



VIA FACSIMILE: 630-515-1259

January 10, 1997

Mr. Kevin Null  
U.S. Nuclear Regulatory Commission, Region III  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Re: NRC License No. 12-04933-02  
Docket No. 030-04098  
Licensee: Packard Instrument Company, Inc.

Dear Mr. Null:

This letter provides notice of a pending transaction that will result in the change in ownership of approximately 70% of the stock of Canberra Industries, Inc. (the "Company") and requests written confirmation by the NRC that it has no objection to the proposed change in ownership of the stock. We respectfully request the confirmation by February 1, 1997 in order to support a closing later that month.

As indicated in the caption, Packard Instrument Company, Inc., a wholly-owned subsidiary of the Company, is the licensee of NRC License No. 12-04933-02. The proposed transaction will not result in any changes in Packard's operations relating to, and will not affect the conditions of, its license. The transaction will not result in any change in the identified licensee, its name, its management, or its personnel (including its Radiation Safety Officer). The nuclear materials, use and storage of such materials and equipment related thereto will all remain in place after the transaction. Additionally, the Company is unaware of any contamination in the Downers Grove facility and all surveillance items and records will be current at the time of transfer.

By way of overview, approximately 70% of the Company's stock is to be acquired by CII Acquisition LLC (the "Acquisition Entity"), a newly formed Delaware limited liability company organized by Stonington Partners, Inc. ("Stonington") on behalf of Stonington Capital Appreciation 1994 Fund, L.P. (the "Fund"), a Delaware limited partnership. The transaction will be accomplished in accordance with a definitive agreement signed by the parties on November 26, 1996. The closing is expected to occur on or about February 28, 1997. Stonington has agreed to abide by the terms of the license and has confirmed this pledge in a letter to you under separate cover.

Continued,

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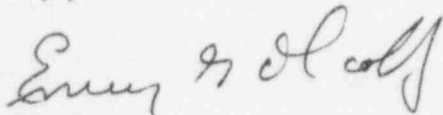
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The acquisition will be effected through the purchase of Company common stock by the Acquisition Entity and the simultaneous repurchase by the Company of a portion of all presently outstanding shares of the Company common stock by means of a tender offer. Upon consummation of the acquisition, Stonington intends to dissolve the Acquisition Entity and distribute the shares of common stock held by the Acquisition Entity to the Fund, which is currently the sole member of the Acquisition Entity. In the event that not all the Company's stockholders tender, a merger will be effected to ensure ownership of approximately 70% of the common stock by the Fund. The remaining 30% of the outstanding shares of common stock will continue to be held by a group of existing stockholders consisting in large part of members of management.

Please let us know if there is additional information that you require from us.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Emery G. Olcott".

Emery G. Olcott  
President & Chief Executive Officer

EGO:kp  
wpdata/olcott/corres

2. ITEM NO. - A division within an examination category which separates the specific examination requirements.
3. MARK NO. - A unique identification number assigned to each weld or component. Mark numbers followed by the "@" symbol are those which are also listed under the Code examination tables of sections 2 through 5 herein.
4. COMPONENT DESCRIPTION - A brief description used to identify the weld or component.
5. EXAM METHOD - This abbreviation identifies the unique non-destructive examination method(s) required for the weld or component. The abbreviations used in this listing are as follows:

MT	-	Magnetic Particle Testing
PT	-	Dye Penetrant Testing
UT	-	Ultrasonic Testing
RT	-	Radiography Testing
VT-1	-	Visual Examination for Surface Conditions
VT-2	-	Visual Examination for Leakage
VT-3	-	Visual Examination for General Conditions
CVT1	-	Visual Examination with .001" wire resolution
EVT1	-	Visual Examination with precleaning and .0005" wire resolution

6. PERIOD SCHED. - This column identifies the inspection period which the weld or component is tentatively scheduled to receive examination. The period scheduled can be either 1, 2, 3, or any combination of these numbers. Normally there will be 2 refueling outages within each period. Scheduled examinations can be completed in either of the refueling outages as appropriate to facilitate other outage activities, but must be completed by the end of the period. For those welds or components not scheduled for examination, the letters "NS" will be inserted in place of an inspection period. Where the scheduling of components for augmented examinations is accomplished by the performance of the required Code examinations, an asterisk or asterisks will follow the "NS" and notes will be found at the end of the augmented examination category indicating where they are scheduled.

