.6	NOZZLE-TO-SAFE-END WELDS	VOL&SUR	REACTOR VESSEL	2-201	77-1&2	20			
B4.1	SAFE-END-TO-PIPING WELDS AND SAFE-ENDS IN BRANCH PIPING WELDS	VOL&SUR	RX HEAD VENT	2-0215-4"	77-1 B-4	1			
		"	CRD	2-0308-3"	83 D-2	1			
		"	RHRS	2-1025-20"	81 C-6	1			
		VOL&SUR	"	2-1011-4"	81 A-6	1			





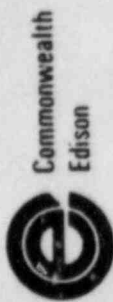
Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI-CLASS 1.2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-G-1 PRESSURE RETAINING BOLTING, 2 INCHES DIAMETER AND LARGER				CLASS	REVISION - DATE	PAGE
						1	1 - 6-1-82	Page 7 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.7	<u>KX VESSEL:</u> CLOSURE STUDS IN PLACE	VOL	REACTOR VESSEL	2-201	NONE	92		
B1.8	CLOSURE STUDS AND NUTS, WHEN REMOVED	VOL&SUR	"	"	"	184		
B1.9	LIGAMENTS BETWEEN THREADED STUD HOLES	VOL	"	"	"	92		
B1.10	CLOSURE WASHERS, BUSHINGS	V-A	"	"	"	184		
B4.2 B4.3 B4.4	<u>PIPING PRESSURE BOUNDARY:</u> PRESSURE-RETAINING BOLTS, STUDS AND BOLTING	NA	NONE	NA	NA	0		
B5.1	<u>PUMPS:</u> PRESSURE-RETAINING BOLTS AND STUDS, IN PLACE	VOL	RECIRCULATION	2A&B-202	77-2 B-6,3	32		
B5.2	PRESSURE-RETAINING BOLTS AND STUDS, WHEN REMOVED	VOL&SUR	"	"	"	*		* NUMBER OF BOLTS OR STUDS REMOVED
B5.3	PRESSURE-RETAINING BOLTING	V-A	"	"	"	32		



**INSERVICE INSPECTION PROGRAM**  
ISI-CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-G-1 PRESSURE RETAINING BOLTING, 2 INCHES DIA AND LARGER (Cont)				CLASS	REVISION - DATE	PAGE
						1	1 - 6-1-82	Page 8 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B6.1	VALVES: PRESSURE-RETAINING BOLTS AND STUDS, IN PLACE	V-A V-A	RECIRCULATION "	2-0202-4A&B 2-0202-5A&B	77-2 C-7,2 " C-6,3	48 48	CR-3 CR-3	
B6.2	PRESSURE-RETAINING BOLTS AND STUDS, WHEN REMOVED	V-A V-A	RECIRCULATION "	2-202-4A&B 2-202-5A&B	77-2 C-7,2 " C-6,3	* *	CR-3 CR-3	* NUMBER OF BOLTS AND STUDS REMOVED
B6.3	PRESSURE-RETAINING BOLTING	V-A V-A	RECIRCULATION "	2-202-4A&B 2-202-5A&B	77-2 C-7,2 " C-6,3	48 48		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1.2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-G-2 PRESSURE RETAINING BOLTING, SMALLER THAN 2 INCHES IN DIAMETER					CLASS 1	REVISION - DATE 1 - 6-1-82	PAGE Page 9 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.11	REACTOR VESSEL: PRESSURE-RETAINING BOLTING	NA	NONE	NA	NA	0			
B4.12	PIPING: PRESSURE-RETAINING BOLTING	V-A	INSTRUMENT	2-0201	NONE	1		RPV HEAD FLANGE	
		"	RECIRCULATION	2-0202A-28"A	77-2 B-7	1		DECON FLANGE	
		"	"	2-0202B-28"A	77-2 B-2	1		"	
		"	RX HEAD VENT	2-0215-4"A	77-1 E-4	1		FLANGE	
		"	RHRS	2-1011-4"A	81 A-6	4		FLANGES	
		"	MAIN STEAM	2-3001A-20"B	60-1 E-8	3		SRV FLANGES	
		"	"	2-3001B-20"B	60-1 D-8	4		"	
		"	"	2-3001C-20"B	60-1 C-8	3		"	
		V-A	"	2-3001D-20"B	60-1 B-8	3		"	
B5.9	PUMPS: PRESSURE-RETAINING BOLTING	NA	NONE	NA	NA	0			



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI-CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-G-2 PRESSURE RETAINING BOLTING, SMALLER THAN 2 IN. IN DIA. (Cont)				CLASS 1	REVISION - DATE 1- 6-1-82		PAGE Page 10 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B6.9	<u>VALVES</u> PRESSURE-RETAINING BOLTING	V-A	RECIRCULATION	VARIOUS	77-2	6		NO. OF ITEMS IN- DICATES NUMBER OF VALVES WITH BOLTING < 2".	
		"	CRD	"	83	3			
		"	RHRS	"	81	10			
		"	RX WTR CLEANUP	"	88	2			
		"	CORE SPRAY	"	78	6			
		"	HPCI	"	87	2			
		"	MAIN STEAM	"	60-1&2	21			
		V-A	FEEDWATER	"	62	6			



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CCDE CATEGORY		VESSEL SUPPORTS			CLASS	REVISION - DATE	PAGE	
B-H					1	1- 6-1-82	Page 11 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.12	INTEGRALLY-WELDED VESSEL SUPPORTS	VOL	REACTOR VESSEL	2-201	NONE	1		SUPPORT SKIRT





Commonwealth  
Edison

**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-I-1 INTERIOR CLAD SURFACES OF REACTOR VESSELS					CLASS	REVISION - DATE	PAGE
							1	1- 6-1-82	Page 12 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.13	CLOSURE HEAD CLADDING	NONE	REACTOR VESSEL	2-201	NONE	(6)	CR-4		
B1.14	VESSEL CLADDING	NONE	REACTOR VESSEL	2-201	NONE	(6)	CR-4		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY

B-J

PRESSURE RETAINING WELDS IN PIPING

CLASS

1

REVISION - DATE

1 - 6-1-82

PAGE

Page 13 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.5	CIRCUMFERENTIAL AND LONGITUDINAL PIPE WELDS	VOL	RECIRCULATION	2-0201A-28"A	77-2 B-6	10		
		"	"	2-0202A-28"A	" E-5	8		
		"	"	2-0201B-28"A	" B-3	10		
		"	"	2-0202B-28"A	" E-4	10		
		"	"	2-0201-22"A	" B-4	4		
		"	"	2-0201A-22"A	" D-4	5		
		"	"	2-0201B-22"A	" D-5	5		
		"	"	2-0201C-12"A	" D-4	4		
		"	"	2-0201D-12"A	" D-4	4		
		"	"	2-0201E-12"A	" D-4	4		
		"	"	2-0201F-12"A	" D-4	4		
		"	"	2-0201G-12"A	" D-4	4		
		"	"	2-0201H-12"A	" D-5	4		
		"	"	2-0201J-12"A	" D-5	4		
		"	"	2-0201K-12"A	" D-5	4		
		"	"	2-0201L-12"A	" D-5	4		
		"	"	2-0201M-12"A	" D-5	4		
		"	RX HEAD VENT	2-0215-4"	77-1 F-4	4		
		"	CRD RETURN	2-0308-4"A	83 D-3	16(1)	CR-5	
		"	RHRS	2-1011-4"A/B	81 A-5	30(1)	CR-5	
		"	"	2-1012A-16"A	81 B-4	14		
		"	"	2-1012B-16"B	81 B-5	17		
		"	"	2-1025-20"A	81 C-5	17		
		VOL	RX WTR CLEANUP	2-1202-5"A	88 B-6	25		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY B-J		PRESSURE RETAINING WELDS IN PIPING (Cont)				CLASS 1	REVISION - DATE 1 - 6-1-82	PAGE Page 14 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.5	CONTINUED	VOL	CORE SPRAY	2-1403-10"A	78 C-3	16		
		"	"	2-1404-10"A	78 C-4	15		
		"	HPCI	2-2305-10"B	87 C-9	13		
		"	MAIN STEAM	2-3001A-20"B	60-1&2 E-8	26		
		"	"	2-3001B-20"B	" D-8	29		
		"	"	2-3001C-20"B	" C-8	27		
		"	"	2-3001D-20"B	" B-8	26		
		"	FEEDWATER	2-3204A-18"C	62 E-3	11		
		"	"	2-3204B-18"C	" F-3	12		
		"	"	2-3204C-12"C	" F-4	6		
		"	"	2-3204D-12"C	" F-4	8		
		"	"	2-3204E-12"C	" E-4	5		
		VOL	"	2-3204F-12"C	" E-4	9		



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		PRESSURE RETAINING WELDS IN PIPING (Cont.)					CLASS	REVISION	DATE	PAGE
B-J							1	1 -	6-1-82	Page 15 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS		
B4.5	CONTINUED									
	(WELDS THAT ARE INACCESSIBLE DUE TO CONTAINMENT PENETRATION DESIGN)	NONE	CRD	PENETRATION X-36	83	(1)	CR-6			
		"	RHRS	X-17	81	(1)	"			
		"	"	X-13A	"	(1)	"			
		"	"	X-13B	"	(1)	"			
		"	"	X-12	"	(1)	"			
		"	RX WTR CLEANUP	X-14	88	(1)	"			
		"	CORE SPRAY	X-16A	78	(1)	"			
		"	"	X-16B	"	(1)	"			
		"	HPCI	X-11	87	(1)	"			
		"	MAIN STEAM	X-7A	60-1	(1)	"			
		"	"	X-7B	"	(1)	"			
		"	"	X-7C	"	(1)	"			
		"	"	X-7D	"	(1)	"			
		"	FEEDWATER	X-9A	62	(1)	"			
		NONE	"	X-9B	"	(1)	CR-6			



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY					CLASS	REVISION - DATE		PAGE	
B-J PRESSURE RETAINING WELDS IN PIPING (Cont)					1	1 - 6-1-82		Page 16 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES		NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.6	BRANCH PIPE CONNECTION WELDS EXCEEDING SIX INCH DIAMETER	VOL	RECIRCULATION	2-0201A-22"A	77-2	D-5	4		
		"	"	2-0201B-22"A		D-3	4		
		"	MAIN STEAM	2-3001A-20"B	60-1	E-8	3		
		"	"	2-3001B-20"B		D-8	4		
		"	"	2-3001C-20"B		C-8	3(1)	CR-7	10" BPC
		VOL	"	2-3001D-20"B		B-8	3		
		NONE	FEEDWATER	2-3204A-18"C	62	E-3	(1)	CR-7	12" BPC
		NONE	"	2-3204B-18"C		F-3	(1)	CR-7	12" BPC
B4.7	BRANCH PIPE CONNECTION WELDS SIX INCHES DIAMETER AND SMALLER	SUR	RECIRCULATION	2-0201A-28"A	77-2	B-6	2		
		"	"	2-0202A-28"A		E-5	1		
		"	"	2-0201B-28"A		B-3	2		
		SUR	"	2-0202B-28"A		E-4	1		
		NONE	RHRS	2-1025-20"A	81	C-5	(1)	CR-7	6" BPC
B4-8	SOCKET WELDS ≤ 2" NPS	NONE	VARIOUS*	NA	NA		*		* See B4.11
	SOCKET WELDS > 2" NPS	NONE	NONE	NA	NA		0		





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY

B-K-1 SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS

CLASS  
1

REVISION - DATE  
1 - 6-1-82

PAGE  
Page 17 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.9	INTEGRALLY WELDED SUPPORTS IN PIPING	VOL	RECIRCULATION	2-0201A-28"A	77-2 B-6	4		
		"	"	2-0202A-28"A	" E-5	1		
		"	"	2-0201B-28"A	" B-3	4		
		VOL	"	2-0202B-28"A	" E-4	1		
		(SUR)	"	2-0201A-22"A	" D-5	(1)	CR-8	
		(SUR)	"	2-0201B-22"A	" D-3	(1)	CR-8	
		VOL	"	2-0201-22"A	" B-4	1		
		"	CRD RETURN	2-0308-3&4"A	83 D-3	2		
		"	RHRS	2-1011-4"A/B	81 A-5	2		
		"	"	2-1012A-16"A	" B-4	4		
		"	"	2-1012B-16"A	" B-5	4		
		"	"	2-1025-20"A	" C-5	5		
		"	RX WTR CLEANUP	2-1202-6"A	88 B-6	5		
		"	CORE SPRAY	2-1403-10"A	78 C-3	2		
		"	"	2-1404-10"A	" C-4	2		
		"	HPCI	2-2305-10"B	87 C-9	2		
		"	MAIN STEAM	2-3001A-20"B	60-1&2 E-8	4		
		"	"	2-3001B-20"B	" D-8	5		
		"	"	2-3001C-20"B	" C-8	5		
		VOL	"	2-3001D-20"B	" B-8	4		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		B-K-1		SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS (Cont)		CLASS	REVISION - DATE	PAGE
						1	1 - 6-1-82	Page 18 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.9	CONTINUED	VOL " " " " " VOL	FEEDWATER " " " " "	2-3204A-18"C 2-3204B-18"C 2-3204C-12"C 2-3204D-12"C 2-3204E-12"C 2-3204F-12"C	62 " " " " " "	2 3 1 2 1 3		
B5.4	INTEGRALLY WELDED SUPPORTS FOR PUMPS	(SUR) (SUR)	RECIRCULATION "	2A-202 2B-202	77-2 " B-6 B-3	(3) (3)	CR-8 CR-8	
B6.4	INTEGRALLY WELDED SUPPORTS FOR VALVES	(SUR) (SUR)	RECIRCULATION "	2-202-5A 2-202-5B	77-2 " D-6 D-3	(1) (1)	CR-8 CR-8	



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY

B-K-2 SUPPORT COMPONENTS FOR PIPING, VALVES AND PUMPS

CLASS

1

REVISION - DATE

1 - 6-1-82

PAGE

Page 19 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B4.10	SUPPORT COMPONENTS FOR PIPING	V-C	RECIRCULATION	2-0201A-28"A	77-2 B-6	4		
		"	"	2-0202A-28"A	" E-5	1		
		"	"	2-0201B-28"A	" B-3	4		
		"	"	2-0202B-28"A	" E-4	1		
		"	"	2-0201-22"A	" B-4	2		
		"	"	2-0201A-22"A	" D-4	4		
		"	"	2-0201B-22"A	" D-5	3		
		"	CRD RETURN	2-0308-3"/4"A	83 D-3	3		
		"	RHRS	2-1011-4"A/B	81 A-5	3		
		"	"	2-1012A-16"A	" B-4	4		
		"	"	2-1012B-16"A	" B-5	4		
		"	"	2-1025-20"A	" C-5	5		
		"	R WTR CLEANUP	2-1202-6"A	" B-6	6		
		"	CORE SPRAY	2-1403-10"A	78 C-3	4		
		"	"	2-1404-10"A	" C-4	4		
		"	HPCI	2-2305-10"B	87 C-9	2		
		"	MAIN STEAM	2-3001A-20"B	60-1 E-8	4		
		"	"	2-3001B-20"B	" D-8	5		
		"	"	2-3001C-20"B	" C-8	5		
		V-C	"	2-3001D-20"B	" B-8	4		



# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY

B-K-2

SUPPORT COMPONENTS FOR PIPING, VALVES AND PUMPS (Cont)

CLASS  
1

REVISION - DATE

1- 6-1-82

PAGE

Page 20 of 40

ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B.4.10	CONTINUED	V-C	FEEDWATER	2-3204A-18"C	62 E-3	2		
		"	"	2-3204B-18"C	" F-3	3		
		"	"	2-3204C-12"C	" F-4	1		
		"	"	2-3204D-12"C	" F-4	2		
		"	"	2-3204E-12"C	" E-4	1		
		V-C	"	2-3204F-12"C	" E-4	3		
B5.5	SUPPORT COMPONENTS FOR PUMPS	V-C	RECIRCULATION	2A-202	77-2 B-6	6		
		"	"	2B-202	" B-3	6		
B6.5	SUPPORT COMPONENTS FOR VALVES	"	RECIRCULATION	2-0202-5A	" D-6	1		
		"	"	2-0202-5B	" D-3	1		
		"	"	2-0202-4A	" C-7	1		
		V-C	"	2-0202-4B	" C-2	1		



Commonwealth  
Edison

**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		PRESSURE RETAINING WELDS IN PUMP CASINGS					CLASS	REVISION - DATE	PAGE	
		B-L-1 B-L-2	PUMP CASINGS					1	1- 6-1-82	Page 21 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS		
B5.6	PUMP CASING WELDS	NA	NONE	NA	NA	0				
B5.7	PUMP CASINGS	* x	RECIRCULATION "	2A-202 2B-202	77-2 " B-6 B-3	(1) (1)	CR-9 CR-9	* SEE CR-9		





Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

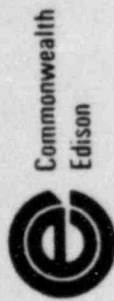
CODE CATEGORY		PRESSURE RETAINING WELDS IN VALVE BODIES				CLASS	REVISION - DATE	PAGE
B-M-1 B-M-2		VALVE BODIES				1	1 - 6-1-82	Page 22 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B6.6	VALVE BODY WELDS	NA	NONE	NA	NA	0		
B6.7	VALVE BODIES	*	RECIRCULATION	VARIOUS	77-2	6	CR-10	* SEE CR-10
		*	RHRS	"	79&81	8	CR-10	
		*	RX WTR CLEANUP	"	88	2	CR-10	
		*	CORE SPRAY	"	78	6	CR-10	
		*	HPCI	"	87	2	CR-10	
		*	MAIN STEAM	"	60-1&2	21	CR-10	
		*	FEEDWATER	"	62	6	CR-10	



**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		INTERIOR OF REACTOR VESSELS INTEGRALLY WELDED CORE SUP. STR. & INT. ATTACH. TO RX VES.				CLASS	REVISION - DATE		PAGE
B-N-1 B-N-2						1	1 - 6-1-82		Page 23 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
B1.15	VESSEL INTERIOR	V-A	REACTOR VESSEL	2-201	NONE	*		* PER TABLE IWB-2500 CATEGORY B-N-1	
B1.16	INTERIOR ATTACHMENTS AND CORE SUPPORT STRUCTURE	V-A	REACTOR VESSEL	2-201	NONE	**		** PER TABLE IWB-2500 CATEGORY B-N-2	



**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		PRESSURE RETAINING WELDS IN CONTROL ROD DRIVE HOUSING			CLASS	REVISION	DATE	PAGE
					1	1 -	1-82	Page 24 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.18	CONTROL ROD DRIVE HOUSINGS	NONE	REACTOR VESSEL	2-201	NA	32	EX-2	



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY					CLASS	REVISION - DATE	PAGE	
B-P COMPONENTS EXEMPTED FROM EXAMINATION BY IWB-1220					1	1 - 6-1-82	Page 25 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
B1.19	EXEMPTED COMPONENTS	V-B	REACTOR VESSEL	FLANGE NOZZLES	77-2 E-4	2	EX-1	
		"		IN-CORE FLANGE BOLTS	NONE	53	EX-2	
		V-B		CRD FLANGE BOLTS	NONE	177	EX-2	
B4.11	EXEMPTED COMPONENTS	V-B	PIPING PRESSURE BOUNDARY	ALL COMPONENTS $\leq 1"$ NPS	ALL CLASS 1 P&ID'S	SEE P&IDs	EX-1	
		V-B	PIPING PRESSURE BOUNDARY	LIQUID CARRY-ING COMPONENTS $> 1"$ BUT $\leq 2"$	"	"	EX-2	
		V-B	PIPING PRESSURE BOUNDARY	STEAM CARRY-ING COMPONENTS $> 1"$ BUT $\leq 3"$	"	"	EX-3	
B5.8	EXEMPTED COMPONENTS	NA	PUMP PRESSURE BOUNDARY	NONE	NA	0		
B6.8	EXEMPTED COMPONENTS	NA	VALVE PRESSURE BOUNDARY	NONE	NA	0		





Commonwealth  
Edison

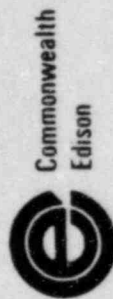
## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		PRESSURE TESTING					CLASS 1	REVISION - DATE 1- 6-1-82	PAGE Page 26 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
NA	SYSTEM PRESSURE TESTING AS REQUIRED BY IWB-5000	V-B	ALL	ALL COMPONENTS	ALL CLASS 1 P&ID'S	ALL	CR-12		





**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		C-A PRESSURE RETAINING WELDS IN PRESSURE VESSELS			CLASS	REVISION	DATE	PAGE
					2	1 -	6-1-82	Page 27 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C1.1	CIRCUMFERENTIAL BUTT WELDS	VOL	RHRS	2A-1003	79	4		RHR HT EXCHANGER SEE FIGURE 5
		VOL	"	2B-1003	" B-10	4		



Commonwealth  
Edison

**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		C-B PRESSURE RETAINING NOZZLE WELDS IN VESSELS				CLASS	REVISION - DATE	PAGE
						2	1- 6-1-82	Page 28 Of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C1.2	NOZZLE-TO-VESSEL WELDS	NONE NONE	RHRS "	2A-1003 2B-1003	79 B-2 " B-10	(2) (2)	CR-11 CR-11	RHR HT EXCHANGER SEE FIGURE 5



**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		C-C INTEGRALLY WELDED SUPPORT ATTACHMENTS TO VESSELS					CLASS	REVISION - DATE	PAGE
							2	1- 6-1-82	Page 29 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
C1.3	INTEGRALLY WELDED SUPPORTS	SUR	RHRS	2A-1003	79	4		RHR HT EXCHANGER SEE FIGURE 5	
		SUR	"	2B-1003	" B-10	4			