Scheduling of exams for welds which fall under the scope of GL 88-01 is in accordance with the staff position on inspection schedules. The IGSCC Category A welds are all identified within this section, but, as their scheduling requirements are the same as the applicable provisions of Section XI, those requiring examination (i.e., minimum of 25% each interval) are scheduled under their applicable Code Category in Section 2.0. The IGSCC Category C and E welds are also identified within this section and are scheduled for 2 of the 3 periods within the current interval. They are actually examined at least once each period, but the examinations for one of the periods are scheduled under their applicable Code Category in Section 2.0 and the other two herein. The net result is that for this interval all the IGSCC Category C and E welds get examined every 2 refueling cycles. CEI Commitment: L01552

Inservice Examination Interval Listing (Cont.)

ITEM NO.	MARK NO.	COMPONENT DESCRIPTION	EXAM METHOD	PERIOD SCHED.	ISI ISO SS-305-
EXAMINATION CATEGORY: X-A					
X0.16	1B13-CS-H1	TOP GUIDE HEAD FLANGE TO TOP GUIDE CYLINDER	UT	NS	006-101
X0.16	1B13-CS-H2	TOP GUIDE FLANGE TO TOP GUIDE CYLINDER	UT	NS	006-101
X0.16	1B13-CS-H3	SHROUD HEAD FLANGE TO CENTRAL UPPER CYLINDER	UT	3	006-101
X0.16	1B13-CS-H4	SHROUD CENTRAL UPPER CYL TO CENTRAL MIDDLE CYL	UT	3	006-101
X0.16	1B13-CS-H5	SHROUD CENTRAL MIDDLE CYL TO CENTRAL LOWER CYL	UT	NS	006-101
X0.16	1B13-CS-H6A	SHROUD CENTRAL LOWER CYLINDER TO CORE PLATE FLANGE	UT	3	006-101
X0.16	1B13-CS-H6B	CORE PLATE FLANGE TO SHROUD LOWER CYLINDER	UT	NS	006-101
X0.16	1B13-CS-H7	SHROUD LOWER CYLINDER TO SHROUD SUPPORT CYLINDER	UT	3	006-101
X0.16	1B13-CS-H8	SHROUD SUPPORT CYLINDER TO SHROUD SUPPORT PLATE	UT	NS	006-101
X0.16	1B13-CS-H9	SHROUD SUPPORT PLATE TO RX VESSEL WALL	UT	NS	006-101
X0.17	1B13-CSHP-P1	HP CORE SPRAY THERMAL SLEEVE TO FLOW DIVIDER	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P2	HP CORE SPRAY FLOW DIVIDER TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P3b	HP CORE SPRAY HORIZONTAL PIPE TO COUPLING	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P3a	HP CORE SPRAY COUPLING TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P4a	HP CORE SPRAY HORIZ PIPE TO ELBOW (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSHP-CW-P4b	HP CORE SPRAY ELBOW TO UPPER RISER PIPE (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSHP-CW-P5	HP CORE SPRAY UPPER RISER PIPE TO COUPLING	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P6	HP CORE SPRAY COUPLING TO LOWER RISER PIPE	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P4c	HP CORE SPRAY LOWER RISER PIPE TO ELBOW	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P4d	HP CORE SPRAY ELBOW TO SHROUD FLANGE	EVT1	3	006-101
X0.17	1B13-CSHP-CW-P8	HP CORE SPRAY SHROUD FLANGE TO SHROUD (BOLTED)	VT-1	3	006-101
X0.17	1B13-CSHP-CCW-P2	HP CORE SPRAY FLOW DIVIDER TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSHP-CCW-P3b	HP CORE SPRAY HORIZONTAL PIPE TO COUPLING	EVT1	3	006-101
X0.17	1B13-CSHP-CCW-P3a	HP CORE SPRAY COUPLING TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSHP-CCW-P4a	HP CORE SPRAY HORIZ PIPE TO ELBOW (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSHP-CCW-P4b	HP CORE SPRAY ELBOW TO UPPER RISER PIPE (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSHP-CCW-P5	HP CORE SPRAY UPPER RISER PIPE TO COUPLING	EVT1	3	006-101
X0.17	1B13-CSHP-CCW-P6	HP CORE SPRAY COUPLING TO LOWER RISER PIPE	EVT1	3	006-101
X0.17	1B13-CSHP-CCW-P4c	HP CORE SPRAY LOWER RISER PIPE TO ELBOW	EVT1	3	006-101
X0.17	1B13-CSHP-CCW-P4d	HP CORE SPRAY ELBOW TO SHROUD FLANGE	EVT1	3	006-101
X0.17	1B13-CSHP-CCW-P8	HP CORE SPRAY SHROUD FLANGE TO SHROUD (BOLTED)	VT-1	3	006-101
X0.17	1B13-CSHP-PB	HP CORE SPRAY PIPING BRACKETS (3)	CVT1	NS	006-001
X0.17	1B13-CSLP-P1	LP CORE SPRAY THERMAL SLEEVE TO FLOW DIVIDER	EVT1	3	006-101
X0.17	1B13-CSLP-CW-P2	LP CORE SPRAY FLOW DIVIDER TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSLP-CW-P3b	LP CORE SPRAY HORIZONTAL PIPE TO COUPLING	EVT1	3	006-101



Inservice Examination Interval Listing (Cont.)

<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-A					
X0.17	1B13-CSLP-CW-P3a	LP CORE SPRAY COUPLING TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSLP-CW-P4a	LP CORE SPRAY HORIZ PIPE TO ELBOW (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSLP-CW-P4b	LP CORE SPRAY ELBOW TO UPPER RISER PIPE (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSLP-CW-P5	LP CORE SPRAY UPPER RISER PIPE TO COUPLING	EVT1	3	006-101
X0.17	1B13-CSLP-CW-P6	LP CORE SPRAY COUPLING TO LOWER RISER PIPE	EVT1	3	006-101
X0.17	1B13-CSLP-CW-P4c	LP CORE SPRAY LOWER RISER PIPE TO ELBOW	EVT1	3	006-101
X0.17	1B13-CSLP-CW-P4d	LP CORE SPRAY ELBOW TO SHROUD FLANGE	EVT1	3	006-101
X0.17	1B13-CSLP-CW-P8	LP CORE SPRAY SHROUD FLANGE TO SHROUD (BOLTED)	VT-1	3	006-101
X0.17	1B13-CSLP-CCW-P2	LP CORE SPRAY FLOW DIVIDER TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSLP-CCW-P3b	LP CORE SPRAY HORIZONTAL PIPE TO COUPLING	EVT1	3	006-101
X0.17	1B13-CSLP-CCW-P3a	LP CORE SPRAY COUPLING TO HORIZONTAL PIPE	EVT1	3	006-101
X0.17	1B13-CSLP-CCW-P4a	LP CORE SPRAY HORIZ PIPE TO ELBOW (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSLP-CCW-P4b	LP CORE SPRAY ELBOW TO UPPER RISER PIPE (SOL. ANNEALED)	EVT1	NS	006-101
X0.17	1B13-CSLP-CCW-P5	LP CORE SPRAY UPPER RISER PIPE TO COUPLING	EVT1	3	006-101
X0.17	1B13-CSLP-CCW-P6	LP CORE SPRAY COUPLING TO LOWER RISER PIPE	EVT1	3	006-101
X0.17	1B13-CSLP-CCW-P4c	LP CORE SPRAY LOWER RISER PIPE TO ELBOW	EVT1	3	006-101
X0.17	1B13-CSLP-CCW-P4d	LP CORE SPRAY ELBOW TO SHROUD FLANGE	EVT1	3	006-101
X0.17	1B13-CSLP-CCW-P8	LP CORE SPRAY SHROUD FLANGE TO SHROUD (BOLTED)	VT-1	3	006-101
X0.17	1B13-CSLP-PB	LP CORE SPRAY PIPING BRACKETS (3)	CVT1	NS	006-001
X0.11	1B13-CSPT-TGTW	CORE SUPPORT STRUCTURE, TOP GUIDE STUD TACK WELDS	VT-3	1	006-101
X0.17	1B13-CSS-7-S2	CORE SPRAY SPARGER TEE TO SPARGER PIPE WELDS (2)	EVT1	3	006-001
X0.17	1B13-CSS-7-S3ab	CORE SPRAY SPARGER SPRAY NOZZLE WELDS (2 EA NOZZ)	CVT1	3	006-001
X0.17	1B13-CSS-7-S4	CORE SPRAY SPARGER PIPE TO END CAP WELDS (2)	EVT1	3	006-001
X0.17	1B13-CSS-7-SB	CORE SPRAY SPARGER BRACKETS (3)	CVT1	3	006-001
X0.17	1B13-CSS-173-S2	CORE SPRAY SPARGER TEE TO SPARGER PIPE WELDS (2)	EVT1	3	006-001
X0.17	1B13-CSS-173-S3ab	CORE SPRAY SPARGER SPRAY NOZZLE WELDS (2 EA NOZZ)	CVT1	NS	006-001
X0.17	1B13-CSS-173-S4	CORE SPRAY SPARGER PIPE TO END CAP WELDS (2)	EVT1	3	006-001
X0.17	1B13-CSS-173-SB	CORE SPRAY SPARGER BRACKETS (3)	CVT1	NS	006-001
X0.17	1B13-CSS-187-S2	CORE SPRAY SPARGER TEE TO SPARGER PIPE WELDS (2)	EVT1	3	006-001
X0.17	1B13-CSS-187-S3ab	CORE SPRAY SPARGER SPRAY NOZZLE WELDS (2 EA NOZZ)	CVT1	NS	006-001
X0.17	1B13-CSS-187-S4	CORE SPRAY SPARGER PIPE TO END CAP WELDS (2)	EVT1	3	006-001
X0.17	1B13-CSS-187-SB	CORE SPRAY SPARGER BRACKETS (3)	CVT1	NS	006-001
X0.17	1B13-CSS-353-S2	CORE SPRAY SPARGER TEE TO SPARGER PIPE WELDS (2)	EVT1	3	006-001
X0.17	1B13-CSS-353-S3ab	CORE SPRAY SPARGER SPRAY NOZZLE WELDS (2 EA NOZZ)	CVT1	NS	006-001
X0.17	1B13-CSS-353-S4	CORE SPRAY SPARGER PIPE TO END CAP WELDS (2)	EVT1	3	006-001