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY					CLASS	REVISION - DATE		PAGE	
C-D PRESSURE RETAINING BOLTING EXCEEDING 1 INCH IN DIAMETER					2	1- 6-1-82		Page 30 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES		NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C1.4	PRESSURE RETAINING BOLTING IN PRESSURE VESSELS	NONE	RHRS	2A-1003	79	A-2	(2)	CR-3	BOLTING FOR 2 FLANGES
		"	"	2B-1003	"	A-10	(2)	CR-3	BOLTING FOR 2 FLANGES
C2.4	PRESSURE RETAINING BOLTING	"	RHRS	2-1009B-16"DX	79&81	A-10	(1)	CR-3	ITEMS LISTED
		"	"	2-1015A-24"LX	"	F-6	(2)	CR-3	INDICATES NO.
		"	"	2-1015B-24"LX	"	A-6	(2)	CR-3	OF FLANGES
		"	CORE SPRAY	2-1401-18"LX	78	E-3	(4)	CR-3	WITH BOLTING
		"	"	2-1402-18"LX	"	E-4	(4)	CR-3	
		"	"	2-1403-12"DX	"	E-6	(2)	CR-3	
		"	"	2-1404-12"DX	"	E-9	(2)	CR-3	
		"	HPCI	2-2306-20"LX	87	A-6	(2)	CR-3	
		"	"	2-2306-24"LX	"	A-6	(1)	CR-3	
		"	NONE	"	2-2304-14"C	"	A-5	(2)	CR-3
C-3.2	PRESSURE RETAINING BOLTING IN PUMPS	V-A & VOL OR SUR	HPCI	2-2302	87	A-5	1		BOLTING FOR 1 PUMP
C4.2	PRESSURE RETAINING BOLTING IN VALVES	NONE	RHRS	VARIOUS	79&81		(24)	CR-3	ITEMS LISTED
		"	CORE SPRAY		78		(2)	CR-3	INDICATE NO.
		NONE	HPCI		87		(5)	CR-3	OF VALVES WITH BOLTING





Commonwealth  
Edison

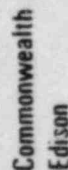
## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY					CLASS	REVISION - DATE	PAGE	
C-E-1 SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS					2	1 - 6-1-82	Page 31 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.5	INTEGRALLY WELDED SUPPORTS IN PIPING	SUR	CRD	2-0318-10"B	83	2		
		"	RHRS	2-1006A-12"DX	79&81	1		
		"	"	2-1006B-12"DX	"	1		
		"	"	2-1006C-12"DX	"	1		
		"	"	2-1006D-12"DX	"	1		
		"	"	2-1008A-18"DX	"	1		
		"	"	2-1008B-18"DX	"	2		
		"	"	2-1009A-18"DX	"	5		
		"	"	2-1009B-18"DX	"	4		
		"	"	2-1010-18"DX	"	2		
		"	"	2-1012A-16"DX	"	1		
		"	"	2-1013A-16"DX	"	1		
		"	"	2-1013B-16"DX	"	1		
		"	"	2-1015A-24"LX	"	1		
		"	"	2-1015B-24"LX	"	2		
		"	"	2-1016A-14"LX	"	1		
		"	"	2-1016B-14"LX	"	1		
		"	"	2-1016C-14"LX	"	1		
		"	"	2-1016D-14"LX	"	1		
		"	"	2-1018A-14"L	"	1		
		"	"	2-1018B-14"L	"	1		
		"	"	2-1018C-14"L	"	1		
		"	"	2-1018D-14"L	"	1		
		"	"	2-1024A-14"LX	"	1		
		"	"	2-1024C-14"LX	"	1		
		"	SUR	"	2-1024D-14"LX	"	1	





ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		C-E-1 SUPPORT MEMBERS FOR PIPING, VALVES, AND PUMPS (Cont)				CLASS	REVISION - DATE	PAGE
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.5	CONTINUED	SUR	CORE SPRAY	2-1401-18"LC	78	3		
		"	"	2-1402-18"LX	"	3		
		"	"	2-1403-12"DX	"	4		
		"	"	2-1404-12"DX	"	5		
		"	"	2-1405-3"DX	"	1		
		"	HPCI	2-2301-16"LX	87	2		
		"	"	2-2302-16"LX	"	5		
		"	"	2-2304-14"C	"	5		
		"	"	2-2305-10"B	"	3		
		SUR	"	2-2306-24"LX	"	2		
C3.3	INTEGRALLY WELDED SUPPORTS IN PUMPS	NA	NONE	NA	NA	0		
C4.3	INTEGRALLY WELDED SUPPORTS IN VALVES	NA	NONE	NA	NA	0		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		C-E-2				SUPPORT COMPONENTS FOR PIPING, VALVES, AND PUMPS				CLASS	REVISION	DATE	PAGE
										2	1-	6-1-82	Page 33 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS					
C2.6	SUPPORT COMPONENTS FOR PIPING	V-C	CRD	2-0318-10"B	83	4							
		"	"	2-0380A, B, C, D-8"B	"	28							
		"	RIRS	2-1006A-12"DX	79&81	1							
		"	"	2-1006B-12"DX	"	1							
		"	"	2-1006C-12"DX	"	1							
		"	"	2-1006D-12"DX	"	1							
		"	"	2-1008A-18"DX	"	3							
		"	"	2-1008B-18"DX	"	2							
		"	"	2-1009A-18"DX	"	6							
		"	"	2-1009B-18"DX	"	9							
		"	"	2-1010-18"DX	"	6							
		"	"	2-1012A-16"DX	"	5							
		"	"	2-1012B-16"DX	"	6							
		"	"	2-1013A-16"DX	"	2							
		"	"	2-1013B-16"DX	"	2							
		"	"	2-1015A-24"LX	"	1							
		"	"	2-1015B-24"LX	"	2							
		"	"	2-1016A-14"LX	"	1							
		"	"	2-1016B-14"LX	"	3							
		"	"	2-1016C-14"LX	"	1							
		"	"	2-1016D-14"LX	"	1							
		"	"	2-1018A-14"L	"	1							
		"	"	2-1018B-14"L	"	1							
		"	"	2-1018C-14"L	"	1							
		"	"	2-1018D-14"L	"	1							
		"	"	2-1024A-14"LX	"	1							
		V-C	"	2-1024C-14"LX	"	1							



Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		C-E-2 SUPPORT COMPONENTS FOR PIPING, VALVES, AND PUMPS (Cont)				CLASS	REVISION - DATE	PAGE
						2	1- 6-1-82	Page 34 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
		V-C	RHRS	2-1024D-14"LX	"	1		
		"	"	2-1086-6"DX	"	7		
		"	CORE SPRAY	2-1401-18"LX	78	3		
		"	"	2-1402-18"LX	"	3		
		"	"	2-1403-12"DX	"	8		
		"	"	2-1404-12"DX	"	16		
		"	"	2-1406-8"DX	"	1		
		"	"	2-1409-8"DX	"	1		
		"	HPCI	2-2301-16"LX	87	8		
		"	"	2-2302-16"LX	"	6		
		"	"	2-2304-14"C	"	8		
		"	"	2-2305-10"B	"	8		
		"	"	2-2306-24"LX	"	7		
		V-C	FEEDWATER	2-3204B-18"C	62	1		
C3.4	SUPPORT COMPONENTS FOR PUMPS	NA	NONE	NA	NA	0		
C4.4	SUPPORT COMPONENTS FOR VALVES	NA	NONE	NA	NA	0		



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI-CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY	C-F	PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES IN SYSTEMS WHICH CIRCULATE REACTOR COOLANT.		CLASS	2	REVISION - DATE		PAGE
						1-	6-1-82	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
C2.1	CIRCUMFERENTIAL BUTT WELDS	NA	NONE	NA	NA	0		
C2.2	LONGITUDINAL WELD JOINTS IN FITTINGS	NA	NONE	NA	NA	0		
C2.3	BRANCH PIPE-TO-PIPE WELD JOINTS.	NA	NONE	NA	NA	0		
C3.1	PUMP CASING WELDS	NA	NONE	NA	NA	0		
C4.1	VALVE BODY WELDS	NA	NONE	NA	NA	0		





Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES WHICH CIRCULATE OTHER THAN RX COOLANT				CLASS	REVISION - DATE		PAGE
C-G						2	1- 6-1-82		Page 36 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
C2.1	CIRCUMFERENTIAL BUTT WELDS	NONE	ALL	COMPONENTS $\leq$ 4" N. P.S.	VARIOUS	ALL	EX-6		
		VOL	CRD	2-0318-10"B	83	6			
		"		2-0380A,B,C,D-8"B	"	12			
		VOL	RHRS	2-1006A,B,C,D-12"DX	79&81	26			
		"	"	2-1008A,B-18"DX	"	44			
		"	"	2-1009A,B-18"DX	"	85			
		"	"	2-1010-18"DX	"	24			
		"	"	2-1012A,B-16"DX	"	18			
		"	"	2-1012A,B-16"A	"	2			
		"	"	2-1013A,B-16"DX	"	23			
		"	"	2-1015A,B-16"DX	"	27			
		"	"	2-1016A,B,C,D-14"DX	"	47			
		"	"	2-1017A,B-6"DX	"	6			
		NONE	"	2-1018A,B,C,D-14"L	"	8	EX-4		
		"	"	2-1024A,B,C,D-14"LX	"	16	EX-4		
		VOL	"	2-1029A,B-10"DX	"	3			
		"	"	2-1086-6"DX	"	18			
		NONE	CORE SPRAY	2-1401-18"LX	78	15	EX-4		
		"	"	2-1402-18"LX	"	15	EX-4		
		VOL	"	2-1403-12"A	"	3			
		VOL	"	2-1404-12"A	"	2			





Commonwealth  
Edison

# INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		C-G	PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES WHICH CIRCULATE OTHER THAN RX COOLANT (Cont)		CLASS	REVISION - DATE	PAGE		
					2	1- 6-1-82	Page 37 of 40		
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
C2.2	LONGITUDINAL WELD JOINTS IN FITTINGS	VOL	CORE SPRAY	2-1403-12"DX	"	32			
		"	"	2-1404-12"DX	"	48			
		"	"	2-1406-8"DX	"	7			
		"	"	2-1409-8"DX	"	2			
		NONE	"	2-1424A, B-12"LX	"	2	EX-4		
		NONE	HPCI	2-2301-16"LX	87	26	EX-4		
		"	"	2-2302-16"LX	"	41	EX-4		
		VOL	"	2-2304-14"C	"	36			
		"	"	2-2305-10"B	"	37			
		"	"	2-2306-24"LX	"	23			
		"	"	2-2325-6"LX	"	3			
		"	"	2-2342-12"C	"	3			
		VOL	FEEDWATER	2-3204B-18"C	62	5			
		NA	NONE	NA	NA	0			



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY	C-G	PRESSURE RETAINING WELDS IN PIPING, PUMPS, AND VALVES WHICH CIRCULATE OTHER THAN REACTOR COOLANT		CLASS	2	REVISION - DATE	1- 6-1-82	PAGE	Page 38 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
C2.3	BRANCH PIPE-TO-PIPE WELD JOINTS	VOL " " "	RHRS CORE SPRAY HPCI FEEDWATER	ALL	ALL CLASS 2 P&ID'S	ALL ALL ALL ALL			
C3.1	PUMP CASING WELDS	NA	NONE	NA	NA	0			
C4.1	VALVE BODY WELDS	NA	NONE	NA	NA	0			



**INSERVICE INSPECTION PROGRAM**  
ISI - CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		PRESSURE TESTING		CLASS	REVISION	DATE	PAGE	
				2	1 -	6-1-82	Page 39 of 40	
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS
NA	IWC-2510 EXEMPT AND NON-EXEMPT COMPONENTS	V-B	ALL	ALL LINES	ALL CLASS 2 P&IDs	ALL	CR-12	
		NONE	ALL	ALL CROSS-HATCHED LINES	ALL CLASS 2 P&IDs	ALL	EX-7	



Commonwealth  
Edison

## INSERVICE INSPECTION PROGRAM

ISI-CLASS 1, 2 & 3 COMPONENTS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

CODE CATEGORY		PRESSURE TESTING					CLASS	REVISION - DATE	PAGE
							3	1- 6-1-82	Page 40 of 40
ITEM NUMBER	ITEM DESCRIPTION	EXAM METHOD	SYSTEM	LINE OR COMPONENT NUMBER	P & ID AND COORDINATES	NUMBER OF ITEMS	RELIEF REQUESTS	REMARKS	
NA	PRESSURE TESTING PER IWD-2410	V-B	D/G COOLING WATER	ALL LINES (SOLID AND SLASHED).	69	ALL	CR-12		
		NONE	"	ALL LINES (CROSS-HATCHED).	69	ALL	EX-8		
		V-B	RHRS SERVICE WATER	ALL LINES (SOLID AND SLASHED).	79&81	ALL	CR-12		
		NONE	"	ALL LINES (CROSS-HATCHED).	79&81	ALL	EX-8		
NA	VISUAL EXAMINATION OF	V-C	D/G COOLING WATER	LINES > 4"N.P.S.	69	ALL			
	HANGERS AND SUPPORTS PER IWD-2600 (C)	V-C	RHRS SERVICE WATER	LINES > 4"N.P.S.	79&81	ALL			

## SECTION 2.3

### RELIEF REQUESTS FOR INSERVICE INSPECTION PROGRAM



RELIEF REQUEST NO. CR-1

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The reactor vessel is designed with one circumferential and six longitudinal welds in the core beltline region as shown on Figure 1.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through the Summer 1975 Addenda requires a volumetric examination of ten percent of the length of each longitudinal weld and five percent of the length of each circumferential weld each ten year interval (Code Category B-A).

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

II. BASIS FOR RELIEF

Accessibility for examination of these welds was not provided for in the original plant design which occurred prior to the issuance of Section XI inservice inspection requirements.

As indicated on Figure 1, examination from the reactor vessel outer surface is precluded due to the close proximity to the biological shield wall and obstruction by the vessel insulation.

The mirror type insulation consists of interlocking panels which were not designed to be easily removed at the weld locations. Furthermore, the annular dimensions between the shield wall and the insulation is not sufficient to allow direct access for personnel. Access through the biological shield wall is only provided at reactor vessel nozzle locations, however, there are no nozzle penetrations in the beltline region.

Examination of the beltline region welds from inside the vessel is impeded by vessel internal design features. The core shroud, jet pumps, and various brackets welded to the vessel wall are not designed to be removed.

### III. ALTERNATE PROVISIONS

Currently, it is not feasible to perform the required volumetric examinations on these welds. Commonwealth Edison will, however, keep abreast of improvements in state-of-the-art NDE techniques that could provide a viable means of examination.

RELIEF REQUEST NO. CR-2

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The reactor vessel contains thirteen longitudinal welds and five circumferential welds in the shell sections and bottom head which are inaccessible for examination, in addition to the beltline region welds addressed in Relief Request CR-1.

Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda requires a volumetric examination of ten percent of the length of each longitudinal shell weld and five percent of each circumferential shell and head weld each inspection interval (Code Category B-B).

As shown on Figure 1, all of the reactor vessel closure head welds are fully accessible for examination as are the vessel and head-to-flange welds and the three longitudinal welds in the upper shell course (No. 4).

The remaining shell and bottom head welds, however, are inaccessible for examination.

## II. BASIS FOR RELIEF

As discussed in Relief Request CR-1, accessibility for examination of these welds was not considered in the plant design. There is no access through the biological shield wall or between the wall and the vessel to permit examination of the shell welds from the vessel outer surface. Similarly, the bottom head welds cannot be examined because of the limited physical access, the inability to remove vessel insulation panels, and the interference from the forest of control rod drives and instrumentation penetrations.

## III ALTERNATE PROVISIONS

Currently, it is not feasible to perform the required volumetric examinations on these welds. Commonwealth Edison will, however, keep abreast of improvements in state-of-the-art NDE techniques that could provide a viable means of examination.

RELIEF REQUEST NO. CR-3

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

This relief request addresses the Section XI Examination Categories B-G-1 and B-G-2 for Class-1 bolting, and C-D for Class-2 bolting. Category B-G-1 in the 1974 Edition of the ASME Code, Summer 1975 Addenda covers bolting two-inches and greater in diameter and B-G-2 covers bolting less than two-inches in diameter. Category C-D covers bolting that exceeds one-inch in diameter.

However, in later editions of the Code, Class-1 bolting exactly two-inches in diameter is shifted from Category B-G-1 to B-G-2 by revision of the category definition.

Similarly, Class-2 bolting between one and two-inch diameter is eliminated from Category C-D of the later editions of the Code.

Quad Cities Station concurs with the Category definitions of later Editions of Section XI for Examination Categories B-G-1, B-G-2, and C-D and accordingly request permission to adopt these definitions.



## II. BASIS FOR RELIEF

This request for relief involves substitution of requirements from later Editions of the ASME Code. Adopting the more practical requirements from these later editions will provide continuity between the inspection program for this period and the program for subsequent intervals while reducing overall radiation exposure to inspection personnel. Plant safety margins will be unaffected by this change since modifications in the Code requirements are technically justified.

## III. ALTERNATE PROVISIONS

Visual examinations will be performed as specified in the appropriate Code Category for the bolting shifted from Category B-G-1 to B-G-2. No alternate or augmented examinations are required for the bolting affected in Category C-D.

RELIEF REQUEST NO. CR-4

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The reactor vessel and associated closure head are stainless steel clad on the interior surfaces. Six patches, each having a 36 square inch area, are selected for examination in accessible locations of the reactor vessel shell and closure head.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through the Summer 1975 Addenda requires that the clad patches in the reactor vessel be visually examined each interval. In addition, for closure head patches a visual and a surface or volumetric examination is required each interval.

For the reasons described below, these examination requirements are unrealistic since they offer no meaningful check of reactor vessel integrity.

II. BASIS FOR RELIEF

Analysis has shown that flaws which initiate in the reactor vessel cladding at locations other than nozzles do not propagate through the clad-base metal interface. Therefore, their existence poses no threat to reactor vessel integrity. The nozzle areas are covered by the requirement to examine the inner radii

volumetrically to detect the presence of flaws which may have propagated into base metal. Accordingly, the ASME has completely eliminated the B-I-1 and B-I-2 Examination Categories from later Editions of Section XI.

Performing these examinations only constitutes a needless exposure of personnel to radiation with no compensatory increase in safety. Quad Cities Station, therefore, will not perform the above mentioned examinations for the remainder of the present inspection interval. The examinations will not be required for subsequent intervals since the requirements have been deleted from the Code.

### III. ALTERNATE PROVISIONS

No alternate or augmented examinations are necessary in this case.

RELIEF REQUEST NO. CR-5

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Two Class-1 piping welds are physically inaccessible for examination. The weld in the Control Rod Drive System is on line number 0308-4", the other weld is in the RHR System on line number 1011-4". The weld in the CRD System cannot be examined because of interference from a structural support as shown on Figure 4. The weld in the RHR System is located just above the point at which the line penetrates the floor separating the reactor cavity and the drywell. The inaccessibility is due to the presence of a water barrier and sleeve arrangement as shown on Figure 4.

Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition including the Summer 1975 Addenda requires that twenty-five percent of the total number of circumferential pipe welds be volumetrically examined each ten year interval (Code Category B-J).

It is unlikely that these welds will be inspectable at any time during the plant life. Relief is, therefore, requested from performing the volumetric examination requirements of Section XI.



## II. BASIS FOR RELIEF

The implications of this exemption are minimal due to the fact that safety margins inherent in the design of the subject welds are typical of those in all other welds in the Class-1 systems. Exempting these two welds from the total inspection sampling program will have negligible statistical significance.

## III. ALTERNATE PROVISIONS

No alternate or augmented examinations are feasible or necessary in this case. The examinations required by IWB-5000 will, however, be conducted in accordance with the Code.



RELIEF REQUEST NO. CR-6

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Each of the lines listed below penetrates the primary containment by means of a penetration assembly similar in design to that shown in Figure-2. These Class-1 lines, due to the design of the penetration assembly, have one circumferential pressure retaining weld that is inaccessible for volumetric examination.

CRD RETURN - 0308-4"

RHR - 1011-4", 1012A&B-16", 1025-20"

Rx WATER CLEANUP - 1202-6"

CORE SPRAY - 1403-10", 1404-10"

HPCI - 2305-10"

MAIN STEAM 3001A,B,C,D-20"

FEEDWATER 3204A&B-18"

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through the Summer 1975 Addenda requires that these Class-1 welds be volumetrically examined (Code Category B-J).

Since this requirement is impractical due to plant design, relief is requested from the above stated examination requirements.

## II. BASIS FOR RELIEF

As stated in 10CFR50.55a (g)(1) for plants whose construction permits were issued prior to January 1, 1971, components shall meet Section XI requirements to the extent practical. Since examination requirements for these welds did not exist at the time Quad Cities Station was designed, accessibility for their examination was not a prime consideration. Figure-2 clearly illustrates the design constraints which make it extremely impractical to examine the subject welds by volumetric or surface techniques. Commonwealth Edison feels that this constitutes a basis for relief from the volumetric examination requirements of Section XI.

The safety implications of this exemption are minimal due to the fact that the safety margins in the subject welds are typical of those in all welds in the applicable systems. Since the exempted welds represent only a small fraction of the total number of welds in these systems (15 out of 445), the statistical significance to the inspection sampling program due to exempting these welds is expected to be negligible.

### III. ALTERNATE PROVISIONS

At the present time no alternate examinations are feasible because of the inaccessibility. However, the examinations required by IWB-5000 will be conducted in accordance with the Code.

RELIEF REQUEST NO. CR-7

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The design of certain Class-1 branch pipe connection welds calls for the use of reinforcement saddles. These saddles are fillet welded over the actual pressure retaining branch pipe to main pipe weld, completely incasing it as illustrated on Figure 3. As listed in the program, there is one such weld that is six inches in diameter and three welds that are greater than 6 inches.

Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda requires that branch pipe connection welds exceeding six inches diameter be examined volumetrically and those six inch diameter and smaller be surface examined. Twenty-five percent of these welds are required to be examined each inspection interval (Code Category B-J).

Relief from this requirement is requested due to the physical inaccessibility of the design.

II. BASIS FOR RELIEF

The fabrication of these joints precludes any type of surface examination or meaningful volumetric examination. Additional assurance of the continued integrity of joints fabricated in this

fashion is afforded by the fact that the reinforcement saddle strengthens the joint and reduces the stresses on the internal weld.

III. ALTERNATE PROVISIONS

A visual examination of these joints for evidence of leakage will be conducted during the pressure tests required by IWB-5000.



RELIEF REQUEST NO. CR-8

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

In the Class-1 system there are ten integrally welded supports whose support lugs are welded to cast stainless steel components. Specifically, six are welded to the recirculation pump casings, two are welded to the bodies of recirculation valves 0202-5A and 5B, and two are welded to a stainless steel crosses in the recirculation ring header piping.

Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda requires a volumetric inspection of each integrally welded support attachment each ten year interval (Code Category B-K-1).

This examination requirement is impractical for these support attachments because of the material structure and weld geometry.

II. BASIS FOR RELIEF

The high ultrasonic beam attenuation of the cast stainless steel base material and the weld geometry inhibit meaningful examination of the ten subject support attachments by either ultrasonic or radiographic methods. The substitution of a surface examination, however, would be sufficient to determine the integrity of

these attachment welds and the surrounding base metal since flaws which would be expected to occur in these areas would originate from the outer surface.

III. ALTERNATE PROVISIONS

A surface examination will be substituted for the required volumetric examination for these components.