Inservice Examination Interval Listing (Cont.)

<u>ITEM</u> <u>NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM</u> <u>METHOD</u>	<u>PERIOD</u> <u>SCHED.</u>	<u>ISI ISO</u> <u>SS-305-</u>
EXAMINATION CATEGORY: X-A					
X0.17	1B13-CSS-353-SB	CORE SPRAY SPARGER BRACKETS (3)	CVT1	NS	006-001
X0.11	1B13-FSB	RPV FEEDWATER SPARGER, BRACKET	VT-3	3	006-101
X0.11	1B13-FSBTW	RPV FEEDWATER SPARGER BRACKET TACK WELD	VT-3	1	006-101
X0.11	1B13-GRSB	RPV GUIDE ROD SUPPORT BRACKET	VT-3	3	006-101
X0.4	1B13-IRM-16/13	RPV IRM INSTRUMENT DRY TUBE B	VT-3	1,2	006-101
X0.4	1B13-IRM-16/53	RPV IRM INSTRUMENT DRY TUBE A	VT-3	1,3	006-101
X0.4	1B13-IRM-24/29	RPV IRM INSTRUMENT DRY TUBE D	VT-3	1,2	006-101
X0.4	1B13-IRM-24/37	RPV IRM INSTRUMENT DRY TUBE C	VT-3	1,2	006-101
X0.4	1B13-IRM-32/29	RPV IRM INSTRUMENT DRY TUBE E	VT-3	1,3	006-101
X0.4	1B13-IRM-32/37	RPV IRM INSTRUMENT DRY TUBE F	VT-3	1,3	006-101
X0.4	1B13-IRM-48/13	RPV IRM INSTRUMENT DRY TUBE G	VT-3	1,2	006-101
X0.4	1B13-IRM-48/53	RPV IRM INSTRUMENT DRY TUBE H	VT-3	1,3	006-101
X0.5	1B13-JPA-P01	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P02	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P03	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P04	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P05	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P06	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P07	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P08	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P09	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P10	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P11	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101

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Inservice Examination Interval Listing (Cont.)

<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-A					
X0.5	1B13-JPA-P12	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P13	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P14	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P15	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P16	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P17	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P18	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P19	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.5	1B13-JPA-P20	RPV JET PUMP NOZZLE TO MIXER ASSEMBLY	VT-3	2	006-101
X0.3	1B13-JPLAW-P01	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P02	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P03	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P04	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P05	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P06	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	1	006-101
X0.3	1B13-JPLAW-P07	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	1	006-101
X0.3	1B13-JPLAW-P08	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P09	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P10	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P11	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P12	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P13	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P14	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	1	006-101
X0.3	1B13-JPLAW-P15	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P16	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	1	006-101
X0.3	1B13-JPLAW-P17	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	1	006-101
X0.3	1B13-JPLAW-P18	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.3	1B13-JPLAW-P19	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	1	006-101
X0.3	1B13-JPLAW-P20	JET PUMP SENSING LINE ATTACHMENT WELDS	VT-3	3	006-101
X0.2	1B13-JPHDB-P1/P2	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P3/P4	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P5/P6	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P7/P8	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P9/P10	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P11/P12	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101

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Rev. 3

Inservice Examination Interval Listing (Cont.)

<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-A					
X0.2	1B13-JPHDB-P13/P14	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P15/P16	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P17/P18	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.2	1B13-JPHDB-P19/P20	RPV JET PUMP HOLD DOWN BEAM	UT	NS	006-101
X0.14	1B13-JPRB-P1/P2	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P3/P4	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P5/P6	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P7/P8	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P9/P10	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P11/P12	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P13/P14	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P15/P16	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P17/P18	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.14	1B13-JPRB-P19/P20	JET PUMP RISER BRACES	VT-3	2,3	006-101
X0.15	1B13-JPTW-P01	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P02	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P03	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P04	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P05	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P06	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P07	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P08	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P09	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P10	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P11	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P12	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P13	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P14	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P15	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P16	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P17	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P18	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P19	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.15	1B13-JPTW-P20	JET PUMP RESTRAINER ADJUSTING SCREW TACK WELDS	VT-3	1,2,3**	006-101
X0.11	1B13-NSH-13/20	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101

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Inservice Examination Interval Listing (Cont.)

<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-A					
X0.11	1B13-NSH-13/36	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-17/20	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-17/36	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-29/28	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-33/12	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-33/44	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-37/12	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-37/44	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-49/20	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-NSH-49/36	START-UP NEUTRON SOURCE HOLDERS	VT-3	1	006-101
X0.11	1B13-RHR/LPCI	RPV RHR/LPCI LINES	VT-3	3	006-101
X0.11	1B13-RHR/LPCI-D	RPV RHR/LPCI FLOW DEFLECTORS	VT-3	2	006-101
X0.5	1B13-SD	RPV STEAM DRYER	VT-3	1	006-101
X0.11	1B13-SDHDB	RPV STEAM DRYER HOLD DOWN BRACKET	VT-3	1	006-101
X0.11	1B13-SDHDB-WA	RPV STEAM DRYER HOLD DOWN BRACKET WELDED ATTACHMENT	VT-3	1	006-101
X0.11	1B13-SDSB	RPV STEAM DRYER SUPPORT BRACKET	VT-3	1	006-101
X0.11	1B13-SHMSA	RPV SHROUD HEAD/MOISTURE SEPARATOR ASSEMBLY	VT-3	1	006-101
X0.5	1B13-SHSB	RPV SHROUD HEAD STUD BOLTS	VT-3	1,2,3*	006-101
X0.4	1B13-SRM-16/21	RPV SRM INSTRUMENT DRY TUBE B	VT-3	1,3	006-101
X0.4	1B13-SRM-16/45	RPV SRM INSTRUMENT DRY TUBE A	VT-3	1,2	006-101
X0.4	1B13-SRM-40/21	RPV SRM INSTRUMENT DRY TUBE C	VT-3	1,2	006-101
X0.4	1B13-SRM-40/45	RPV SRM INSTRUMENT DRY TUBE D	VT-3	1,3	006-101
X0.11	1B13-SSAHC	RPV SHROUD SUPPORT ACCESS HOLE COVER WELD	VT-1	3	006-101
X0.11	1B13-SSH-1	RPV, SURVEILLANCE SAMPLE HOLDER/SPECIMEN	VT-3	1	006-101
X0.11	1B13-SSH-2	RPV, SURVEILLANCE SAMPLE HOLDER/SPECIMEN	VT-3	1	006-101
X0.11	1B13-SSH-3	RPV, SURVEILLANCE SAMPLE HOLDER/SPECIMEN	VT-3	1	006-101