## RELIEF REQUEST NO. CR-9

### I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Each Quad Cities Unit has an ISI Class-1 recirculation pump in each of the two 28-inch diameter recirculation loops. These pumps function during normal reactor operation to provide forced recirculation through the core.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through the Summer 1975 Addenda requires that one of these recirculation pumps be examined visually during each inspection interval. Specifically, the area of examination includes all pump internal pressure boundary surfaces.

As discussed, in detail below, Quad Cities Station 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) to complete the subject examination, large expenditures of manhours and man-rem are required with essentially no compensating increase in plant safety, and
- 2) the structural integrity afforded by the pump casing material utilized will not significantly degrade over the lifetime of the pump.

Based on data compiled from an actual recirculation pump disassembly, 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.

Commonwealth Edison 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.

### 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 pump of this type is disassembled for maintenance, examination of the pump internals and internal pressure boundary surfaces will be performed, to the extent practical.



RELIEF REQUEST NO. CR-10

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

In the Class-1 system there are 51 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 stainless steel or carbon steel. None of the valve body casings are welded.

Section XI of the ASME Code, 1974 Edition through the Summer 1975 Addenda requires a visual examination of the internal pressure boundary surfaces of one valve in each group of valves of the same constructional design, manufacturing method and manufacturer that perform similar functions in the system. These examinations are required to be completed each inspection interval. (Code Category B-M-2)

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

II. BASIS FOR RELIEF

The requirement to disassemble primary system valves for the sole purpose of performing a visual examination of the internal pres

sure 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 under such adverse conditions as high dose rates (10 R/hr) and poor as-cast surface condition, realistically, provides little additional information as to the valve casing 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 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 reduce radiation exposure to plant personnel is to examine 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

An examination of the internal pressure boundary surfaces will be performed, to the extent practical, each time a valve is disassembled for maintenance purposes.

RELIEF REQUEST NO. CR-11

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

There are two 18" diameter nozzles in the Class-2 portion of each of the two RHR System heat exchangers that are fabricated with reinforcement saddles. These saddles are fillet welded over the actual pressure-retaining nozzle-to-shell weld. The configuration is shown on Figure 5.

Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda requires a volumetric examination of two of these four nozzle-to-shell welds in the service lifetime of the unit. This requirement is impractical due to inaccessibility.

II. BASIS FOR RELIEF

The fabrication of these nozzle-to-shell welds precludes any type of volumetric or surface examination. The design does, however, provide additional strength at the joint and results in lower stresses at the internal weld. Integrity of these joints will be monitored by periodic system pressure and hydrostatic tests.

III. ALTERNATE PROVISIONS

A visual examination for evidence of leakage will be conducted in accordance with the Subsection IWC-5000 requirements.



RELIEF REQUEST NO. CR-12

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The pressure retaining components within each system boundary are subject to system pressure tests. These test requirements are not only an important part of inservice inspection but also demand clarity in their application. The hydrostatic test requirements in the 1974 Edition of Section XI are not as definitive as in later editions and addenda of the Code and for this reason, misinterpretation or misapplication could occur.

The later editions of the Code have revised various requirements regarding these system pressure tests which Quad Cities Station feels are more practical to implement. Therefore, the following pressure testing requirements will be adopted:

- 1) The requirements of IWC&D 5200(a) in the 1974 Edition of the ASME Code, Section XI will be replaced with the following: The system hydrostatic test pressure shall be at least 1.10 times the system pressure  $P_{sv}$  for systems with design temperature of 200°F or less, and at least 1.25 times the system pressure  $P_{sv}$  for systems with Design Temperature above 200°F. The system pressure  $P_{sv}$  is defined as the lowest pressure setting among the number of safety or relief valves provided for overpres

sure protection within the boundary of the system to be tested.

2) The following requirements regarding the holding time after pressurization (before visual examination) will be adopted for clarity.

- a) System Leakage Tests - no holding time required after attaining test pressure and temperature conditions.
- b) System Functional Tests - 10 minutes after attaining the system operating pressure.
- c) System Inservice Tests - no holding time required, provided the system has been in operation for at least 4 hours.
- d) System Hydrostatic Tests - 4 hours after attaining the test pressure and temperature conditions for insulated systems, and 10 minutes for noninsulated systems or components.
- e) System Pneumatic Tests - 10 minutes after attaining the test pressure.

## II. BASIS FOR RELIEF

This request for relief involves the substitution of requirements from later Editions of the ASME Code. Substituting these more definitive and practical requirements will not only provide continuity between the inspection program for this period and the program for subsequent intervals, but will also help reduce radiation exposure to inspection personnel. Plant safety margins will be unaffected by these substitutions since modification in the Code requirements are technically justified.

## III. ALTERNATE PROVISIONS

No alternate or augmented examinations are necessary in this case.

RELIEF REQUEST NO. CR-13

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Quad Cities Station currently utilizes a calibration block which lacks documentation consistent with the requirements of current editions of the Code. The documentation requirements existing at the time of their fabrication did not require traceability to the material's chemical or physical certifications. As a result, the only documentation available for the existing block is verification of the appropriate P-number grouping.

The Section XI requirements of the 1974 Edition of the ASME Code including the 1975 Addenda specifies that the block will be fabricated as provided by Article I-3000 paragraph I-3121 requirements.

Relief is requested from this documentation requirement to allow the continued use of the existing calibration block.

II. BASIS FOR RELIEF

Previous inservice inspections have been performed utilizing the above mentioned block and its use would provide continuity in the ISI Program. It would be impractical to fabricate a new

calibration block in order to satisfy the documentation requirements of the current Code. Existing records which indicate the appropriate material P-grouping provide adequate assurance that the block will establish the proper ultrasonic calibration and sensitivity. Additionally, since both reactors vessels are 100% clad on the I.D. surface, there is no way to meet the requirement of verifying the acoustic properties of the block against the clad component.

### III. ALTERNATE PROVISIONS

The present reactor vessel calibration block will be demonstrated to have acoustic attenuation and velocity properties which fall within the range of straight beam longitudinal wave velocity and attenuation as found in the reactor vessel. However, since Quad-Cities Station reactor vessels are 100% clad on the I.D. Surface, this check will be completed on the clad component and appropriate reviews made by the C.E.C.O. Level III Examiner to verify the acceptability of the block.



RELIEF REQUEST NO. CR-14

I. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE  
REQUIREMENT

The rules of Article 5 of Section V recommend that UT indications which produce a response greater than 20% of the reference level be investigated to the extent that the operator can evaluate the shape, identity and location of all such reflectors in terms of the acceptance-rejection standards of Section XI.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda states that the provisions of Article 5 of Section V shall apply where Appendix I is not applicable. However, in later editions of Section XI, the rules of Article 5, Section V were amended such that only reflectors producing a response greater than 50% of the reference level are to be recorded, and that all reflectors producing a response greater than 100% of the reference level shall be investigated to the extent that the operator can determine the shape, identity and location of all such reflectors in terms of the acceptance-rejection standards of Section XI.

Commonwealth Edison concurs with the requirements of the later Code and addenda and therefore, a request for relief from the earlier requirement is sought.

## II. BASIS FOR RELIEF

As a result of the "noise" level in the typical UT response and the weld geometries present, no meaningful information is obtained from indications producing responses less than 50% of the reference level. Therefore, adopting the more current and practical requirements of Section XI is justified. In fact, the requirement to record these non-relevant indications results in excessive examination times and personnel radiation exposures. It is felt that the levels for recording and evaluating indications specified in the later Codes are adequate and sufficiently reliable in detecting flaws.

## III. ALTERNATE PROVISIONS

For examinations conducted to the requirements of Article 5 of Section V, the recording level shall be 50% of the reference level and all indications exceeding 100% of the reference level shall be investigated to the extent that the operator can determine the shape, identity and location of all such reflectors in terms of the acceptance-rejection standards of Section XI.

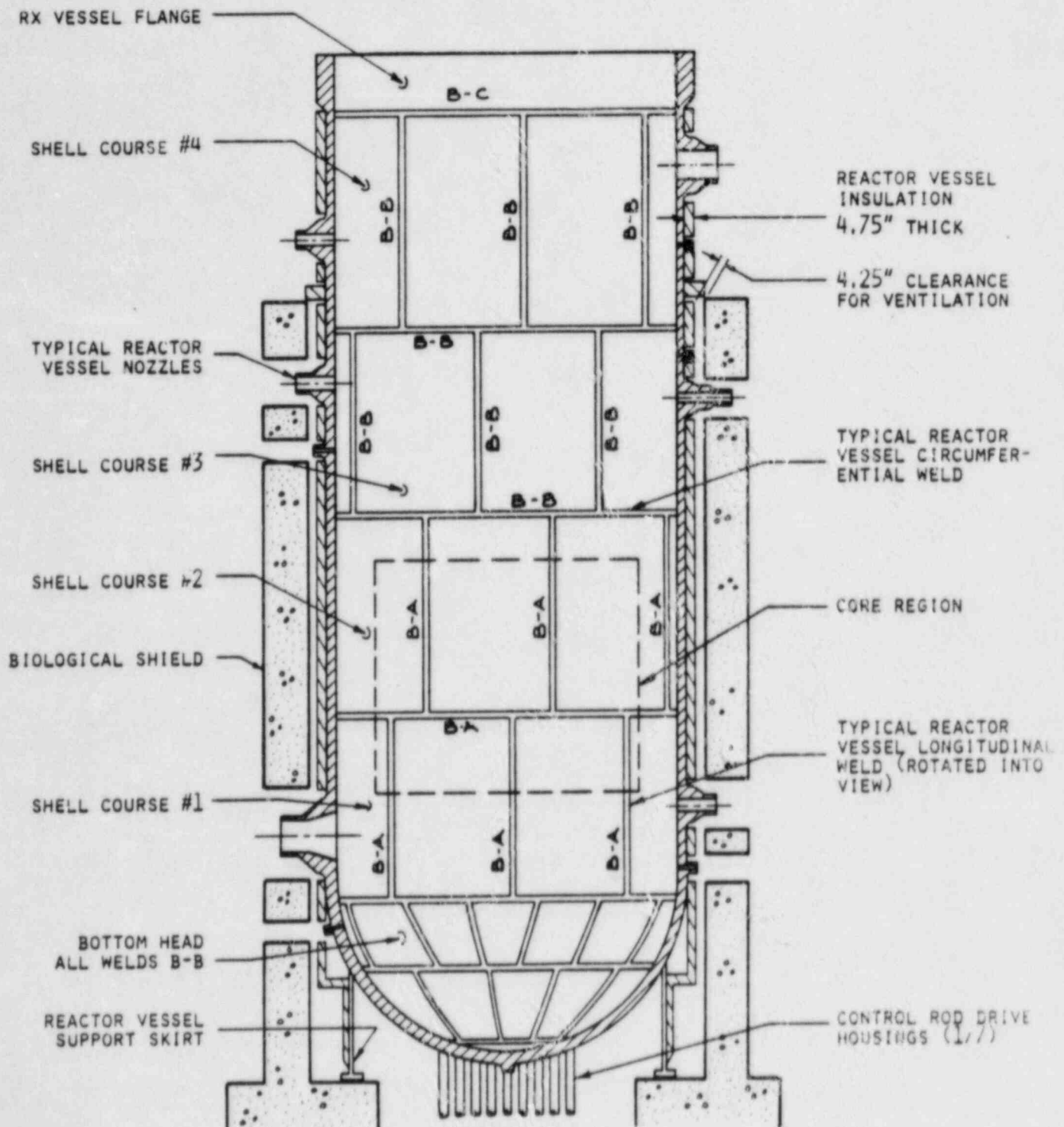


FIGURE 1  
REACTOR VESSEL WELD IDENTIFICATION

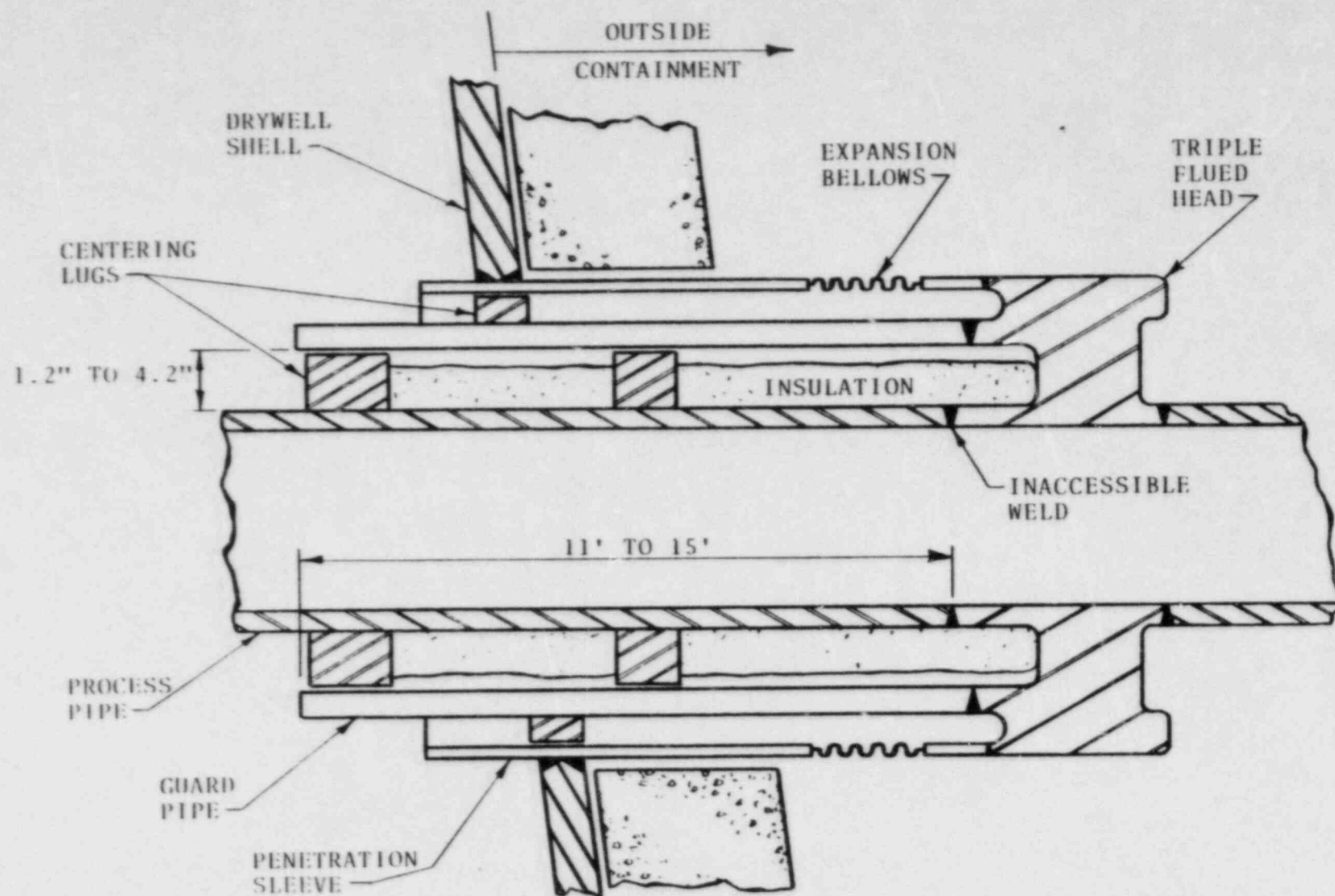


FIGURE 2

TYPICAL DESIGN OF PRIMARY CONTAINMENT PENETRATION

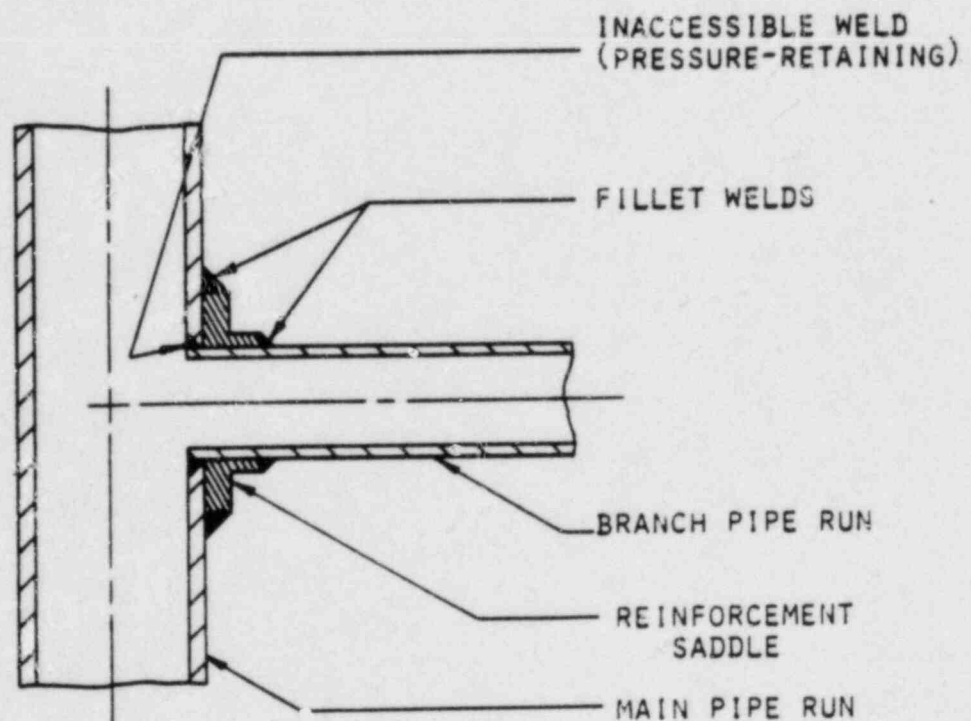
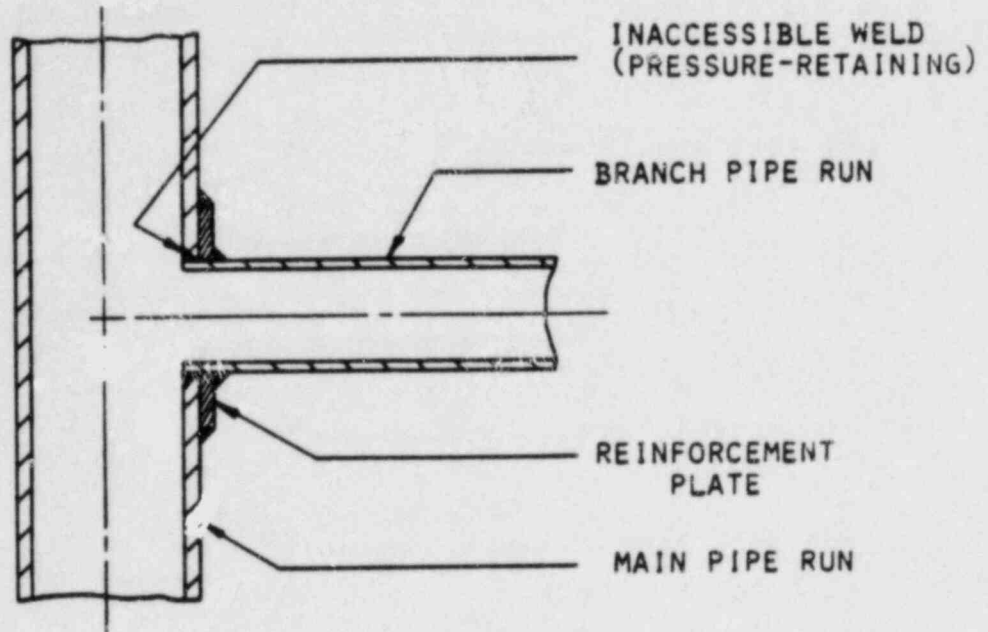


FIGURE 3  
TYPES OF REINFORCED BRANCH PIPE CONNECTIONS



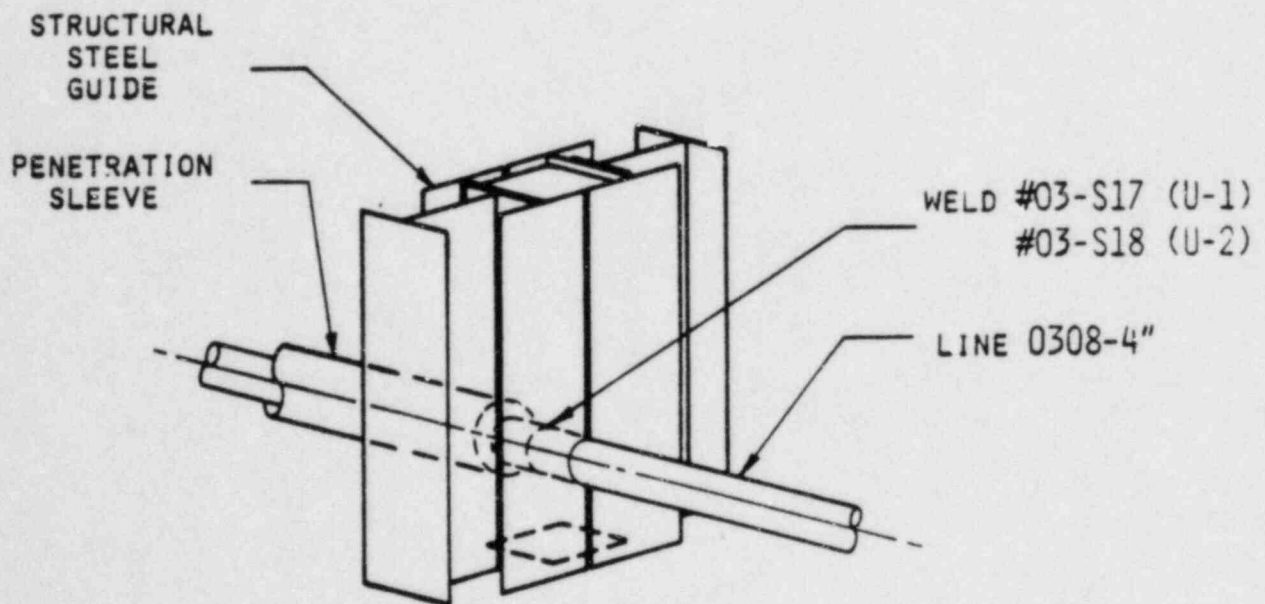
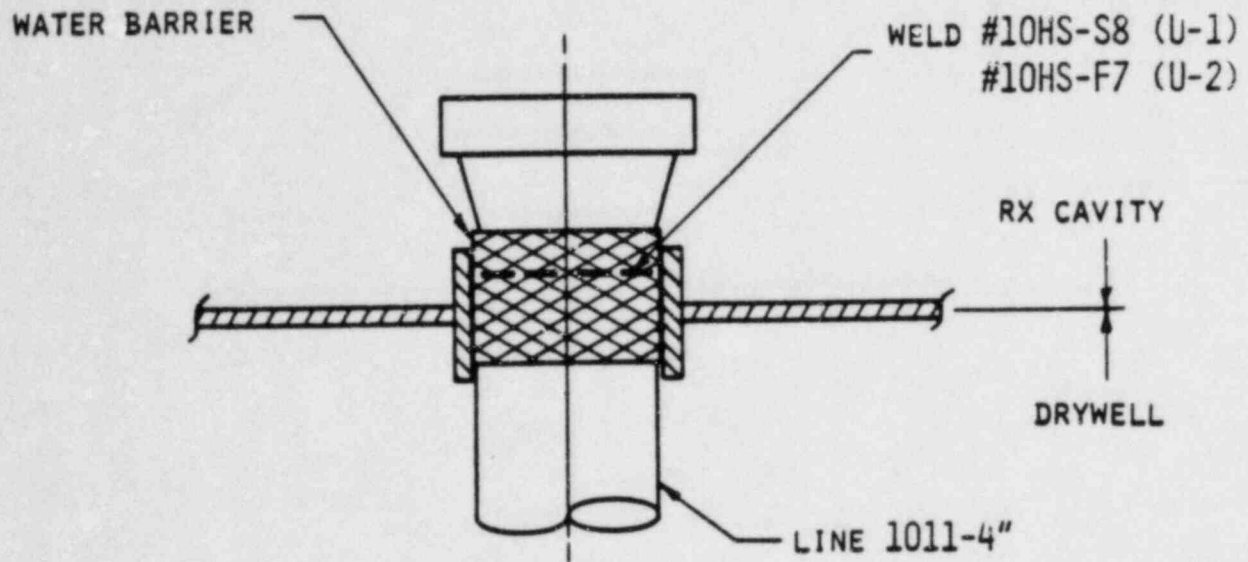