\* To be performed every refueling outage.

\*\* To be performed every refueling outage from RF04 on.

EXAMINATION CATEGORY: X-B

X0.1	1B21-0015 @	25" VALVE F022C TO PENETRATION P122 PROCESS PIPE	UT	3	605-103
X0.1	1B21-0016 @	26" PENETRATION P122 PROCESS PIPE TO VALVE F028C	UT	1	605-109

Inservice Examination Interval Listing (Cont.)

<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-B					
X0.1	1B21-0017 @	26" VALVE F028C TO PIPE	UT	3	605-109
X0.1	1B21-0018 @	26" PIPE TO 28" PIPE	UT	NS**	605-109
X0.1	1B21-0050 @	26" VALVE F022D TO PENETRATION P415 PROCESS PIPE	UT	NS*	605-104
X0.1	1B21-0051 @	26" PENETRATION P415 PROCESS PIPE TO VALVE F028D	UT	1	605-110
X0.1	1B21-0052 @	26" VALVE F028D TO PIPE	UT	2	605-110
X0.1	1B21-0053 @	26" PIPE TO 28" PIPE	UT	3	605-110
X0.1	1B21-0092 @	26" VALVE F022B TO PENETRATION P416 PROCESS PIPE	UT	3	605-102
X0.1	1B21-0093 @	26" PENETRATION P416 PROCESS PIPE TO VALVE F028D	UT	NS*	605-108
X0.1	1B21-0094 @	26" VALVE F028B TO PIPE	UT	1	605-108
X0.1	1B21-0095 @	26" PIPE TO 28" PIPE	UT	3	605-108
X0.1	1B21-0128 @	26" VALVE F022A TO PENETRATION P124 PROCESS PIPE	UT	3	605-101
X0.1	1B21-0129 @	26" PENETRATION P124 PROCESS PIPE TO VALVE F029A	UT	NS*	605-107
X0.1	1B21-0130 @	26" VALVE F028A TO PIPE	UT	1	605-107
X0.1	1B21-0131 @	26" PIPE TO 28" PIPE	UT	2	605-107
X0.1	1C11-0083	2 1/2" PIPE TO VALVE F122	PT	1	871-105
X0.1	1C11-0084	2 1/2" ELBOW TO PIPE	PT	2	871-105
X0.1	1C11-0085	2 1/2" PIPE TO ELBOW	PT	1	871-105
X0.1	1C11-0086	2 1/2" ELBOW TO PIPE	PT	2	871-105
X0.1	1C11-0087	2 1/2" PIPE TO ELBOW	PT	3	871-105
X0.1	1C11-0088	2 1/2" ELBOW TO PIPE	PT	1	871-105
X0.1	1C11-0089	2 1/2" PIPE TO ELBOW	PT	3	871-105
X0.1	1C11-0090	2 1/2" VALVE F083 TO PIPE	PT	3	871-105
X0.1	1C11-0091	2 1/2" PIPE TO VALVE F083	PT	3	871-105
X0.1	1C11-0092	2 1/2" PIPE TO ELBOW	PT	2	871-105
X0.1	1E12-0333 @	12" VALVE F053A TO PIPE	UT	NS**	642-119
X0.1	1E12-0334 @	12" PIPE TO ELBOW	UT	2	642-119
X0.1	1E12-0335 @	12" ELBOW TO PIPE	UT	2	642-119
X0.1	1E12-0336 @	12" PIPE TO VALVE F050A	UT	NS**	642-120
X0.1	1E12-0337 @	12" VALVE F050A TO PIPE	UT	NS**	642-120
X0.1	1E12-0338 @	12" PIPE TO 12" X 14" REDUCING SLEEVE	UT	NS**	642-120
X0.1	1E12-0339 @	12" PIPE TO 12" X 6" SWEEPOLET RWCU INTERTIE	UT	3	642-120
X0.1	1E12-0580 @	12" VALVE F053B TO PIPE	UT	1	642-132
X0.1	1E12-0581 @	12" PIPE TO ELBOW	UT	2	642-132
X0.1	1E12-0582 @	12" ELBOW TO PIPE	UT	1	642-132