FIGURE 4  
WELD OBSTRUCTION DETAILS

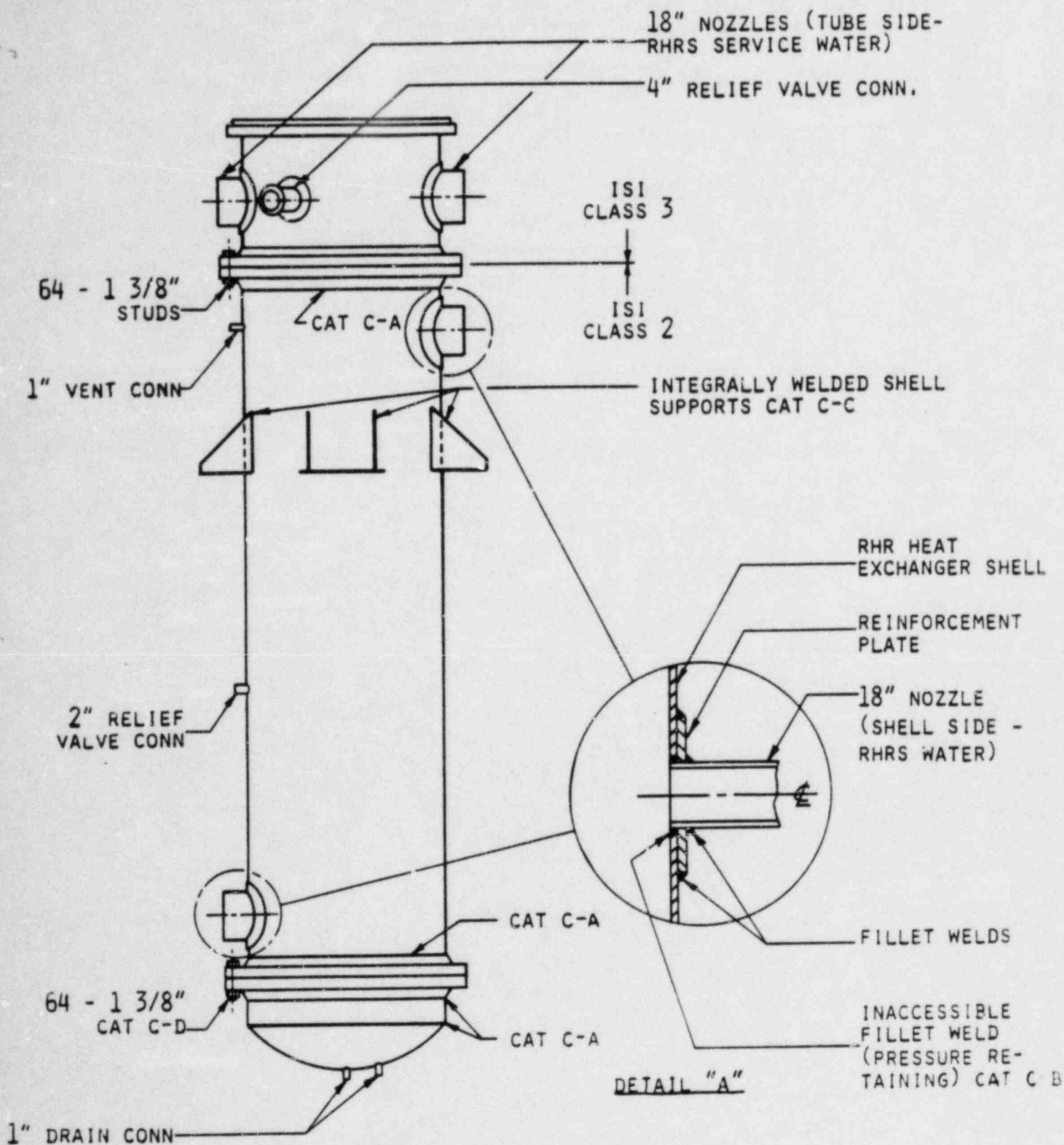


FIGURE 5  
RHRS HEAT EXCHANGERS

## SECTION 3.2

### TABLES FOR INSERVICE PUMP TESTING PROGRAM

- A. QUAD CITIES UNIT-1
- B. QUAD CITIES UNIT-2



Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 PUMPS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

REVISION - DATE  
1 09/24/80

PAGE  
1 of 1

PUMP NUMBER	PUMP NAME	CLASS	P & ID AND COORDINATES	TEST PARAMETERS						TEST INTERVAL
				SPEED	INLET PRES	DIFF PRES	FLOW RATE	VIBRATION	BEARING TEMP	
1A-1401	CORE SPRAY	2	36 E-9	NO	YES	YES	YES	PR-1	PR-1	PR-2
1B-1401	CORE SPRAY	2	36 E-6	NO	YES	YES	YES	PR-1	PR-1	PR-2
1A-1002	RESIDUAL HEAT REMOVAL	2	37 B-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
1B-1002	RESIDUAL HEAT REMOVAL	2	37 B-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
1C-1002	RESIDUAL HEAT REMOVAL	2	37 B-8	NO	YES	YES	YES	PR-1	PR-1	PR-2
1D-1002	RESIDUAL HEAT REMOVAL	2	37 E-8	NO	YES	YES	YES	PR-1	PR-1	PR-2
1-1001-65A	RHR SERVICE WATER	3	39 F-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
1-1001-65B	RHR SERVICE WATER	3	39 F-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
1-1001-65C	RHR SERVICE WATER	3	39 F-7	NO	YES	YES	YES	PR-1	PR-1	PR-2
1-1001-65D	RHR SERVICE WATER	3	39 F-7	NO	YES	YES	YES	PR-1	PR-1	PR-2
1A-1102	STANDBY LIQUID CONTROL	2	40 D-7	NO	PR-4	PR-4	YES	PR-1	PR-1	PR-2
1B-1102	STANDBY LIQUID CONTROL	2	40 E-7	NO	PR-4	PR-4	YES	PR-1	PR-1	PR-2
1-2302	HIGH PRES COOLANT INJ	2	46 A-4	YES	YES	YES	YES	PR-1	PR-1	PR-2
1-3903	D/G COOLING WATER	3	22 A-10	NO	YES	YES	YES	PR-1	PR-1	PR-2
1/2-3903	D/G COOLING WATER	3	22 A-10	NO	YES	YES	YES	PR-1	PR-1	PR-2
1-5203	D/G FUEL OIL TRANSFER	NC	29 F-3	NO	PR-5	PR-5	YES	PR-1	PR-1	PR-2
1/2-5203	D/G/FUEL OIL TRANSFER	NC	29 F-3	NO	PR-5	PR-5	YES	PR-1	PR-1	PR-2

## NOTE:

Lubrication levels will be observed during each inservice test for pumps that are designed such that levels can be verified. The core spray (1401), RHR (1002), and the D/G fuel oil transfer (5203) pumps are lubricated by pump flowage and, thus, lubricant level or pressure measurements are not relevant.



Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI-CLASS 1, 2, & 3 PUMPS  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

REVISION - DATE  
1 09/24/80

PAGE  
1 of 1

PUMP NUMBER	PUMP NAME	CLASS	P & ID AND COORDINATES	TEST PARAMETERS						TEST INTERVAL
				SPEED	INLET PRES	DIFF PRES	FLOW RATE	VIBRATION	BEARING TEMP	
2A-1401	CORE SPRAY	2	78 E-9	NO	YES	YES	YES	PR-1	PR-1	PR-2
2B-1401	CORE SPRAY	2	78 E-6	NO	YES	YES	YES	PR-1	PR-1	PR-2
2A-1002	RESIDUAL HEAT REMOVAL	2	79 B-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
2B-1002	RESIDUAL HEAT REMOVAL	2	79 E-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
2C-1002	RESIDUAL HEAT REMOVAL	2	79 B-8	NO	YES	YES	YES	PR-1	PR-1	PR-2
2D-1002	RESIDUAL HEAT REMOVAL	2	79 E-8	NO	YES	YES	YES	PR-1	PR-1	PR-2
2-1001-65A	RHR SERVICE WATER	3	81 F-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
2-1001-65B	RHR SERVICE WATER	3	81 F-4	NO	YES	YES	YES	PR-1	PR-1	PR-2
2-1001-65C	RHR SERVICE WATER	3	81 F-7	NO	YES	YES	YES	PR-1	PR-1	PR-2
2-1001-65D	RHR SERVICE WATER	3	81 F-7	NO	YES	YES	YES	PR-1	PR-1	PR-2
2A-1102	STANDBY LIQUID CONTROL	2	82 D-7	NO	PR-4	PR-4	YES	PR-1	PR-1	PR-2
2B-1102	STANDBY LIQUID CONTROL	2	82 E-7	NO	PR-4	PR-4	YES	PR-1	PR-1	PR-2
2-2302	HIGH PRES COOLANT INJ	2	87 A-4	YES	YES	YES	YES	PR-1	PR-1	PR-2
2-3903	D/G COOLING WATER	3	69 A-10	NO	YES	YES	YES	PR-1	PR-1	PR-2
2-5203	D/G FUEL OIL TRANSFER	NC	29 F-3	NO	PR-5	PR-5	YES	PR-1	PR-1	PR-2

NOTE:

Lubrication levels will be observed during each inservice test for pumps that are designed such that levels can be verified. The core spray (1401), RHR (1002), and the D/G fuel oil transfer (5203) pumps are lubricated by pump flowage and, thus, lubricant level or pressure measurements are not relevant.



## SECTION 3.3

RELIEF REQUESTS FOR INSERVICE PUMP TESTING PROGRAM

### 3.0 INSERVICE TESTING PROGRAM FOR PUMPS

#### 3.1 GENERAL INFORMATION

The Inservice Testing Program for ISI Class 1, 2 and 3 Pumps meets the requirements of Subsection IWP of Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda. Where these requirements are determined to be impractical, specific requests for relief have been written.

The tables in Section 3.2 list all Class 1, 2 and 3 pumps to be tested along with the parameters to be measured for each pump unless reference is made to a relief request. Section 3.3 includes all relief requests referenced in the tables plus any additional relief requests that are generic to the pump testing program.

It should be noted that pump speed is not measured for synchronous type pumps per IWP-4400. Where pump suction is from a tank or the river, inlet pressure will be calculated from the measured tank or river level.

RELIEF REQUEST NO. PR-1

PUMP NUMBER: All pumps in program.

SECTION XI REQUIREMENT: Detection of mechanical change per IWP-1700.

BASIS FOR RELIEF: Pump vibration and bearing temperature are required to be measured to detect any changes in the mechanical characteristics of a pump. This is to detect developing problems so repairs can be initiated prior to a pump becoming inoperable (i.e. unable to perform its function). The ASME Code minimum standards require measurement of the vibration amplitude displacement in mils (thousands of an inch) every three months and bearing temperatures once per year.

Quad Cities Station proposes an alternate program which is believed to be more comprehensive than that required by Section XI. This program consists of performing the required vibration readings in velocity rather than mils displacement. This technique is an industry-accepted method which is much more meaningful and sensitive to small changes that are indicative of developing mechanical problems. These velocity measurements detect not only high amplitude vibrations that indicate a major

RELIEF REQUEST NO. PR-1 (CONTINUED)

mechanical problem but also the equally harmful low amplitude - high frequency vibrations due to misalignment, imbalance, or bearing wear that usually go undetected by simple displacement measurement.

In addition, these readings go far beyond the capabilities of a bearing temperature monitoring program, which requires a bearing to be seriously degraded prior to the detection of increased heat at the bearing housing. The vibration velocity readings on a schedule of once every three months achieves a much higher probability of detecting developing problems than the once per year reading of bearing temperatures. Data gathering on bearing temperatures also is not without its own problems. The enforced thirty minute run time, (i.e. IWP-3500 (b) - three successive readings taken at ten minute intervals that do not vary more than 3%), causes problems with pumps having no recirculation/test loop. The temperature of the pumped fluid is also meaningful when attempting to trend any developing problems from year to year. It is easy to see that a program of bearing temperature trends and the evaluation of the results would in some cases be difficult to analyse. Improper interpretation of results could result in unnecessary pump maintenance. In addition, it

RELIEF REQUEST NO. PR-1 (CONTINUED)

is impractical to measure bearing temperatures on many of the pumps in the program. Some specific examples are as follows:

- (1) Core Spray 1(2)A,B-1401 - pump bearings are lubricated by pump flowage. Temperature of the pumped liquid would seriously affect the accuracy of trends.
- (2) RHR 1(2)A,B,C,D-1002 - same as above.
- (3) RHR Service Water 1(2)1001-65A,B,C,D - Bearings are contained in an oil-filled reservoir. The ambient temperature of the pump space is changeable thereby varying the start temperature of the data. Results would be difficult if not impossible to trend from test to test.
- (4) High Pressure Coolant Injection - this pump is driven by a steam turbine which exhausts steam into the pressure suppression chamber. Extended run times to stabilize bearing temperatures would create problems in keeping suppression pool temperatures below the Technical Specification limit of 95°F.



RELIEF REQUEST NO. PR-1 (CONTINUED)

- (5) Diesel Generator Cooling Water 1(2)(1/2)-3903 -  
Same as RHR Service Water
- (6) Diesel Generator Fuel Oil Transfer 1(2)(1/2)-5203  
- this transfer pump pumps fuel oil from the fuel oil storage tank to the D/G fuel oil day tank. There is no recirculation test loop for these pumps, thereby, limiting the run necessary to gather bearing temperature data.

The foregoing reasons demonstrate that the proposed program of vibration measurements is a more practical method of testing which exceeds the requirements of the ASME Code.

ALTERNATE TESTING: Pump vibration measurements will be taken in vibration velocity (in/sec). The evaluation of the readings will be per the attached table.

# ALLOWABLE RANGES OF TEST QUANTITIES

QUANTITY		ACCEPTABLE RANGE	ALERT RANGE		REQUIRED ACTION RANGE	
			LOW VALUES	HIGH VALUES	LOW VALUES	HIGH VALUES
v	When $0 \leq v_r \leq .15$ in/sec	0 to .3 in/sec	None	.3 in/sec to .45 in/sec	None	$v > .45$ in/sec
v	When $.15$ in/sec $< v_r$ $< .3$ in/sec	0 to .45 in/sec	None	.45 in/sec to .75 in/sec	None	$v > .75$ in/sec
v	When $.3$ in/sec $< v_r$ $< .6$ in/sec	0 to 0.9 in/sec	None	0.9 to 1.5 in/sec	None	$v > 1.5$ in/sec
v	When $.6$ in/sec $< v_r$ $< 1.0$ in/sec	0 to 1.1 in/sec	None	1.1 to 1.5 in/sec	None	$v > 1.5$ in/sec

3-6

Where:

$v$  = velocity measured in inches/second, peak.

$v_r$  = reference velocity measurement (initial measurement after installation or rework.

Revision 1  
9/24/80

RELIEF REQUEST NO. PR-2

PUMP NUMBER: All pumps in program.

SECTION XI REQUIREMENT: Measure pump parameters monthly.

BASIS FOR RELIEF: Relief is requested from the requirements of Subsection IWP-3400 to measure the basic pump parameters identified in Table IWP-3100-1 on a monthly basis. Changes in these hydraulic and mechanical parameters will not significantly change over the period of one month because the pumps are primarily run only for operability and remain in a standby mode of operation. Quarterly measurement of these parameters is more than adequate in determining pump degradation.

The original intent to require monthly testing was based on the premise that damage can occur to bearings if a pump remains stagnant for long periods of time. This concern can be mitigated by running pumps on a monthly basis to lubricate the main bearings.

A change to the Code of a similar nature, recently passed the Section XI Main Committee and will be published in a forthcoming Addenda to Section XI. It is

RELIEF REQUEST NO. PR-2 (CONTINUED)

not felt that this relief request represents a relaxation in safety requirements, only that it allows more practical implementation of Section XI requirements.

ALTERNATE TESTING: All pumps will be exercised on a monthly basis to lubricate the bearings. Pump parameters will be measured quarterly.

RELIEF REQUEST NO. PR-3

PUMP NUMBER: All pumps in the program.

SECTION XI REQUIREMENT: The requirements of IWP-3230(c), Corrective Action.

BASIS FOR RELIEF: Relief is requested from the requirements of IWP3230(c) regarding corrective action when pump parameters are found to be within the "Required Action Range" of Table IWP-3100-2. Some means should be allowed for conducting an analysis to demonstrate that the condition of a pump does not impair pump operability and that the pump can still perform its intended function. Later editions of the Code do address this concern by allowing such an analysis to serve as the corrective action.

ALTERNATE TESTING: When measured pump parameters fall into the "Required Action Range", pump operability and corrective action will be based on the limits specified in the Limiting Conditions for Operation of the plant Technical Specifications. A pump may remain operable if it meets all Technical Specification requirements and an analysis indicates that, even though a pump parameter is in the "Required Action Range", the pump can still fulfill its intended functions.



RELIEF REQUEST No. PR-4

PUMP NUMBER: 1(2)-1102 (SBLC)

SECTION XI REQUIREMENT: Measure pump inlet pressure

BASIS FOR RELIEF: It is impractical to measure standby liquid control pump inlet pressure in accordance with Section XI requirements. During pump testing, the pump suction is from a test tank rather than the main standby liquid control tank. No instrumentation is provided for measuring inlet pressure, and therefore, the only means available is to correlate tank level to inlet pressure. Since these pumps are positive displacement designs, the measurement of inlet pressure is not critical in judging pump performance. Measuring the discharge pressure and the flow rate is adequate to detect changes in the hydraulic characteristics of the pumps.

ALTERNATE TESTING: Pump discharge pressure will be monitored at each inservice test.

RELIEF REQUEST NO. PR-5

PUMP NUMBER: 1-5203, 2-5203, 1/2-5203

SECTION XI REQUIREMENT: Measure Pump Inlet Pressure

BASIS FOR RELIEF: Relief is requested from the requirement of measuring pump inlet pressure during pump tests. This pump is utilized in transferring fuel oil from the diesel generator fuel oil storage tank to the diesel fuel oil day tank. The configuration of the piping is such that the pump is located above the storage tank. The pump is a positive displacement gear type pump not requiring a positive suction head for proper operation. Since this pump is a positive displacement type, the discharge pressure is independent of the suction pressure and, therefore, inlet pressure data is not important in evaluating pump performance.

ALTERNATE TESTING: Pump discharge pressure will be monitored at each inservice test.

## 4.0 INSERVICE TESTING PROGRAM FOR VALVES

### 4.1 GENERAL INFORMATION

The Inservice Testing Program for ISI Class 1, 2 and 3 Valves meets the requirements of Subsection IWV of Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda. Where these requirements are determined to be impractical, specific requests for relief have been written and included in Section 4.3.

The tables in Section 4.2 list all ISI Class 1, 2 and 3 valves that have been assigned valve categories; valves exempt per IWV-1300 are not listed. The tables are organized by system in order of the assigned system number. A list of these systems and their respective P&ID numbers is given in Table 4.1-1. The following information is included in the tables:

- A. Valve Number lists the valve identification number as shown on the color-coded P&IDs. The first digit of the valve number indicates the appropriate unit.
- B. P&ID and Coordinates references the color-coded P&ID on which the valve appears and its coordinates.

- C. Class is the ISI Classification of the valve. Valves in the diesel fuel oil and air start systems as well as some primary containment isolation valves are included in the program, even though they do not have an ISI Classification. These valves are designated as Class NC (Not Classified).
- D. Valve Category indicates the category assigned to the valve based on the definitions of IWV-2110.
- E. Valve Size lists the nominal pipe size of the valve in inches.
- F. Valve Type lists the valve design as indicated by the following abbreviations.

GATE	GA
GLOBE	GL
CHECK	CK
SAFETY	SV
RELIEF	RV
ELECTROMATIC RELIEF	ERV
BUTTERFLY	BTF
STOP CHECK	SCK
BALL	BALL

RUPTURE DIAPHRAM  
EXCESS FLOW CHECK

RPD  
XFC

- G. Actuator Type lists the type of valve actuator as indicated by the following abbreviations.

MOTOR OPERATOR	MO
AIR OPERATOR	AO
SOLENOID OPERATOR	SO
PILOT SOLENOID ACTUATOR	PS
EXPLOSIVE ACTUATOR	EXP
SELF ACTUATED	SA
MANUAL	M

- H. Valve Position indicates the normal position of the valve during plant operation. This is specified as open (O), closed (C), locked open (LO), and locked closed (LC).

- I. Stroke Direction indicates the direction which an active valve must stroke to perform its safety function. Also, the direction in which the valve will be stroked to satisfy the exercising requirements of IWV-3410 or IWV-3520. This may be specified as open (O), closed (C), or both (O&C).



J. Test lists the test or tests that will be performed for each valve to fulfill the requirements of Subsection IWV. The following tests and abbreviations are used:

Seat Leak Test (IVV-3420)

AT

Valve will be seat leak tested at the appropriate functional differential pressure. (See VR-16)

Full Stroke Exercise Test (IWV-3410a,b,c)

BT

Valve will be full stroke exercised for operability in the direction necessary to fulfill its safety function.

Partial Exercise Test (IWV-3410b,1)

BTP

Valve will be part-stroke exercised when full stroke exercising is impractical.

Check Valve Exercise Test (IWV-3520)

CT-1

Check valve will be exercised fully open, closed or both depending on the safety function of the valve. Verification of acceptable system flow through a valve shall be adequate demonstration of valve operability.

Relief Valve Set Point Check (IWV-3510)

CT-2

Relief and safety valve set points will be verified in accordance with IWV-3510.

Explosive Valve Tests (IWV-3610)

DT

Explosive valves will be tested in accordance with IWV-3610.

Fail-Safe Test (IWV-3410e)

FST

All valves with fail-safe actuators will be tested to verify proper fail-safe operation upon loss of actuator power.

Position Indication Check (IWV-3300)

PIT

All valves with remote position indicators that are inaccessible for direct observation during normal plant operation will be checked to verify that remote valve indications accurately reflect valve operation.

- K. Test Mode indicates the frequency at which the above mentioned tests will be performed. The following abbreviations are used:

### Normal Operation

OP

Tests which are conducted at least once every 3 months during normal plant operation.

### Cold Shutdown

CS

Inservice valve testing at cold shutdown is valve testing which commences within two hours after the plant reaches a cold shutdown condition but in no case later than 48 hours after cold shutdown is reached. This testing continues until all valves are tested or the unit is ready for start-up. Completion of all testing is not a prerequisite to plant start-up. Valve testing which is not completed during a cold shutdown shall be completed during subsequent cold shutdowns that may occur before refueling to meet the code specified testing frequency. In the case of frequent cold shutdowns, valve testing need not be performed more often than once every three months for Category A, B, and C valves.

In the case of longer planned cold shutdowns, the testing need not be started

within the 48 hour limitation. However, in these instances, all valve testing must be completed prior to start-up.

Note: It is expected that the required testing will normally be completed in 96 hours following cold shutdown. However, completion of all valve testing during cold shutdown is not required if plant operating conditions will not permit the testing of specific valves.

In the event that a valve must be declared inoperable as a result of cold shutdown testing, the applicable unit start-up limitations will be as stated in the Technical Specification, Limiting Conditions for Operation.

#### Reactor Refueling

RR

Tests which are conducted during plant refueling outages but not less than once every two years.

- L. Max Stroke Time lists the maximum allowable full stroke time in seconds for power operated valves in Category A or B.
- M. Relief Request references the relief request contained in Section 4.3 that applies to the particular valve. Also included in Section 4.3 are generic relief requests that are not specifically referenced in this column of the tables, but apply to the valve program in general.
- N. Remarks lists clarification remarks or indicates that a valve receives an automatic isolation signal. See Table 4.1-2 for the explanation of isolation valve groupings.



TABLE 4.1-1

## LIST OF SYSTEMS INCLUDED IN THE VALVE PROGRAM

<u>SYSTEM</u>	<u>SYSTEM NUMBER</u>	UNIT-1	UNIT-2
		REFERENCE <u>P&amp;ID</u>	REFERENCE <u>P&amp;ID</u>
Nuclear Boiler	0200	35-1	77-1
Recirculation	0200	35-2	77-2
Control Rod Drive	0300	41	83
Residual Heat Removal	1000	37&39	79&81
Standby Liquid Control	1100	40	82
Reactor Water Cleanup	1200	47	88
Reactor Core Isolation Cooling	1300	50	89
Core Spray	1400	36	78
Pressure Suppression	1600	34	76
High Pressure Coolant Injection	2300	46	87
Main Steam	3000	13-1&2	60-1&2
Feedwater	3200	15	62
Service Water	3900	22	69
Instrument Air	4700	24-2	71-2
Diesel Air Start	4600	25	72
Rx Building Equipment Drains	4800	43	85
Diesel Fuel Oil	5200	29	29

TABLE 4.1-2

AUTOMATIC ISOLATION VALVE GROUPINGS

Group 1: The valves in Group 1 are closed upon any one of the following conditions:

1. Reactor low-low water level
2. Main steamline high radiation
3. Main steamline high flow
4. Main steamline tunnel high temperature
5. Main steamline low pressure

Group 2: The actions in Group 2 are initiated by any one of the following conditions:

1. Reactor low water level
2. High drywell pressure

Group 3: Reactor low water level alone initiates the following:

1. Cleanup demineralizer system isolation

Group 4: Isolation valves in the high pressure coolant injection system (HPCI) are closed upon any one of the following signals:

1. HPCI steamline high flow
2. High temperature in the vicinity of the HPCI steamline
3. Low reactor pressure

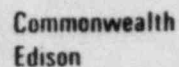
Group 5: Same as Group 4 except applies to RCIC

## SECTION 4.2

### TABLES FOR INSERVICE VALVE TESTING PROGRAM

A. QUAD CITIES UNIT-1

B. QUAD CITIES UNIT-2



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM									P & ID		REVISION - DATE		PAGE	
NUCLEAR BOILER INSTRUMENTATION									ISI-35 Sh.1		1 - 09/24/80		1 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-263-2-15A	D-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-13A	D-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-19A	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-17A	D-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-11	E-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-54	E-5,6	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-15B	D-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-13B	D-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-17B	D-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-19B	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		





Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

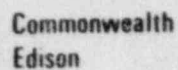
ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM NUCLEAR BOILER INSTRUMENTATION (CONTINUED)									P & ID ISI-35 Sh.1		REVISION - DATE 1 - 09/24/80		PAGE 2 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-263-2-20A	B-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-23A	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31B	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31G	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31C	C-5	1	AC	0.5	XFC	JA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31H	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31D	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-27	A-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-25	B-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31J	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		







ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM									P & ID		REVISION - DATE		PAGE	
NUCLEAR BOILER INSTRUMENTATION (CONTINUED)									ISI-35 Sh.1		1 - 09/24/80		4 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
1-263-2-31U	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31P	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-33	P-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31V	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31R	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-31W	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-23D	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-42B	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-20D	B-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		





Commonwealth  
Edison

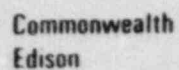
# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM RECIRCULATION (CONTINUED)									P & ID ISI-35 Sh. 2		REVISION - DATE 1 - 09/24/80		PAGE 6 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
1-220-67F	F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-67G	E-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-67H	F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-6A	B-7	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-263-2-5A	B-7	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-20A	B-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-19A	B-6	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-22A	D-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-21A	D-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-20B	A-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-19B	A-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-262-2-6B	B-2	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		





ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM									P & ID ISI-35 Sh. 2		REVISION - DATE 1 - 09/24/80		PAGE 7 of 36	
RECIRCULATION (CONTINUED)														
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
1-262-2-5B	B-2	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-22B	D-1	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-220-21B	D-1	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		





Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM

CONTROL ROD DRIVE

P & ID  
ISI-41

REVISION - DATE  
1 - 09/24/80

PAGE  
8 of 36

VALVE NUMBER

COORDINATES

CLASS

VALVE  
CATEGORY

VALVE SIZE

VALVE TYPE

ACTUATOR  
TYPE

NORMAL  
POSITION

STROKE  
DIRECTION

TEST

TEST MODE

MAX. STROKE  
TIME

RELIEF  
REQUEST

REMARKS

(177)  
1-0305-127

D-9

1

B

0.75

GA

AO

C

O

BT

\*

VR-11

\* SCRAM TESTING

(177)  
1-0305-126

D-10

1

B

1.0

GA

AO

C

O

BT

\*

VR-11

" "

(177)  
1-0305-114

E-9

2

C

0.75

CK

SA

C

O

CT-1

\*

VR-11

" "

1-0302-21A

F-2

2

B

1.0

GL

AO

O

C

BT  
FST

CS  
CS

VR-19

1-0302-21B

F-7

2

B

1.0

GL

AO

O

C

BT  
FST

CS  
CS

VR-19

1-0302-22

F-3

2

B

2.0

GL

AO

O

C

BT  
FST

CS  
CS

VR-19



Commonwealth  
Edison

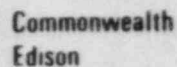
# INSERVICE TESTING PROGRAM

ISI-CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM RESIDUAL HEAT REMOVAL										P & ID ISI-37		REVISION - DATE 1 - 09/24/80		PAGE 9 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
1-1001-7A	B-6	2	B	14	GA	MO	O	O	BT	OP	90				
1-1001-7B	E-6	2	B	14	GA	MO	O	O	BT	OP	90				
1-1001-7C	B-6	2	B	14	GA	MO	O	O	BT	OP	90				
1-1001-7D	E-6	2	B	14	GA	MO	O	O	BT	OP	90				
1-1001-67A	B-3	2	C	12	CK	SA	C	O	CT-1	OP					
1-1001-67B	E-3	2	C	12	CK	SA	C	O	CT-1	OP					
1-1001-67C	B-9	2	C	12	CK	SA	C	O	CT-1	OP					
1-1001-67D	E-9	2	C	12	CK	SA	C	O	CT-1	OP					
1-1001-125A	B-5	2	C	1	RV	SA	C	O	CT-2	RR					
1-1001-125B	E-5	2	C	1	RV	SA	C	O	CT-2	RR					
1-1001-125C	B-7	2	C	1	RV	SA	C	O	CT-2	RR					
1-1001-125D	E-7	2	C	1	RV	SA	C	O	CT-2	RR					
1-1001-43A	B-4	2	B	14	GA	MO	C	C	BT	OP	105				
1-1001-43B	E-4	2	B	14	GA	MO	C	C	BT	OP	105				
1-1001-43C	B-3	2	B	14	GA	MO	C	C	BT	OP	105				
1-1001-43D	E-8	2	B	14	GA	MO	C	C	BT	OP	105				
1-1001-6A	F-5	2	E	24	RTF	M	LO		NA						





ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

[illegible]





Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM									P & ID		REVISION - DATE		PAGE
RESIDUAL HEAT REMOVAL (CONTINUED)									ISI-39		1 - 09/24/80		12 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS
1-1001-29A	A-5	1	A	16	GA	MO	C	O	AT BT	RR CS	25	VR-22	
1-1001-29B	A-7	1	A	16	GA	MO	C	O	AT BT	RR CS	25	VR-22	
1-1001-47	C-5	1	A	20	GA	MO	O&C	C	AT BT	RR CS	40	VR-9	GROUP 2 ISOLATION
1-1001-50	B-5	1	A	20	GA	MO	O&C	C	AT BT	RR CS	40	VR-9	GROUP 2 ISOLATION
1-1001-60	A-7	1	A	4	GA	MO	O&C	C	AT BT	RR CS	25	VR-9	GROUP 2 ISOLATION
1-1001-63	A-6	1	A	4	GA	MO	O&C	C	AT BT	RR CS	25	VR-9	GROUP 2 ISOLATION
1-1001-68A	A-5	1	C	16	CK	SA	C	O	PIT CT-1	RR CS		VR-7	
1-1001-68B	A-6	1	C	16	CK	SA	C	O	PIT CT-1	RR CS		VR-7	
1-1001-16A	D-2	2	B	18	GL	MO	O&C	O	BT	OP	125		
1-1001-16B	D-10	2	B	18	GL	MO	O&C	O	BT	OP	125		
1-1001-18A	B-4	2	B	3	GA	MO	C	O&C	BT	OP		VR-8	
1-1001-18B	B-7	2	B	3	GA	MO	C	O&C	BT	OP		VR-8	
1-1001-19A	D-2	2	B	18	GA	MO	O	O	BT	CS	125	VR-21	
1-1001-19B	D-9	2	B	18	GA	MO	O	O	BT	CS	125	VR-21	





Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM RESIDUAL HEAT REMOVAL (CONTINUED)									P & ID ISI-39		REVISION - DATE 1 - 09/24/80		PAGE 13 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-1001-20	C-8	2	A	3	GA	MO	O&C	C	AT BT	RR OP	25		GROUP 2 ISOLATION	
1-1001-21	C-8	2	A	3	GA	MO	O&C	C	AT BT	RR OP	25		GROUP 2 ISOLATION	
1-1001-22A	A-2	2	C	1	RV	SA	C	O	CT-2	RR				
1-1001-22B	A-9	2	C	1	RV	SA	C	O	CT-2	RR				
1-1001-23A	A-5	2	A	10	GA	MO	C	C	AT BT	RR OP	15			
1-1001-23B	A-6	2	A	10	GA	MO	C	C	AT BT	RR OP	15			
1-1001-26A	A-5	2	A	10	GA	MO	C	C	AT BT	RR OP	15			
1-1001-26B	A-6	2	A	10	GA	MO	C	C	AT BT	RR OP	15			
1-1001-28A	A-4	2	B	16	GL	MO	O	O	BT	CS	90	VR-22		
1-1001-28B	A-7	2	B	16	GL	MO	O	O	BT	CS	90	VR-22		
1-1001-36A	B-2	2	A	14	GL	MO	C	O&C	AT BT	RR OP	60			
1-1001-36B	B-8	2	A	14	GL	MO	C	O&C	AT BT	RR OP	60			
1-1001-37A	B-3	2	A	6	GL	MO	C	O&C	AT BT	RR OP	60			
1-1001-37B	B-7	2	A	6	GL	MO	C	O&C	AT BT	RR OP	60			



Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM	RESIDUAL HEAT REMOVAL (CONTINUED)								P & ID ISI-39		REVISION - DATE 1 - 09/24/80		PAGE 14 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
1-1001-34A	A-2	2	A	16	GA	MO	C	O&C	AT BT	RR OP	125			
1-1001-34B	B-7	2	A	16	GA	MO	C	O&C	AT BT	RR OP	125			
1-1001-2A	F-3	3	C	12	CK	SA	C	O	CT-1	OP				
1-1001-2B	F-3	3	C	12	CK	SA	C	O	CT-1	OP				
1-1001-2C	F-7	3	C	12	CK	SA	C	O	CT-1	OP				
1-1001-2D	F-7	3	C	12	CK	SA	C	O	CT-1	OP				
1-1001-5A	E-3	3	B	12	GL	MO	C	O&C	BT	OP	90			
1-1001-5B	E-7	3	B	12	GL	MO	C	O&C	BT	OP	90			
1-1001-1A	G-4	3	E	14	GA	M	LO		NA					
1-1001-1B	G-4	3	E	14	GA	M	LO		NA					
1-1001-1C	G-6	3	E	14	GA	M	LO		NA					
1-1001-1D	G-6	3	E	14	GA	M	LO		NA					
1-1001-3A	G-3	3	E	12	GA	M	LO		NA					





Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM										P & ID		REVISION - DATE		PAGE	
STANDBY LIQUID CONTROL										ISI-40		1 - 09/24/80		16 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
1-1101-15	C-3	1	C	1.5	CK	SA	C	O	CT-1	CS/RR		VR-10			
1-1101-16	C-3	1	C	1.5	CK	SA	C	O	CT-1	CS/RR		VR-10			
1-1106A	C-4	2	D	1.5		EXP	C	O	DT	RR					
1-1106B	D-4	2	D	1.5		EXP	C	O	DT	RR					
1-1101-43A	D-6	2	C	1.5	CK	SA	C	O	CT-1	OP					
1-1101-43B	E-5	2	C	1.5	CK	SA	C	O	CT-1	OP					
1-1105A	C-6	2	C	1.5	RV	SA	C	O	CT-2	RR					
1-1105B	D-5	2	C	1.5	RV	SA	C	O	CT-2	RR					
1-1101-4	E-8	2	E	2.5	GA	M	LO		NA						
1-1101-8	D-8	2	E	2.5	GA	M	LC		NA						
1-1101-3A	D-7	2	E	2.5	GA	M	LO		NA						
1-1101-3B	E-7	2	E	2.5	GA	M	LO		NA						
1-1101-10	D-7	2	E	1	GL	M	LC		NA						
1-1101-2A	D-5	2	E	1.5	GL	M	LO		NA						
1-1101-2B	E-5	2	E	1.5	GL	M	LO		NA						
1-1101-22	C-4	2	E	1.5	GL	M	LC		NA						
1-1101-9B	D-4	2	E	1	GL	M	LC		NA						
1-1101-23	D-3	2	E	1.5	GL	M	LO		NA						
1-1101-1	D-2	1	E	1.5	GL	M	LO		NA						





**INSERVICE TESTING PROGRAM**  
ISI-CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM		RX WATER CLEAN-UP										P & ID	REVISION - DATE	PAGE
												ISI-47	1 - 09/24/80	17 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-1201-2	R-6	1	A	6	GA	MO	0	C	AT BT PIT	RR OP RR	30		GROUP 3 ISOLATION	
1-1201-5	C-6	1	A	6	GA	MO	0	C	AT BT	RR OP	30		GROUP 3 ISOLATION	







Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM									P & ID		REVISION - DATE		PAGE
CORE SPRAY									ISI-36		1 - 09/24/80		19 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
1-1402-9A	C-3	1	C	10	CK	SA	C	O	CT-1 PIT	CS RR		VR-7	
1-1402-9B	C-4	1	C	10	CK	SA	C	O	CT-1 PIT	CS RR		VR-7	
1-1402-25A	C-2	1	B	10	GA	MO	C	O	BT	OP	15		
1-1402-25B	C-5	1	B	10	GA	MO	C	O	BT	OP	15		
1-1402-24A	B-2	2	B	10	GA	MO	O	O	BT	OP	15		
1-1402-24B	B-5	2	B	10	GA	MO	O	O	BT	OP	15		
1-1402-28A	C-9	2	C	2	RV	SA	C	O	CT-2	RR			
1-1402-28B	D-6	2	C	2	RV	SA	C	O	CT-2	RR			
1-1402-38A	C-8	2	B	1.5	GA	MO	O	C	BT	OP		VR-8	
1-1402-38B	D-7	2	B	1.5	GA	MO	O	C	BT	OP		VR-8	
1-1402-8A	E-9	2	CE	12	SCK	SA	C/LO	O	CT-1	OP			
1-1402-8B	E-6	2	CE	12	SCK	SA	C/LO	O	CT-1	OP			
1-1402-31A	E-3	1	AC	.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
1-1402-31B	E-3	1	AC	.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
1-1402-6A	D-3	1	E	10	GA	M	LO		NA				
1-1402-6B	D-3	1	E	10	GA	M	LO		NA				



Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI-CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM CORE SPRAY (CONTINUED)										P & ID ISI-36	REVISION - DATE 1 - 09/24/80		PAGE 20 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
1-1402-2A	G-7	2	E	12	GA	M	LC		NA				
1-1402-2B	G-4	2	E	12	GA	M	LC		NA				
1-1402-34A	G-4	2	E	18	BTF	M	LO		NA				
1-1402-34B	F-3	2	E	18	BTF	M	LO		NA				
1-1402-4A	A-8	2	B	8	GL	MO	C	C	BT	OP	60		
1-1402-4B	C-7	2	B	8	GL	MO	C	C	BT	OP	60		
1-1402-13A	E-9	2	CE	1.5	SCK	SA/M	C/LO	O	CT-1	*		VR-20	* SEE VR-20
1-1402-13B	E-6	2	CE	1.5	SCK	SA/M	C/LO	O	CT-1	*		VR-20	* SEE CR-20



Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM PRESSURE SUPPRESSION									P & ID M-34		REVISION - DATE 1 - 09/24/80		PAGE 21 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-1601-21	C-6	NC	A	18	BTF	AO	C	C	AT BT	RR OP	10		GROUP 2 ISOLATION	
1-1601-22	C-6	NC	A	18	BTF	AO	C	C	AT BT	RR OP	10		GROUP 2 ISOLATION	
1-1601-55	A-6	NC	A	4	GA	AO	O	C	AT BT	RR OP	10		GROUP 2 ISOLATION	
1-1601-56	D-6	NC	A	18	BTF	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
1-1601-57	C-9	NC	A	1	GL	MO	O	C	AT BT	RR OP	15		GROUP 2 ISOLATION	
1-1601-58	D-7	NC	A	1	GL	AO	C	C	AT BT	RR OP	15		GROUP 2 ISOLATION	
1-1601-59	D-7	NC	A	1	GL	AO	O	C	AT BT FST	RR OP OP	15		GROUP 2 ISOLATION	
1-1601-20A	D-9	NC	A	20	BTF	AO	C	O&C	AT BT FST	RR CS CS	10	VR-23		
1-1601-31A	D-9	NC	AC	20	CK	SA	C	O&C	AT CT-1	RR OP				
1-1601-20B	E-9	NC	A	20	BTF	AO	C	O&C	AT BT FST	RR CS CS	10	VR-23		
1-1601-31B	E-9	NC	AC	20	CK	SA	C	O&C	AT CT-1	RR OP				
1-1601-23	B-3	NC	A	18	BTF	AO	C	C	AT BT	RR OP	10		GROUP 2 ISOLATION	









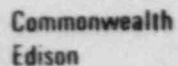
Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM										P & ID	REVISION - DATE	PAGE	
PRESSURE SUPPRESSION (CONTINUED)										M-34	1 - 09/24/80	23 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS
1-8802A	C-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION
1-8802B	D-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION
1-8802C	D-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION
1-8802D	E-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION
1-1601-32A	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-32B	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-32C	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-32D	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-32E	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-32F	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-33A	E-7	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-33B	E-7	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-33C	E-7	NC	C	18	CK	SA	C	O&C	CT-1	OP			
1-1601-33D	E-7	NC	C	18	CK	SA	C	O&C	CT-1	OP			



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM PRESSURE SUPPRESSION (CONTINUED)										P & ID M-34	REVISION - DATE 1 - 09/24/80		PAGE 24 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-1601-33E	E-7	NC	C	18	CK	SA	C	O&C	CT-1	OP				
1-1601-33F	E-7	NC	C	18	CK	SA	C	O&C	CT-1	OP				
1-220-81A	E-4	NC	C	1	CK	SA	C	O	CT-1	CS		VR-24		
1-220-81B	E-4	NC	C	1	CK	SA	C	O	CT-1	CS		VR-24		
1-220-81C	E-4	NC	C	1	CK	SA	C	O	CT-1	CS		VR-24		
1-220-81D	E-5	NC	C	1	CK	SA	C	O	CT-1	CS		VR-24		
1-220-81E	E-5	NC	C	1	CK	SA	C	O	CT-1	CS		VR-24		