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<u>ITEM</u> <u>NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM</u> <u>METHOD</u>	<u>PERIOD</u> <u>SCHED.</u>	<u>ISI ISO</u> <u>SS-305-</u>
EXAMINATION CATEGORY: X-B					
X0.1	1E12-0583 @	12" PIPE TO VALVE F050B	UT	3	642-131
X0.1	1E12-0584 @	12" VALVE F050B TO PIPE	UT	3	642-131
X0.1	1E12-0585 @	12" PIPE TO 12" X 6" SWEEPolet RWCU INTERTIE	UT	2	642-131
X0.1	1E12-0586 @	12" PIPE TO 12" X 14" REDUCING SLEEVE	UT	NS**	642-131
X0.1	1E32-0196 @	2" COUPLING ON VALVE F028B TO PIPE	PT	NS*	341-102
X0.1	1E32-0197 @	2" PIPE TO TEE	PT	1	341-102
X0.1	1E32-0198 @	2" TEE TO 2" X 1" REDUCER	PT	2	341-102
X0.1	1E32-0199 @	2" TEE TO PIPE	PT	NS*	341-102
X0.1	1E32-0200 @	2" PIPE TO 2" X 2 1/2" REDUCER	PT	NS*	341-102
X0.1	1E32-0201 @	2" X 2 1/2" REDUCER TO 2 1/2" PIPE	PT	1	341-102
X0.1	1E32-0202 @	2 1/2" PIPE TO 1 1/2" BRANCH CONNECTION (COUPLING)	PT	3	341-102
X0.1	1E32-0203 @	1 1/2" COUPLING TO PIPE	PT	NS*	341-102
X0.1	1E32-0204 @	1 1/2" PIPE TO ELBOW	PT	3	341-102
X0.1	1E32-0205 @	1 1/2" ELBOW TO PIPE	PT	3	341-102
X0.1	1E32-0206 @	1 1/2" PIPE TO VALVE F025E	PT	NS*	341-102
X0.1	1E32-0207 @	1 1/2" VALVE F025E TO PIPE	PT	2	341-102
X0.1	1E32-0208 @	1 1/2" PIPE TO VALVE F026E	PT	1	341-102
X0.1	1E32-0209 @	2 1/2" PIPE TO ELBOW	PT	3	341-102
X0.1	1E32-0210 @	2 1/2" ELBOW TO PIPE	PT	3	341-102
X0.1	1E32-0211 @	2 1/2" PIPE TO VALVE F001E	PT	NS*	341-102
X0.1	1E32-0215 @	2" COUPLING ON VALVE F028A TO PIPE	PT	NS*	341-101
X0.1	1E32-0216 @	2" PIPE TO TEE	PT	2	341-101
X0.1	1E32-0217 @	2" TEE TO 2" X 1" REDUCER	PT	NS*	341-101
X0.1	1E32-0218 @	2" TEE TO PIPE	PT	3	341-101
X0.1	1E32-0219 @	2" PIPE TO 2" X 2 1/2" REDUCER	PT	1	341-101
X0.1	1E32-0220 @	2" X 2 1/2" REDUCER TO 2 1/2" PIPE	PT	3	341-101
X0.1	1E32-0221 @	2 1/2" PIPE TO ELBOW	PT	NS*	341-101
X0.1	1E32-0222 @	1 1/2" ELBOW TO PIPE	PT	3	341-101
X0.1	1E32-0223 @	1 1/2" PIPE TO 1 1/2" BRANCH CONNECTION (COUPLING)	PT	NS*	341-101
X0.1	1E32-0224 @	1 1/2" COUPLING TO PIPE	PT	2	341-101
X0.1	1E32-0225 @	1 1/2" PIPE TO ELBOW	PT	3	341-101
X0.1	1E32-0226 @	1 1/2" ELBOW TO PIPE	PT	2	341-101
X0.1	1E32-0227 @	1 1/2" PIPE TO VALVE F025A	PT	NS*	341-101
X0.1	1E32-0228 @	1 1/2" VALVE F025A TO PIPE	PT	3	341-101