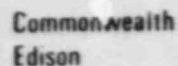
Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM HIGH PRESSURE COOLANT INJECTION									P & ID ISI-46		REVISION .. DATE 1 - 09/24/80		PAGE 25 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-2301-4	C-9	1	A	10	GA	MO	O	O&C	AT BT PIT	RR CS RR	50	VR-15	GROUP 4 ISOLATION	
1-2301-5	B-10	1	A	10	GA	MO	O	O&C	AT BT	RR CS	50	VR-15	GROUP 4 ISOLATION	
1-2301-3	A-6	2	B	10	GA	MO	C	O	BT	OP	25			
1-2301-68	A-6	2	D	16	RPD	SA	C	O	*				* RPD NOT TESTABLE	
1-2301-69	A-6	2	D	16	RPD	SA	C	O	*					
1-2301-29	B-9	2	B	1	GL	AO	O	C	BT FST	OP OP	10			
1-2301-34	D-7	2	AC	2	CK	SA	C	O&C	AT CT-1	RR OP/RR*		VR-13	* OPEN STROKE VERIFIED BY PUMP TEST	
1-2301-45	B-8	2	AC	24	CK	SA	C	O&C	AT CT-1	RR OP/RR*		VR-13	* OPEN STROKE VERIFIED BY PUMP TEST	
1-2301-35	E-7	2	B	16	GA	MO	C	O&C	BT	OP	120			
1-2301-36	E-9	2	B	16	GA	MO	C	O&C	BT	OP	120			
1-2301-6	F-2	2	B	16	GA	MO	O	O&C	BT	OP	120			
1-2301-20	E-2	2	C	16	CK	SA	O	O	CT-1	OP				
1-2301-14	C-6	2	B	4	GL	MO	C	O&C	BT	OP		VR-8		
1-2301-39	E-8	2	C	16	CK	SA	C	O	CT-1	*		VR-12	* SEE VR-12	
1-2301-40	D-7	NC	C	4	CK	SA	C	O	CT-1	**		VR-20	** SEE VR-20	



ISI - CLASS 1, 2, & 3 VALVES

QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM HIGH PRESSURE COOLANT INJECTION (CONTINUED)										P 6 10 ISI-46	REVISION - DATE 1 - 09/24/80		PAGE 26 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
1-2301-8	D-6	2	B	14	GA	MO	C	O	BT	OP	45			
1-2301-7	D-6	2	C	14	CK	SA	C	O	PIT CT-1	RR CS		VR-7		
1-2301-74	B-8	2	CE	12	SCK	SA	C/LO	O	CT-1	OP*			*OPEN STROKE VERIFIED BY PUMP TEST	
1-2301-26	D-9	1	AC	.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-2301-27	D-9	1	AC	.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
1-2301-22	B-1	2	E	16	GA	M	LO			NA				
1-2301-56	F-8	2	E	16	BTF	M	LO			NA				
1-2301-71	D-7	2	CE	2	SCK	SA/M	C/LO	O	CT-1	OP*			* OPEN STROKE VERIFIED BY PUMP TEST	
1-2301-9	D-5	2	B	14	GA	MO	O	O	BT	OP	45			
1-2301-10	E-5	2	B	12	GL	MO	C	C	BT	OP	60			





Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM MAIN STEAM									P & ID ISI-13 Sh. 1	REVISION - DATE 1 - 09/24/80		PAGE 27 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
1-203-1A	F-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-203-1B	D-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-203-1C	C-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-203-1D	B-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-220-1	E-4	1	A	3	GA	MO	C	C	AT BT	RR OP	35		GROUP 1 ISOLATION
1-203-3A	F-4	1	BC	6	ERV/SV	PS/SA	C	O	BT CT-2	* RR	*	VR-2 VR-3	* SEE VR-2
1-203-3B	D-6	1	BC	6	ERV	PS	C	O	BT CT-2	* RR	*	VR-2 VR-3	"
1-203-3C	C-7	1	BC	6	ERV	PS	C	O	BT CT-2	* RR	*	VR-2 VR-3	"







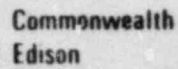
Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

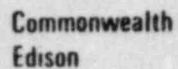
SYSTEM									P & ID		REVISION - DATE		PAGE
MAIN STEAM (CONTINUED)									ISI-13 Sh. 2		1 - 09/24/80		29 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
1-203-2A	E-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-203-2B	E-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-203-2C	D-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-203-2D	E-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION
1-220-2	E-7	1	A	3	GA	MO	C	C	AT BT	RR OP	35		GROUP 1 ISOLATION
1-220-17A	E-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
1-220-17B	D-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
1-220-17C	C-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
1-220-17D	B-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

[illegible]



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

[illegible]





Commonwealth  
Edison

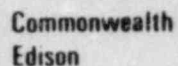
## INSERVICE TESTING PROGRAM

ISI-CLASS 1, 2, & 3, VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM		SERVICE WATER										P & ID		REVISION - DATE		PAGE
												ISI-22		1 - 09/24/80		32 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS			
1-3999-85	A-10	3	C	8	CK	SA	C	C	CT-1	OP						
1-3999-86	B-9	3	C	8	CK	SA	C	O	CT-1	OP						
1-3999-88	B-10	3	C	8	CK	SA	C	O	CT-1	OP						





ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM										P & ID		REVISION - DATE		PAGE	
DIESEL GENERATOR STARTING AIR (SERVICE AIR SYSTEM)										M-25		1 - 09/24/80		33 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS		
1-4699-121	E-9	NC	E	1.5	GA	M	LO		NA						
1-4699-122	E-9	NC	E	1.5	GA	M	LO		NA						
1-4699-225	D-8	NC	E	1.5	BALL	M	LO		NA						
1-4699-123	E-9	NC	C	1.5	CK	SA	C	O	CT-1	OP					
1-4699-196	E-9	NC	C	1.5	CK	SA	C	O	CT-1	OP					
1-4699-226	D-8	NC	B	1.5	GL	AO	C	O	BT	OP	5				



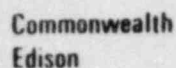
Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM									P & ID		REVISION - DATE		PAGE
INSTRUMENT AIR PIPING									M-24 Sh. 2		1 - 09/24/80		34 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS
1-4720	D-3	NC	A	1	GA	AC	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION
1-4721	D-3	NC	A	1	GA	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION
1-733-1	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION
1-733-2	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION
1-733-3	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION
1-733-4	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION
1-733-5	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION
1-743	B-7	NC	AC	0.375	CK	SA	O	C	AT CT-1	RR RR		VR-5	
1-736-1	F-7	NC	D	0.375		EXP	O	C	DT	RR			
1-736-2	F-7	NC	D	0.375		EXP	O	C	DT	RR			
1-736-3	F-7	NC	D	0.375		EXP	O	C	DT	RR			
1-736-4	F-7	NC	D	0.375		EXP	O	C	DT	RR			
1-736-5	F-7	NC	D	0.375		EXP	O	C	DT	RR			

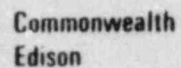


## ISI - CLASS 1, 2, &amp; 3 VALVES

QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM		RX BUILDING EQUIPMENT DRAINS (& SHARED UNIT 1/2 DIESEL GEN. AIR START PIPING)								P & ID M-43		REVISION - DATE 1 - 09/24/80		PAGE 35 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
1-2001-15	E-3	NC	A	3	GA	AO	C	C	AT BT FST	RR OP OP	20		GROUP 2 ISOLATION		
1-2001-16	E-3	NC	A	3	GA	AO	C	C	AT BT FST	RR OP OP	20		GROUP 2 ISOLATION		
1-2001-3	F-7	NC	A	3	GA	AO	C	C	AT BT FST	RR OP OP	20		GROUP 2 ISOLATION		
1-2001-4	F-7	NC	A	3	GA	AO	C	C	AT BT FST	RR OP OP	20		GROUP 2 ISOLATION		
1/2-4699-46	D-9	NC	E	1.5	GA	M	LO		NA						
1/2-4699-47	D-9	NC	E	1.5	GA	M	LO		NA						
1/2-4699-225	D-8	NC	E	1.5	BALL	M	LO		NA						
1/2-4699-48	D-9	NC	C	1.5	CK	SA	C	O	CT-1	OP					
1/2-4699-196	D-9	NC	C	1.5	CK	SA	C	O	CT-1	OP					
1/2-4699-226	D-8	NC	B	1.5	GL	AO	C	O	BT	OP	5				



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 1

SYSTEM										P & ID	REVISION - DATE	PAGE	
DIESEL GENERATOR FUEL OIL (UNIT 1 AND 1/2)										M-29	1 - 09/24/80	36 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
1-5299-5	E-4	NC	C	1.5	CK	SA	C	O	CT-1	OP			
1-5201	E-3	NC	B	1	GA	SO	C	O	BT	OP	5		
1-5199-155	B-5	NC	E	1	GL	M	LO		NA				
1-5199-157	C-5	NC	C	.5	CK	SA	C	C	CT-1	OP			
1/2-5299-5	E-4	NC	C	1.5	CK	SA	C	O	CT-1	OP			
1/2-5201	E-3	NC	B	1	GA	SO	C	O	BT	OP	5		
1/2-5199-157	C-5	NC	C	.5	CK	SA	C	C	CT-1	OP			





Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID		REVISION - DATE		PAGE	
NUCLEAR BOILER INSTRUMENTATION										ISI-77 Sh. 1		1 - 09/24/80		1 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
2-263-2-15A	D-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-13A	D-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-19A	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-17A	D-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-11	E-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-54	E-5, 6	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-15B	D-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-13B	D-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-17B	D-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-19B	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-20A	B-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-23A	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			







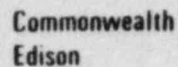
Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

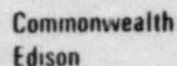
SYSTEM									P & ID		REVISION ~ DATE		PAGE
NUCLEAR BOILER INSTRUMENTATION (CONTINUED)									ISI-77 Sh. 1		1 - 09/24/80		3 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
2-263-2-23B	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-42A	C-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-20B	B-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-20C	B-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-23C	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-31M	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-31T	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-31N	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-31U	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-31P	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-33	B-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-263-2-31V	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID		REVISION - DATE		PAGE	
NUCLEAR BOILER INSTRUMENTATION (CONTINUED)										ISI-77 Sh. 1		1 - 09/24/80		4 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
2-263-2-31R	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-31W	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-23D	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-42B	C-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			
2-263-2-20D	B-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14			



## ISI - CLASS 1, 2, &amp; 3 VALVES

QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
RECIRCULATION									ISI-77 Sh. 2		1 - 09/24/80		5 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-202-5A	D-6	1	B	28	GA	MO	O	C	BT PIT	CS RR	45	VR-6		
2-202-5B	D-3	1	B	28	GA	MO	O	C	BT PIT	CS RR	45	VR-6		
2-220-44	E-2	1	A	0.75	GL	AO	O	C	AT BT PIT FST	RR OP RR OP	5		GROUP 1 ISOLATION	
2-220-45	E-1	1	A	0.75	GL	AO	O	C	AT BT FST	RR OP OP	5		GROUP 1 ISOLATION	
2-220-67A	F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-67B	F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-67C	E, F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-67D	F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-89A	E-1	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-89B	E-1	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-67E	E-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		





Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
RECIRCULATION (CONTINUED)									ISI-77 Sh. 2		1 - 09/24/80		6 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-220-67F	F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-67G	E-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-67H	F-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-263-2-6A	B-7	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-263-2-5A	B-7	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-20A	B-5	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-19A	B-6	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-22A	D-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-21A	D-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-20B	A-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-19B	A-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-262-2-6B	B-2	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		





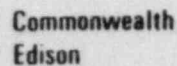
Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM											P & ID	REVISION	DATE	PAGE
RECIRCULATION (CONTINUED)											ISI-77 Sh. 2	1	09/24/80	7 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
2-262-2-5B	B-2	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-22B	D-1	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-21B	D-1	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID		REVISION - DATE		PAGE	
CONTROL ROD DRIVE										ISI-83		1 - 09/24/80		8 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
(177) 2-0305-127	D-9	1	B	0.75	GA	AO	C	O	BT	*		VR-11	* SCRAM TESTING		
(177) 2-0305-126	D-10	1	B	1.0	GA	AO	C	O	BT	*		VR-11	" "		
(177) 2-0305-114	E-9	2	C	0.75	CK	SA	C	O	CT-1	*		VR-11	" "		
2-0302-21A	F-2	2	B	1.0	GL	AO	O	C	BT FST	CS CS		VR-19			
2-0302-21B	F-7	2	B	1.0	GL	AO	O	C	BT FST	CS CS		VR-19			
2-0302-22	F-3	2	B	2.0	GL	AO	O	C	BT FST	CS CS		VR-19			





Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM	RESIDUAL HEAT REMOVAL (CONTINUED)								P & ID	REVISION - DATE	PAGE		
									ISI-79	i - 09/24/80	10 of 36		
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS
2-1001-6A	F-5	2	E	24	BTF	M	LO	NA					
2-1001-6B	B-6	2	E	24	BTF	M	LO	NA					
2-1001-42A	C-5	2	E	14	GA	M	LC	NA					
2-1001-42B	E-5	2	E	14	GA	M	LC	NA					
2-1001-42C	C-6	2	E	14	GA	M	LC	NA					
2-1001-42D	E-6	2	E	14	CA	M	LC	NA					
2-1001-66A	C-2	2	E	12	GA	M	LO	NA					
2-1001-66B	E-2	2	E	12	GA	M	LO	NA					
2-1001-66C	C-8	2	E	12	GA	M	LO	NA					
2-1001-66D	E-9	2	E	12	GA	M	LO	NA					
2-1001-15A	B-2	2	E	18	GA	M	LO	NA					
2-1001-15B	B-9	2	E	18	GA	M	LO	NA					
2-1001-17A	B-2	2	E	18	GA	M	LO	NA					
2-1001-17B	B-9	2	E	18	GA	M	LO	NA					
2-1001-141A	B-3	2	E	2	GA	M	LO	NA					
2-1001-141B	E-3	2	E	2	GA	M	LO	NA					









Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM	RESIDUAL HEAT REMOVAL (CONTINUED)									P & ID	REVISION - DATE	PAGE	
										ISI-81	1 - 09/24/80	12 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
2-1001-29A	A-5	1	A	16	GA	MO	C	O	AT BT	RR CS	25	VR-22	
2-1001-29B	A-7	1	A	16	GA	MO	C	O	AT BT	RR CS	25	VR-22	
2-1001-47	C-5	1	A	20	GA	MO	O&C	C	AT BT	RR CS	40	VR-9	GROUP 2 ISOLATION
2-1001-50	B-5	1	A	20	GA	MO	O&C	C	AT BT	RR CS	40	VR-9	GROUP 2 ISOLATION
2-1001-60	A-7	1	A	4	GA	MO	O&C	C	AT BT	RR CS	25	VR-9	GROUP 2 ISOLATION
2-1001-63	A-6	1	A	4	GA	MO	O&C	C	AT BT	RR CS	25	VR-9	GROUP 2 ISOLATION
2-1001-68A	A-5	1	C	16	CK	SA	C	O	PIT CT-1	RR CS		VR-7	
2-1001-68B	A-6	1	C	16	CK	SA	C	O	PIT CT-1	RR CS		VR-7	
2-1001-16A	D-2	2	B	18	GL	MO	O&C	O	BT	OP	125		
2-1001-16B	D-10	2	B	18	GL	MO	O&C	O	BT	OP	125		
2-1001-18A	B-2	2	B	3	GA	MO	C	O&C	BT	OP		VR-8	
2-1001-18B	78D-3	2	B	3	GA	MO	C	O&C	BT	OP		VR-8	
2-1001-19A	D-2	2	B	18	GA	MO	O	O	BT	CS	125	VR-21	
2-1001-19B	D-9	2	B	18	GA	MO	O	O	BT	CS	125	VR-21	



Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM	RESIDUAL HEAT REMOVAL (CONTINUED)									P & ID ISI-81	REVISION - DATE 1 - 09/24/80	PAGE 13 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS
2-1001-20	C-8	2	A	3	GA	MO	O&C	C	AT BT	RR OP	25		GROUP 2 ISOLATION
2-1001-21	C-8	2	A	3	GA	MO	O&C	C	AT BT	RR OP	25		GROUP 2 ISOLATION
2-1001-22A	A-2	2	C	1	RV	SA	C	O	CT-2	RR			
2-1001-22B	A-9	2	C	1	RV	SA	C	O	CT-2	RR			
2-1001-23A	A-5	2	A	10	GA	MO	C	C	AT BT	RR OP	15		
2-1001-23B	A-5	2	A	10	GA	MO	C	C	AT BT	RR OP	15		
2-1001-26A	A-5	2	A	10	GA	MO	C	C	AT BT	RR OP	15		
2-1001-26B	A-6	2	A	10	GA	MO	C	C	AT BT	RR OP	15		
2-1001-28A	A-4	2	B	16	GL	MO	O	O	BT	CS	90	VR-22	
2-1001-28B	A-7	2	B	16	GL	MO	O	O	BT	CS	90	VR-22	
2-1001-36A	B-2	2	A	14	GL	MO	C	O&C	AT BT	RR OP	60		
2-1001-36B	B-8	2	A	14	GL	MO	C	O&C	AT BT	RR OP	60		
2-1001-37A	B-3	2	A	6	GL	MO	C	O&C	AT BT	RR OP	60		
2-1001-37B	B-7	2	A	6	GL	MO	C	O&C	AT BT	RR OP	60		



Commonwealth  
Edison

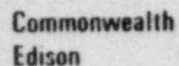
# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID		REVISION - DATE		PAGE	
RESIDUAL HEAT REMOVAL (CONTINUED)										ISI-81		1 - 09/24/80		14 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
2-1001-34A	A-2	2	A	16	GA	MO	C	O&C	AT BT	RR OP	125				
2-1001-34B	B-7	2	A	16	GA	MO	C	O&C	AT BT	RR OP	125				
2-1001-2A	F-3	3	C	12	CK	SA	C	O	CT-1	OP					
2-1001-2B	F-3	3	C	12	CK	SA	C	O	CT-1	OP					
2-1001-2C	F-7	3	C	12	CK	SA	C	O	CT-1	OP					
2-1001-2D	F-7	3	C	12	CK	SA	C	O	CT-1	OP					
2-1001-5A	E-3	3	B	12	GL	MO	C	O&C	BT	OP	90				
2-1001-5B	E-7	3	B	12	GL	MO	C	O&C	BT	OP	90				
2-1001-1A	G-4	3	E	14	GA	M	LO		NA						
2-1001-1B	G-4	3	E	14	GA	M	LO		NA						
2-1001-1C	G-6	3	E	14	GA	M	LO		NA						
2-1001-1D	G-6	3	E	14	GA	M	LO		NA						
2-1001-3A	G-3	3	E	12	GA	M	LO		NA						





ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID	REVISION - DATE		PAGE	
RESIDUAL HEAT REMOVAL (CONTINUED)										ISI-81	1 - 09/24/80		15 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
2-1001-3B	G-3	3	E	12	GA	M	LO		NA					
2-1001-3C	G-7	3	E	12	GA	M	LO		NA					
2-1001-3D	G-7	3	E	12	GA	M	LO		NA					
2-1001-201A	F-3	NC	E	14	BTF	M	LO		NA					
2-1001-201B	F-7	NC	E	14	BTF	M	LO		NA					
2-1001-33A	B-5	3	E	16	GA	M	LO		NA					
2-1001-33B	B-6	3	E	16	GA	M	LO		NA					



Commonwealth  
Edison

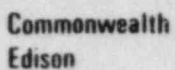
# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID		REVISION - DATE		PAGE	
STANDBY LIQUID CONTROL										ISI-82		1 - 09/24/80		16 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
2-1101-15	C-3	1	C	1.5	CK	SA	C	O	CT-1	CS/RR		VR-10			
2-1101-16	C-3	1	C	1.5	CK	SA	C	O	CT-1	CS/RR		VR-10			
2-1106A	C-4	2	D	1.5		EXP	C	O	DT	RR					
2-1106B	D-4	2	D	1.5		EXP	C	O	DT	RR					
2-1101-43A	D-6	2	C	1.5	CK	SA	C	O	CT-1	OP					
2-1101-43B	E-5	2	C	1.5	CK	SA	C	O	CT-1	OP					
2-1105A	C-6	2	C	1.5	RV	SA	C	O	CT-2	RR					
2-1105B	D-5	2	C	1.5	RV	SA	C	O	CT-2	RR					
2-1101-4	E-8	2	E	2.5	GA	M	LO		NA						
2-1101-8	D-8	2	E	2.5	GA	M	LC		NA						
2-1101-3A	D-7	2	E	2.5	GA	M	LO		NA						
2-1101-3B	E-7	2	E	2.5	GA	M	LO		NA						
2-1101-10	D-7	2	E	1	GL	M	LC		NA						
2-1101-2A	D-5	2	E	1.5	GL	M	LO		NA						
2-1101-2B	E-5	2	E	1.5	GL	M	LO		NA						
2-1101-22	C-4	2	E	1.5	GL	M	LC		NA						
2-1101-9B	D-4	2	E	1	GL	M	LC		NA						
2-1101-23	D-3	2	E	1.5	GL	M	LO		NA						
2-1101-1	D-2	1	E	1.5	GL	M	LO		NA						

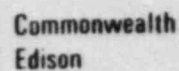




ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

[illegible]



ISI-CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID	REVISION - DATE		PAGE
REACTOR CORE ISOLATION COOLING										ISI-89	1 - 09/24/80		18 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
2-1301-16	B-2	1	A	3	GA	MO	O	C	AT BT PIT	RR CS RR	25		GROUP 5 ISOLATION
2-1301-17	B-3	1	A	3	GA	MO	O	C	AT BT	RR CS	25		GROUP 5 ISOLATION
2-1301-40	D-2	NC	AC	2	CK	SA	C	C	AT CT-1	RR RR		VR-13	
2-1301-41	D-2	NC	AC	8	CK	SA	C	C	AT CT-1	RR RR		VR-13	
2-1301-15A	B-2	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-1301-15B	B-2	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	



Commonwealth  
Edison

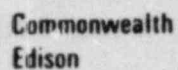
# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE
CORE SPRAY									ISI-78		1 - 09/24/80		19 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS
2-1402-9A	C-3	1	C	10	CK	SA	C	O	CT-1 PIT	CS RR		VR-7	
2-1402-9B	C-4	1	C	10	CK	SA	C	O	CT-1 PIT	CS RR		VR-7	
2-1402-25A	C-2	1	B	10	GA	MO	C	O	BT	OP	15		
2-1402-25B	C-5	1	B	10	GA	MO	C	O	BT	OP	15		
2-1402-24A	B-2	2	B	10	GA	MO	O	O	BT	OP	15		
2-1402-24B	B-5	2	B	10	GA	MO	O	O	BT	OP	15		
2-1402-28A	C-9	2	C	2	RV	SA	C	O	CT-2	RR			
2-1402-28B	D-6	2	C	2	RV	SA	C	O	CT-2	RR			
2-1402-38A	C-8	2	B	1.5	GA	MO	O	C	BT	OP		VR-8	
2-1402-38B	D-7	2	B	1.5	GA	MO	O	C	BT	OP		VR-8	
2-1402-8A	E-9	2	CE	12	SCK	SA	C/LO	O	CT-1	OP			
2-1402-8B	E-6	2	CE	12	SCK	SA	C/LO	O	CT-1	OP			
2-1402-31A	E-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-1402-31B	E-3	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-1402-6A	D-3	1	E	10	GA	M	LO		NA				
2-1402-6B	D-3	1	E	10	GA	M	LO		NA				





ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID		REVISION - DATE		PAGE	
CORE SPRAY (CONTINUED)										ISI-78		1 - 09/24/80		20 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS		
2-1402-2A	G-7	2	E	12	GA	M	LC		NA						
2-1402-2B	G-4	2	E	12	GA	M	LC		NA						
2-1402-34A	G-7	2	E	18	BTF	M	LO		NA						
2-1402-34B	F-3	2	E	18	BTF	M	LO		NA						
2-1402-4A	A-8	2	B	8	GL	MO	C	C	BT	OP	60				
2-1402-4B	C-7	2	B	8	GL	MO	C	C	BT	OP	60				
2-1402-13A	E-9	2	CE	1.5	SCK	SA/M	C/LO	O	CT-1	*		VR-20	* SEE VR-20		
2-1402-13B	E-6	2	CE	1.5	SCK	SA/M	C/LO	O	CT-1	*		VR-20	* SEE VR-20		



Commonwealth  
Edison

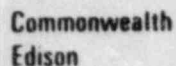
# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
PRESSURE SUPPRESSION									M-76		1 - 09/24/80		21 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-1601-21	C-6	NC	A	18	BTF	AO	C	C	AT BT	RR OP	10		GROUP 2 ISOLATION	
2-1601-22	C-6	NC	A	18	BTF	AO	C	C	AT BT	RR OP	10		GROUP 2 ISOLATION	
2-1601-55	A-6	NC	A	4	GA	AO	O	C	AT BT	RR OP	10		GROUP 2 ISOLATION	
2-1601-56	D-6	NC	A	18	BTF	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-1601-57	C-9	NC	A	1	GL	MO	O	C	AT 3T	RR OP	15		GROUP 2 ISOLATION	
2-1601-58	D-7	NC	A	1	GL	AO	C	C	AT BT	RR OP	15		GROUP 2 ISOLATION	
2-1601-59	D-7	NC	A	1	GL	AO	O	C	AT BT FST	RR OP OP	15		GROUP 2 ISOLATION	
2-1601-20A	D-9	NC	A	20	BTF	AO	C	O&C	AT BT FST	RR CS CS	10	VR-23		
2-1601-31A	D-9	NC	AC	20	CK	SA	C	O&C	AT CT-1	RR OP				
2-1601-20B	E-9	NC	A	20	BTF	AO	C	O&C	AT BT FST	RR CS CS	10	VR-23		
2-1601-31B	E-9	NC	AC	20	CK	SA	C	O&C	AT CT-1	RR OP				





ISI - CLASS 1, 2 & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

[illegible]



Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

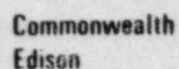
ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
PRESSURE SUPPRESSION (CONTINUED)									M-76		1 - 09/24/80		23 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-8801C	D-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-8801D	E-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-8802A	C-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-8802B	D-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-8802C	D-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-8802D	E-3	NC	A	0.5	GL	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-1601-32A	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP				
2-1601-32B	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP				
2-1601-32C	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP				
2-1601-32D	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP				
2-1601-32E	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP				
2-1601-32F	E-2	NC	C	18	CK	SA	C	O&C	CT-1	OP				







## ISI - CLASS 1, 2, & 3 VALVES

QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
HIGH PRESSURE COOLANT INJECTION									ISI-87		1 - 09/24/80		25 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-2301-4	C-9	1	A	10	GA	MO	O	O&C	AT BT PIT	RR CS RR	50	VR-15	GROUP 4 ISOLATION	
2-2301-5	B-10	1	A	10	GA	MO	O	O&C	AT BT	RR CS	50	VR-15	GROUP 4 ISOLATION	
2-2301-3	A-6	2	B	10	GA	MO	C	O	BT	OP	25			
2-2301-68	A-6	2	D	16	RPD	SA	C	O	*				* RPD NOT TESTABLE	
2-2301-69	A-6	2	D	16	RPD	SA	C	O	*					
2-2301-29	B-9	2	B	1	GL	AO	O	C	BT FST	OP OP	10			
2-2301-34	D-7	2	AC	2	CK	SA	C	O&C	AT CT-1	RR OP/RR*		VR-13	* VERIFIED OPEN DURING PUMP TEST	
2-2301-45	B-8	2	AC	24	CK	SA	C	O&C	AT CT-1	RR OP/RR*		VR-13	* VERIFIED OPEN DURING PUMP TEST	
2-2301-35	E-7	2	B	16	GA	MO	C	O&C	BT	OP	120			
2-2301-36	E-9	2	B	16	GA	MO	C	O&C	BT	OP	120			
2-2301-6	F-2	2	B	16	GA	MO	O	O&C	BT	OP	120			
2-2301-20	E-2	2	C	16	CK	SA	O	O	CT-1	OP				
2-2301-14	C-6	2	B	4	GL	MO	C	O&C	BT	OP		VR-8		
2-2301-39	E-8	2	C	16	CK	SA	C	O	CT-1	*		VR-12	* SEE VR-12	





Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM	HIGH PRESSURE COOLANT INJECTION (CONTINUED)									P & ID	REVISION - DATE	PAGE	
										ISI-87	1 - 09/24/80	26 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS
2-2301-8	D-6	2	B	14	GA	MO	C	O	BT	OP	45		
2-2301-7	D-6	2	C	14	CK	SA	C	O	PIT CT-1	RR CS		VR-7	
2-2301-74	B-8	2	CE	12	SCK	SA	C/LO	O	CT-1	OP*			* VERIFIED OPEN DURING PUMP TEST
2-2301-26	D-9	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-2301-27	D-9	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14	
2-2301-22	B-1	2	E	16	GA	M	LO		NA				
2-2301-56	F-8	2	E	16	BTF	M	LO		NA				
2-2301-71	D-7	2	CE	2	SCK	SA/M	C/LO	O	CT-1	OP*			* VERIFIED OPEN DURING PUMP TEST
2-2301-9	D-5	2	B	14	GA	MO	O	O	BT	OP	45		
2-2301-10	E-5	2	B	12	GL	MO	C	C	BT	OP	60		
2-2301-40	D-7	NC	C	4	CK	SA	C	O	CT-1	*		VR-20	* SEE VR-20



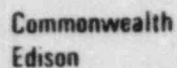
Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
MAIN STEAM									ISI-60 Sh. 1		1 - 09/24/80		27 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-203-1A	F-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-203-1B	D-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-203-1C	C-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-203-1D	B-4	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-220-1	E-4	1	A	3	GA	MO	C	C	AT BT	RR OP	35		GROUP 1 ISOLATION	
2-203-3A	F-4	1	BC	6	ERV/SV	PS/SA	C	O	BT CT-2	* RR	*	VR-2 VR-3	* SEE VR-2	
2-203-3B	D-6	1	BC	6	ERV	PS	C	O	BT CT-2	* RR	*	VR-2 VR-3	"	
2-203-3C	C-7	1	BC	6	ERV	PS	C	O	BT CT-2	* RR	*	VR-2 VR-3	"	



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
MAIN STEAM (CONTINUED)									ISI-60 Sh. 1		1 - 09/24/80		28 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-203-3D	B-7	1	BC	6	ERV	PS	C	0	BT CT-2	* RR	*	VR-2 VR-3	* SEE VR-2	
2-203-3E	D-7	1	BC	6	ERV	PS	C	0	BT CT-2	* RR	*	VR-2 VR-3		
2-203-4A	F-8	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		
2-203-4B	D-5	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		
2-203-4C	C-5	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		
2-203-4D	B-5	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		
2-203-4E	F-8	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		
2-203-4F	D-5	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		
2-203-4G	C-5	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		
2-203-4H	B-5	1	C	6	SV	SA	C	0	CT-2	RR		VR-26		





Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
MAIN STEAM (CONTINUED)									ISI-60 Sh. 2		1 - 09/24/80		29 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS	
2-203-2A	E-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-203-2B	E-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-203-2C	D-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-203-2D	B-7	1	A	20	GL	AO	O	C	AT BTP BT FST PIT	RR OP CS CS RR	5	VR-1 VR-1	GROUP 1 ISOLATION	
2-220-2	E-7	1	A	3	GA	MO	C	C	AT BT	RR OP	35		GROUP 1 ISOLATION	
2-220-17A	E-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-17B	D-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-17C	C-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		
2-220-17D	B-8	1	AC	0.5	XFC	SA	O	C	AT CT-1	RR RR		VR-14		





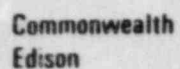
Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID		REVISION - DATE	PAGE
MAIN STEAM (CONTINUED)										ISI-60 Sh. 2		1 - 09/24/80	30 of 36
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
2-220-18A	E-8	1	AC	0.5	XFC	SA	0	C	AT CT-1	RR RR		VR-14	
2-220-18B	D-8	1	AC	0.5	XFC	SA	0	C	AT CT-1	RR RR		VR-14	
2-220-18C	C-8	1	AC	0.5	XFC	SA	0	C	AT CT-1	RR RR		VR-14	
2-220-18D	B-8	1	AC	0.5	XFC	SA	0	C	AT CT-1	RR RR		VR-14	



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

[illegible]



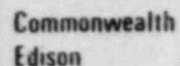
Commonwealth  
Edison

# INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM		P & ID		REVISION - DATE		PAGE							
SERVICE WATER		ISI-69		1 - 09/24/80		32 of 35							
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX. STROKE TIME	RELIEF REQUEST	REMARKS
2-3999-86	B-9	3	C	8	CK	SA	C	O	CT-1	OP			
2-3999-88	B-10	3	C	8	CK	SA	C	O	CT-1	OP			



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM									P & ID		REVISION - DATE		PAGE	
DIESEL GENERATOR STARTING AIR (SERVICE AIR SYSTEM)									M- 72		1 - 9/24/80		33 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
2-4699-121	E-9	NC	E	1.5	GA	M	LO		NA					
2-4699-122	E-9	NC	E	1.5	GA	M	LO		NA					
2-4699-225	D-8	NC	E	1.5	BA/L	M	LO		NA					
2-4699-123	E-9	NC	C	1.5	CK	SA	C	O	CT-1	OP				
2-4699-196	E-9	NC	C	1.5	CK	SA	C	O	CT-1	OP				
2-4699-226	D-8	NC	B	1.5	GL	AO	C	O	BT	OP	5			





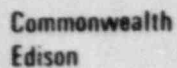
Commonwealth  
Edison

## INSERVICE TESTING PROGRAM

ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

SYSTEM										P & ID	REVISION - DATE		PAGE	
INSTRUMENT AIR PIPING										M-71 Sh. 2	1 - 09/24/80		34 of 36	
VALVE NUMBER	COORDINATES	CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	MAX STROKE TIME	RELIEF REQUEST	REMARKS	
2-4720	D-3	NC	A	1	GA	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-4721	D-3	NC	A	1	GA	AO	O	C	AT BT FST	RR OP OP	10		GROUP 2 ISOLATION	
2-733-1	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION	
2-733-2	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION	
2-733-3	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION	
2-733-4	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION	
2-733-5	F-7	NC	A	0.375	BALL	SO	C	C	AT BT	RR OP	5		GROUP 2 ISOLATION	
2-743	B-7	NC	AC	0.375	CK	SA	O	C	AT CT-1	RR RR		VR-5		
2-736-1	F-7	NC	D	0.375		EXP	O	C	DT	RR				
2-736-2	F-7	NC	D	0.375		EXP	O	C	DT	RR				
2-736-3	F-7	NC	D	0.375		EXP	O	C	DT	RR				
2-736-4	F-7	NC	D	0.375		EXP	O	C	DT	RR				
2-736-5	F-7	NC	D	0.375		EXP	O	C	DT	RR				



ISI - CLASS 1, 2, & 3 VALVES  
QUAD CITIES NUCLEAR POWER STATION

UNIT - 2

[illegible]



SECTION 4.3

RELIEF REQUESTS FOR INSERVICE VALVE TESTING PROGRAM

Revision 1  
9/24/30



RELIEF REQUEST NO. VR-1

SYSTEM: Main Steam

COMPONENT: 1(2)-203-1A, B, C, D  
1(2)-203-2A, B, C, D

CATEGORY: A

FUNCTION: Primary containment isolation valves for the main steam lines.

TEST REQUIREMENT: BT - Exercise and time valves every three months.

FST - Check the fail-safe operation of the valves upon loss of actuator power every three months.

BASES FOR RELIEF: Full stroke testing these valves during normal reactor operation requires isolating one of the four main steam lines. Isolation of these lines results in primary system pressure spikes, reactor power fluctuations, and increased flow in the unisolated steam lines. This unstable operation can lead to a reactor scram, and as discussed in NUREG-0626 pressure transients resulting from full stroke

RELIEF REQUEST NO. VR-1 (CONTINUED)

testing MSIVs increase the chances of actuating primary system relief valves.

It is proposed that only partial stroke testing be performed during power operation and that full stroke testing be performed at cold shutdowns. These valves are provided with the circuitry to permit partial stroking to a 10% closed position. This partial stroke exercising provides an acceptable means of verifying valve performance during plant operation without affecting safety margins. This request also contributes to the reduction of the relief valves challenge rate as recommended in NUREG-0626.

ALTERNATE TESTING: These valves will be part stroke exercised every three months and full stroke exercised during cold shutdown. The fail-safe operation of these valves will also be checked during cold shutdown since this is done coincident with full stroke exercising. The fail-safe testing of valves 1(2)-203-1A,B,C and D however, will be completed only at cold shutdowns when the primary containment is de-inerted since access to the valves to perform this testing requires entry into the drywell.

RELIEF REQUEST NO. VR-2

SYSTEM: Main Steam

COMPONENT: 1(2)-203-3A, B, C, D, E  
3A-Target Rock Safety Relief Valve  
3B-E-Electromatic Relief Valves.

CATEGORY: B/C

FUNCTION: 1) Open upon receipt of an auto depressurization signal to blowdown reactor; 2) Act as a primary system relief valve which actuates on high system pressure.

TEST REQUIREMENT: BT - Exercise and time valves every three months.

BASIS FOR RELIEF: Relief is requested from the Section XI required testing frequency of once every three months. These electromatic relief valves are not tested routinely during reactor operation because of the resultant primary system pressure transients. In addition, a failure of any valve to close would cause an uncontrolled, rapid depressurization of the primary system resulting in undesirable thermal gradients in the reactor vessel. Excessive testing

RELIEF REQUEST NC. VR-2 (CONTINUED)

of those valves is inadvisable because each relief valve discharge to the suppression pool detracts from the limited fatigue life of the containment.

These valves cannot be tested at cold shutdown or refueling since a system pressure of greater than 150 psig is needed to actuate the valves. Surveillance testing of these valves is, therefore, completed at very low reactor power levels. Verification of relief valve actuation is accomplished by first opening a turbine bypass valve, actuating the relief valve, and then observing a corresponding closure response of the turbine bypass valve.

The frequency of such testing requested herein is that submitted by Quad Cities Station in a proposed Technical Specification change required by the August 3, 1977 letter from Don K. Davis (NRC-DOR) to Commonwealth Edison Company. In this Technical Specification change, a program was committed to which specified a variable testing frequency related to demonstrated reliability and operability. The testing interval is based on the number of valve failures during the required test interval. The



RELIEF REQUEST NO. VR-2 (CONTINUED)

frequency ranges from a maximum of 18 months to a minimum of 31 days. This testing frequency is provided to ensure operability and demonstrate reliability of the valves. Since the frequency varies with observed valve failures, this proposed testing scheme should result in a uniform level of reliability.

ALTERNATE TESTING: The following schedule will be used to determine the required test interval.

<u>Number of Relief Valves Found Inoperable During Testing or Test Interval</u>	<u>Next Required Test Interval</u>
0	18 months $\pm$ 25%
1	184 days $\pm$ 25%
2	92 days $\pm$ 25%
$\geq$ 3	31 days $\pm$ 25%

Additionally, stroke times for these valves will not be measured since there is no position indication circuitry to show disc movement.

RELIEF REQUEST NO. VR-3

SYSTEM: Main Steam

COMPONENT: 1(2)-203-3A (Target Rock Safety/Relief)  
1(2)-203-3B,C,D,E (Electromatic Relief)

CATEGORY: BC

FUNCTION: 1) Open upon receipt of an auto depressurization signal to blow down the reactor, and 2) act as a primary system relief valve actuating on a high pressure condition. The Target Rock Safety/Relief Valve functions the same as above except, it also acts as a safety valve.

TEST REQUIREMENT: CT-2 - Verify pressure set point in accordance with IWV-3510.

BASIS FOR RELIEF: The electromatic relief valves and the relief function of the Target Rock valve are operated by actuation of a pilot solenoid valve which opens the main valve by applying system pressure to a diaphragm. The pilot valve is actuated from an electric signal from either the control switch, the auto-depressurization logic, or a pressure switch that senses system pressure.

RELIEF REQUEST NO. VR-3 (CONTINUED)

The requirement of IWV-3510(b) to check relief and safety valve set points in accordance with PTC-25.2-1966 is not applicable in this case. Therefore, relief is requested from compliance with this requirement.

The pressure set point of these valves is set by calibrating the pressure switch rather than testing the complete valve assembly. The combination of the pressure switch calibration and the exercising test for operability (BT) satisfies the intent of paragraph IWV-3510.

ALTERNATE TESTING: The pressure switch for each of these valves will be calibrated to verify the correct set point and the exercise test (BT) will verify operability of the valve.

RELIEF REQUEST NO. VR-4

SYSTEM: FEEDWATER

COMPONENT: 1(2)-220-58A, B  
1(2)-220-59B  
1(2)-220-62A, B

CATEGORY: C & AC

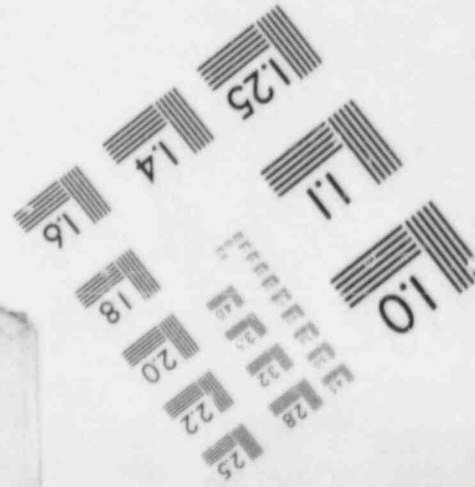
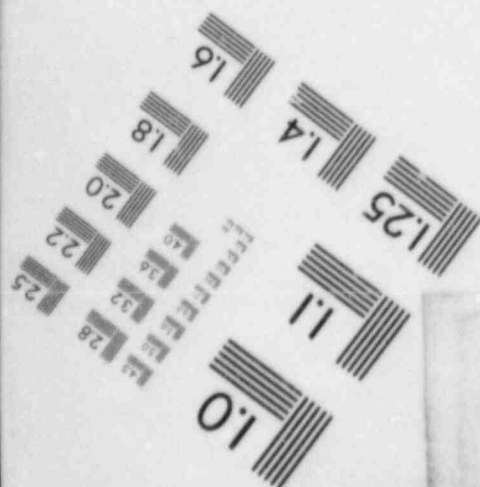
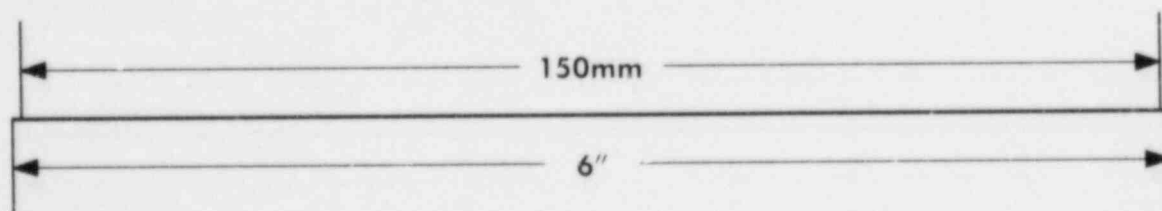
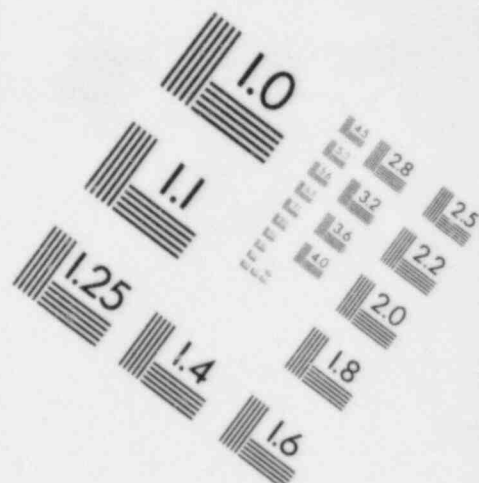
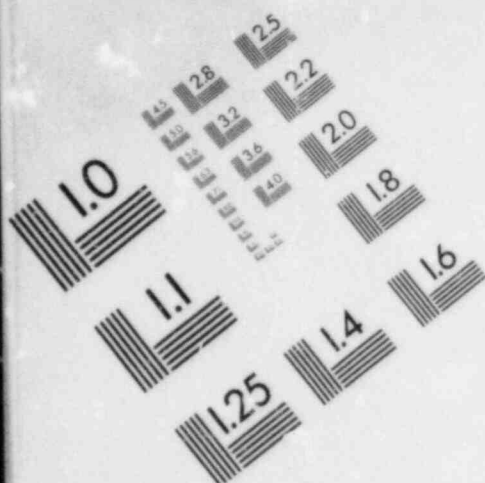
FUNCTION: The 58 and 62 valves close for containment isolation. The 59B valve closes for HPCI injection.

TEST REQUIREMENT: CT-1 - Exercise check valve every three months.

BASIS FOR RELIEF: These check valves cannot be tested for operability during reactor operation because the feedwater system is needed to maintain primary coolant inventory. It is impractical to test these valves during cold shutdown because the reactor water clean-up and feedwater systems are generally required to be operable. In addition, to verify that these check valves stroke to the full closed position, a leak rate test must be performed. Since leak rate testing is performed only during refueling



IMAGE EVALUATION  
TEST TARGET (MT-3)



RELIEF REQUEST NO. VR-4 (CONTINUED)

outages, these valves will be demonstrated to be in the full closed position at each refueling outage.

ALTERNATE TESTING: These check valves will be exercised closed during each reactor refueling outage.

RELIEF REQUEST NO. VR-5

SYSTEM: Neutron Monitoring System

COMPONENT: 1(2)-743

CATEGORY: C

FUNCTION: Primary containment isolation valve for the T.I.P.  
System nitrogen purge line.

TEST REQUIREMENT: CT-1 - Exercise valve every three months.

BASIS FOR RELIEF: This check valve cannot be exercised for operability every three months because the T.I.P. system is required to be purged constantly during operation. Since there is no external means of position indication, the system must be taken out-of-service and a leak rate test performed to verify operability. Since leak rate testing is performed only during refueling outages, these valves will be demonstrated to be in the full closed position at each refueling outage.

ALTERNATE TESTING: The valves will be full stroke exercised each refueling outage.

RELIEF REQUEST NO. VR-6

SYSTEM: Recirculation

COMPONENT: 1(2)-202-5A, B

CATEGORY: B

FUNCTION: In a design basis loss of coolant accident, one of these valves will close depending on the location of the line break.

TEST REQUIREMENT: BT - Exercise and time valves for operability every three months.

BASIS FOR RELIEF: These valves cannot be fully stroke tested or partial stroke tested during normal operation since isolation of a recirculation loop would cause a recirculation pump trip. One loop operation is restricted by the Technical Specifications.

ALTERNATE TESTING: These valves will be full stroke exercised during cold shutdown.



RELIEF REQUEST NO. VR-7

SYSTEM: Residual Heat Removal, Core Spray, High Pressure  
Coolant Injection.

COMPONENT: 1(2)-1001-68A & B  
1(2)-1402-9A & B  
1(2)-2301-7

CATEGORY: C

FUNCTION: Open upon System Injection

TEST REQUIREMENT: CT-1-Exercise valve every three months.

BASIS FOR RELIEF: These valves have air-operators and remote position indicators for remote testing purposes. However, during normal operation the high differential pressure across the valve seats prohibits exercising. Additionally, the residual heat removal and core spray system valves (ie., 1(2)-1001-68A, 68B & 1(2)-1402-9A, 9B) are located inside the primary containment which is inerted with nitrogen during normal operation. The high pressure coolant injection valve (1(2)-2301-7) is located inside the main steam isolation valve room.

RELIEF REQUEST NO. VR-7 (CONTINUED)

which is a designated high radiation area where normal power operation radiation dose rates are one to two rem/hour. Also high temperatures exist in this area (120° to 140°F) which further increases the hazards involved in entering the area for this testing. The accumulated dose to conduct this test would be approximately 1.5 man-rem.

ALTERNATE TESTING: These valves will be full stroke exercised during cold shutdown.

RELIEF REQUEST NO. VR-8

SYSTEM: Core Spray, Residual Heat Removal, and High Pressure Coolant Injection.

COMPONENT: 1(2)-1402-38 A&B  
1(2)-1001-18 A&B  
1(2)-2301-14

CATEGORY: B

FUNCTION: The valves close when pump flow is adequate (i.e., minimum flow recirculation valves).

TEST REQUIREMENT: Exercise and time valves every three months.

BASIS FOR RELIEF: Relief is requested from measuring the stroke time of these valves. Since the valves close automatically when adequate pump flow is reached, it is difficult to accurately measure the stroke time. An equally meaningful test would be to just verify that the valves do close automatically as the pump flow increases.

ALTERNATE TESTING: Operator will verify that these valves automatically close as pump flow increases during quarterly pump operability test.

RELIEF REQUEST NO. VR-9

SYSTEM: RHR-Head Spray/Shutdown Cooling Subsystems

COMPONENT: 1(2)-1001-60, 63, 47, 50

CATEGORY: A

FUNCTION: Primary containment isolation valves for RHR Head Spray and Shutdown Cooling Subsystems.

TEST REQUIREMENT: BT - Exercise and time valves every 3 months

BASIS FOR RELIEF: Relief is requested from partial or full stroke testing these valves during operation. These valves, which are normally closed during plant operation, serve as isolation between the high and low pressure piping. Protective interlocks prevent opening these valves while the reactor is at operating pressure.

ALTERNATE TESTING: The valves will be exercised during cold shutdown.



RELIEF REQUEST NO. VR-10

SYSTEM: Standby Liquid Control

COMPONENT: 1(2)-1101-15, 16

CATEGORY: C

FUNCTION: The safety function of these check valves is to open upon a system injection.

TEST REQUIREMENT: CT-1 - Exercise valve every three months.

BASIS FOR RELIEF: Exercising these valves by system initiation is not feasible during operation due to the requirements to maintain (a) boron to reactor water separation, and (b) requirements to maintain system operability per Technical Specifications.

Since the valve operability test, in this case, must be performed with the system out of service by injecting clean demineralized water from some external source, it is more practical in terms of system availability to perform this test during cold shutdown. Currently it is not possible to achieve full flow through the valves using the method described above, only 26 gpm of the required 39 can

RELIEF REQUEST NO. VR-10 (CONTINUED)

be injected. The station is confident that during refueling outages a method can be devised to obtain full flow through these valves. If necessary, although not desired, the system pumps could be used to provide this flow, but this would require extensive cleaning of the system to remove residual boron.

ALTERNATE TESTING: These valves will be part stroke exercised during cold shutdown and full stroke exercised at each refueling outage.

RELIEF REQUEST NO. VR-11

SYSTEM: Control Rod Drive

COMPONENT: 1(2)-0305-126, 127, 114

CATEGORY: B & C

FUNCTION: These valves operate on a scram signal to drive the control rods in.

TEST REQUIREMENT: BT - Exercise and time valves every 3 months.  
CT-1 - Exercise valves every three months.

BASIS FOR RELIEF: There are 177 of each of the valves listed, i.e., one for each of the 177 control rod drives. The proper operation of each of these valves is demonstrated during scram testing. During scram testing each drive's scram insertion time is measured. The Technical Specifications limit individual scram insertion times to specific values. This insures that the above mentioned valves are functioning properly.

RELIEF REQUEST NO. VR-11 (CONTINUED)

ALTERNATE TESTING: Individual scram insertion tests will be performed per the Technical Specifications frequency. The frequency is: 1) 100% of control rod drives after each refueling with reactor power equal to or less than 30%, and 2) 50% of the CRD's every 16 to 32 weeks with 100% completed every year.



RELIEF REQUEST NO. VR-12

SYSTEM: High Pressure Coolant Injection

COMPONENT: 1(2) - 2301-39

CATEGORY: C

FUNCTION: See Basis for Relief

TEST REQUIREMENT: CT-1 Exercise check valve every three months.

BASIS FOR RELIEF: This valve is designed to prevent backflow into the suppression pool in the event of a pump suction shift from the contaminated condensate storage tank (CCST) to the suppression pool. The safety related stroke direction of this valve is in the open direction to provide suction flow to the HPCI pump. There is no acceptable method for verifying this valve's ability to swing to its full open position. The system test circuit utilizes the CCST as the pump suction rather than the suppression pool. The suppression pool is not used as the pump suction for testing because of the desire to keep the system free of the dirt and contamination typically found in torus water.

RELIEF REQUEST NO. VR-12 (CONTINUED)

In lieu of the Code required full stroke test, Commonwealth Edison proposes to demonstrate valve operability by disassembling the valve and verifying that the disc swings freely to the full open position. Since this valve is not normally used, there will be no expected wear-induced degradation of the valve internals. Therefore disassembly and inspection of these valves once every third refueling outage is felt adequate to insure valve operational readiness.

It should also be mentioned that an evaluation is being conducted to determine if these valves can be removed from the system. If this proves to be feasible, the valve internals will be removed and this relief request would no longer be required.

ALTERNATE TESTING: Each valve will be disassembled every third refueling outage to verify that the disc swings freely to the full open position.

RELIEF REQUEST NO. VR-13

SYSTEM: High Pressure Coolant Injection, Reactor Core  
Isolation Cooling

COMPONENT: 1(2)-2301-34, 45,  
1(2)-1301-40, 41

CATEGORY: C

FUNCTION: Primary containment isolation.

TEST REQUIREMENT: CT-1 - Exercise valve for operability every  
three months.

BASIS FOR RELIEF: It is impractical to demonstrate closure of  
these check valves during normal operation or cold  
shutdown. To verify closure upon reversal of flow a  
pressure test must be performed. This requires that  
the systems be taken out-of-service. The safety  
significance of these components is minimal since  
leakage past these valves would be contained within  
the HPCI and RCIC piping which returns to the  
containment.

RELIEF REQUEST NO. VR-13 (CONTINUED)

ALTERNATE TESTING: These valves will be demonstrated to close upon reversal of flow during each refueling outage per Appendix J test.



RELIEF REQUEST NO. VR-14 —

SYSTEM: Nuclear Boiler Instrumentation, Recirculation,  
Reactor Core Isolation Cooling, Core Spray, High  
Pressure Coolant Injection, Main Steam.

COMPONENT: Excess flow check valves as listed in program.

CATEGORY: AC

FUNCTION: Limit flow (leakage) from instrument lines  
penetrating primary containment; perform containment  
isolation function.

TEST REQUIREMENT: AT - Seat leak rate test.

CT-1 Exercise check valves to the closed position  
every three months.

BASIS FOR RELIEF: These valves are currently tested per  
Technical Specification requirements which consists  
of a leakage test conducted during primary system  
pressure tests at the completion of each refueling  
outage. The testing involves uncoupling the instru-  
ment lines and verifying that each valve strokes to  
the closed position. The operator also observes  
that the valve limits flow to an acceptable level.

RELIEF REQUEST NO. VR-14 (CONTINUED)

This method and frequency of testing has been justified in the plant FSAR and has proven to be an adequate verification of valve performance.

ALTERNATE TESTING: These valves will be tested in the manner described above prior to start-up from each refueling outage.

RELIEF REQUEST NO. VR-15

SYSTEM: High Pressure Coolant Injection.

COMPONENT: 1(2)-2301-4&5.

CATEGORY: A

FUNCTION: Primary containment isolation.

TEST REQUIREMENTS: BT-Exercise valve for operability every three months.

BASIS FOR RELIEF: The above valves are normally open to supply steam to the turbine driven HPCI injection pumps. Conservatively these valves are left in the open position to insure that driving steam can be supplied to these turbines at all times during operation. Also, these valves serve a primary containment isolation function (Group 4).

Quad Cities Station feels that to close these valves during operation would place the operation of the system in an untenable condition. Further, if either were to fail closed it would render the HPCI system inoperable.

RELIEF REQUEST NO. VR-15 (CONTINUED)

ALTERNATIVE TEST: These valves will be full stroke exercised during cold shutdowns.



RELIEF REQUEST NO. VR-16

SYSTEM: All Systems

COMPONENT: All primary containment isolation valves (listed in program as Category A).

CATEGORY: A

FUNCTION: Primary containment isolation.

TEST REQUIREMENT: AT - seat leakage tests per IWV-3420.

BASIS FOR RELIEF: Primary containment isolation valves whose functional differential pressure does not exceed the primary containment accident pressure will be seat leak tested in accordance with the Appendix J requirements of 10CFR50. At this functional differential pressure Section XI testing requirements are essentially equivalent to those of Appendix J. No additional information concerning valve leakage would be gained by performing separate tests to both Section XI and Appendix J.

ALTERNATE TESTING: Valves will be seat leak tested in accordance with 10CFR50 Appendix J.

RELIEF REQUEST NO. VR-17

Specific relief is requested from requirements of paragraphs IWV-3410(g) and IWV-3520(c) of Section XI of the 1974 Edition of the ASME Boiler and Pressure Vessel Code including the Addenda through Summer 1975. These paragraphs state the corrective actions to be taken when valves fail to exhibit a required change of disk position. These actions include requirements to take corrective action prior to plant startup should a failure occur during cold shutdown testing. Also stated are requirements to declare valves inoperable if corrective action is unsuccessful within a 24 hour period.

These paragraphs do not take into account the plant Technical Specification requirements for limiting conditions for operation which state the minimum conditions necessary for safe operation of the plant. The failure of a particular valve may not necessarily require a plant shutdown or prevent a startup. In addition, valves not capable of performing their safety-related function are declared inoperable as soon as that condition has been verified, not after a 24 hour period has elapsed.

For these reasons, Quad Cities Station will evaluate the condition of each valve with respect to its safety related function and take the appropriate corrective action as stated in the Technical Specification-Limiting Condition for Operation.

RELIEF REQUEST NO. VR-18

SYSTEM: All Systems

COMPONENT: All power operated valves requiring full stroke timing tests.

CATEGORY: A and B

FUNCTION: Power operated valves.

TEST REQUIREMENT: Stroke time accuracy per IWV-3410(c)(2)

BASIS FOR RELIEF: The code requires that stroke timing accuracy be either to the nearest second or 10 percent of the maximum stroke time, whichever is less. Quad Cities Station feels that this requirement is impractical for valves with stroke times less than 10 seconds. For these valves, the accuracy of the measured stroke time is less than one second which is inconsistent with the method used for timing (i.e., hand held stopwatch) and difficult to certify. Since the purpose for the test is to detect deterioration of valve function, establishing a lower limit of one second for valve timing accuracy will have no effect

RELIEF REQUEST NO. VR-18 (CONTINUED)

on the ability to detect changes in valve performance. Recent changes in Section XI of the ASME Code have reflected this position.

ALTERNATE TESTING: As revised in later editions of the Code, the stroke time of all power operated valves will be measured to the nearest second, for stroke times 10 seconds or less, or 10 percent of the specified limiting stroke time for full-stroke times longer than 10 seconds.



RELIEF REQUEST NO. VR-19

SYSTEM: Control Rod Drive

COMPONENT: 1(2) - 0302-21 A & B  
1(2) - 0302-22

CATEGORY: B

FUNCTION: Scram discharge volume vent and drain valves.

TEST REQUIREMENT: BT - Exercise and time every 3 months.  
FST - verify fail-safe operation upon loss of  
actuator power every 3 months.

BASIS FOR RELIEF: These valves are normally in the open position to allow water which enters the scram discharge volume from normal CRD leakage to drain into the reactor building equipment drain tank. This assures that a sufficient volume is always available to accept scram discharge water following a scram.

The testing of these valves during plant operation has the potential of isolating the scram discharge volume and the increasing water level in the volume would then cause a reactor scram. Consistent with

RELIEF REQUEST NO. VR-19 (CONTINUED)

NRC Staff guidelines concerning the cycling of valves that could potentially place the plant in an unsafe mode of operation, it is felt that these valves should be tested at cold shutdown. This applies to the vent and drain valves since the air supply to the valves and the test circuit is common for all three valves.

In addition, the system is designed such that the test circuit bleeds the air from these air-operated valves at a very slow rate; much slower than during normal operation of the valve. Timing these valves during testing, therefore, has no relevance, and because of the slow bleed rate the test time repeatability is poor.

ALTERNATE TESTING: These valves will be full stroke exercised without timing during each cold shutdown.

RELIEF REQUEST NO. VR-20

SYSTEM: Core Spray, Residual Heat Removal, High Pressure  
Coolant Injection

COMPONENT: 1(2)-1402-13A&B  
1(2)-1001-142A,B,C,&D  
1(2)-2301-40

CATEGORY: C & CE

FUNCTION: Pump minimum flow line check and stop-check valves  
required to open during pump low flow conditions for  
pump cooling.

TEST REQUIREMENT: CT-1 Exercise valve every three months.

BASIS FOR RELIEF: There are no provisions in the current system  
design for exercising or determining the position of  
these valves. Based on the record of satisfactory  
pump performance and lack of pump overheating  
problems, it is evident that these valves have  
performed in an acceptable manner. However, due to  
the inability to demonstrate that the valves stroke  
open, Quad Cities Station has initiated system  
modifications to install flow instrumentation in the

RELIEF REQUEST NO. VR-20 (CONTINUED)

minimum flow lines to indicate that the valves are, in fact, opening and passing adequate flow for pump cooling purposes. The modifications must be made during a refueling outage because the system will be out of service during the installation. The modifications will be implemented at the earliest possible date which is contingent on the availability of materials. Relief is therefore requested from the requirement to demonstrate that the subject valves stroke open until system modifications provide the necessary instrumentation.

ALTERNATE TESTING: No specific alternate test is applicable during this interim period.

RELIEF REQUEST NO. VR-21

SYSTEM: Residual Heat Removal

COMPONENT: 1(2)-1001-19A & B

CATEGORY: B

FUNCTION: RHR System cross-tie line isolation valves.

TEST REQUIREMENTS: BT-Exercise and time in the open direction every three months.

BASIS FOR RELIEF: These valves are normally in their safety position (open) and are only closed a very small percentage of plant operating time when the system is in the residual heat removal mode. Testing these valves during normal operation places the plant in an unsafe mode because a failure of either valve in the closed position renders the low pressure coolant injection (LPCI) function inoperable. The LPCI function of RHR is designed such that three of the four pumps are required to provide makeup flow to either recirculation loop in the event of a design basis loss of coolant accident. This requires the



RELIEF REQUEST NO. VR-21 (CONTINUED)

crosstie line to be open and, hence, both the 1001-19A and B valves. In accordance with NRC Staff guidelines on excluding the cycling of valves whose failure in a non-conservative position would cause a loss of system function, these valves will be exercised during cold shutdown conditions.

ALTERNATE TESTING: These valves will be exercised and timed during cold shutdowns.

RELIEF REQUEST NO. VR-22

SYSTEM: Residual Heat Removal

COMPONENT: 1(2)-1001-28 A&B  
1(2)-1001-29A&B

CATEGORY: B,A

FUNCTION: LPCI injection valves; primary containment isolation  
(29A&B); pressure isolation.

TEST REQUIREMENT: BT - Exercise and stroke time every three  
months.

BASIS FOR RELIEF: Relief is requested from exercising these valves during normal reactor operation. Both sets of valves are included because they are interlocked such that one of the two valves must be closed at all times to provide the pressure isolation function. A failure of any one of these valves in the closed position would render the entire LPCI function technically inoperable since both injection loops must be available in the design basis accident to provide coolant to the unbroken recirculation loop and this loop could be either one of the two.

RELIEF REQUEST NO. VR-22 (CONTINUED)

To ensure that valve exercising procedures do not place the plant in an unsafe mode of operation, these valves will be full stroke exercised only at cold shutdowns.

ALTERNATE TESTING: These valves will be full stroke exercised at cold shutdowns.

RELIEF REQUEST NO. VR-23

SYSTEM: Pressure Suppression

COMPONENT: 1(2)-1601-20A&B

CATEGORY: A

FUNCTION: Reactor building to torus vacuum breaker isolation valves and primary containment isolation.

TEST REQUIREMENT: BT - Exercise and time valves in both the open and closed direction every three months.

BASIS FOR RELIEF: Exercising these valves open during normal plant operation compromises primary containment integrity and reduces safety margins by leaving only a single check valve (1601 - 31 A or B) to maintain the primary containment boundary.

ALTERNATE TESTING: These valves will be full stroke exercised during cold shutdown.

RELIEF REQUEST NO. VR-24

SYSTEM: Main Steam

COMPONENT: 1(2)-220-81A,B,C,D & E

CATEGORY: C

FUNCTION: Vacuum breakers for the main steam relief valve discharge lines.

TEST REQUIREMENT: CT-1 Exercise check valve in the open direction every three months.

BASIS FOR RELIEF: These check valves have no external means of actuation for exercising. The only practical method for exercising these valves open is by manually pushing the disc from its seat using a small diameter rod. Since this requires access to the valves which are located within primary containment, the test must be deferred to cold shutdowns when the primary containment is de-inerted.

ALTERNATE TESTING: These check valves will be verified to freely swing to their full open position at cold shutdowns when the drywell is de-inerted.



RELIEF REQUEST NO. VR-25

SYSTEM: All Systems

COMPONENTS: All power operated valves requiring full stroke testing.

CATEGORY: A and B

FUNCTION: Power operated valves

TEST REQUIREMENT: Stroke time evaluation per IWV-3410(c) (3).

BASIS FOR RELIEF: Paragraph IWV-3410(c) (3) requires that valve stroke times be evaluated against the previous stroke time to determine if corrective action is required. To establish consistency in evaluating stroke times and make program implementation more practical, Quad Cities Station proposes to establish a reference stroke time for each valve which will be used for evaluating performance. This reference value will be determined by averaging stroke times. This actually results in a tighter band of acceptable stroke times, but is much easier to administer. The limiting value of full stroke time for each valve will remain as listed in the IST Program tables.

RELIEF REQUEST NO. VR-25 (CONTINUED)

In addition, it is impractical to apply the requirements of IWV-3410(c) (3) to valves with very short stroke times (i.e.  $\leq$  5 seconds) particularly solenoid valves which typically have full stroke times under one second. For these short stroke time valves, variances of 50 percent or more can occur in the measured times for reasons that are in no way related to valve performance, for example, operator reaction times. In these specific cases, verifying that the valve stroke times do not exceed 5 seconds would be sufficient to evaluate valve performance.

ALTERNATE TESTING: Based on this relief request paragraph IWV-3410 (c) (3) would, in effect, read as follows:

If an increase in stroke time of 25% or more from the established reference value for valves with stroke times greater than ten seconds or 50% or more for valves with stroke times between 5 and 10 seconds or 5 seconds or more for valves with stroke times less than or equal to 5 seconds is observed, test frequency .....

RELIEF REQUEST NO. VR-26

SYSTEM: Main Steam

COMPONENT: 1(2)-203-4A through 4H

CATEGORY: C

FUNCTION: Safety relief valves for the primary coolant pressure boundary.

TEST REQUIREMENT: CT-2, Verify safety valve set point

BASIS FOR RELIEF: It is impractical for Quad Cities Station to meet the requirements of IWV-3510, in that "as-found" set points for these safety relief valves cannot be determined. The station has no on-site facility for testing safety valve set points. Currently, these valves are being removed from the system, cleaned and rebuilt, and then shipped off-site for re-verification of valve set points. Therefore, IWV-3510(c) cannot be applied because "as found" set points are not verified.

The frequency of removal and maintenance of these valves, however, is on a greatly accelerated basis

RELIEF REQUEST NO. VR-26 (CONTINUED)

compared to the Section XI requirements. The Technical Specification frequency for these valves has been to remove one-half (4) of the eight safety valves each refueling outage and replace them with valves that have been rebuilt and verified for proper set point.

This accelerated maintenance schedule provides adequate assurance that these valves will perform reliably.

ALTERNATE TESTING: One-half (4) of the total number of safety valves will be removed and replaced with valves that have been rebuilt and had their set points verified each refueling outage.