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-B					
X0.1	1E32-0229 @	1 1/2" PIPE TO VALVE F026A	PT	1	341-101
X0.1	1E32-0230 @	2 1/2" PIPE TO VALVE F001A	PT	1	341-101
X0.1	1E32-0234 @	2" COUPLING ON VALVE F028D TO PIPE	PT	1	341-104
X0.1	1E32-0235 @	2" PIPE TO TEE	PT	3	341-104
X0.1	1E32-0236 @	2" TEE TO 2" X 1" REDUCER	PT	3	341-104
X0.1	1E32-0237 @	2" TEE TO PIPE	PT	2	341-104
X0.1	1E32-0238 @	2" PIPE TO 2" X 2 1/2" REDUCER	PT	NS*	341-104
X0.1	1E32-0239 @	2" X 2 1/2" REDUCER TO 2 1/2" PIPE	PT	1	341-104
X0.1	1E32-0240 @	2 1/2" PIPE TO ELBOW	PT	2	341-104
X0.1	1E32-0241 @	2 1/2" ELBOW TO PIPE	PT	NS*	341-104
X0.1	1E32-0242 @	2 1/2" PIPE TO 1 1/2" BRANCH CONNECTION (COUPLING)	PT	NS*	341-104
X0.1	1E32-0243 @	1 1/2" COUPLING TO PIPE	PT	3	341-104
X0.1	1E32-0244 @	1 1/2" PIPE TO ELBOW	PT	3	341-104
X0.1	1E32-0245 @	1 1/2" ELBOW TO PIPE	PT	3	341-104
X0.1	1E32-0246 @	1 1/2" PIPE TO VALVE F025N	PT	3	341-104
X0.1	1E32-0247 @	1 1/2" VALVE F025N TO PIPE	PT	3	341-104
X0.1	1E32-0248 @	1 1/2" PIPE TO VALVE F026N	PT	NS*	341-104
X0.1	1E32-0249 @	2 1/2" PIPE TO VALVE F001N	PT	2	341-104
X0.1	1E32-0252 @	2" COUPLING ON VALVE F028C TO PIPE	PT	1	341-103
X0.1	1E32-0253 @	2" PIPE TO TEE	PT	2	341-103
X0.1	1E32-0254 @	2" TEE TO 2" X 1" REDUCER	PT	3	341-103
X0.1	1E32-0255 @	2" TEE TO PIPE	PT	3	341-103
X0.1	1E32-0256 @	2" PIPE TO 2" X 2 1/2" REDUCER	PT	NS*	341-103
X0.1	1E32-0257 @	2" X 2 1/2" REDUCER TO 2 1/2" PIPE	PT	3	341-103
X0.1	1E32-0258 @	2 1/2" PIPE TO 1 1/2" BRANCH CONNECTION (COUPLING)	PT	NS*	341-103
X0.1	1E32-0259 @	1 1/2" COUPLING TO PIPE	PT	1	341-103
X0.1	1E32-0260 @	1 1/2" PIPE TO ELBOW	PT	NS*	341-103
X0.1	1E32-0261 @	1 1/2" ELBOW TO PIPE	PT	3	341-103
X0.1	1E32-0262 @	1 1/2" PIPE TO VALVE F025J	PT	2	341-103
X0.1	1E32-0263 @	1 1/2" VALVE F025J TO PIPE	PT	2	341-103
X0.1	1E32-0264 @	1 1/2" PIPE TO VALVE F026J	PT	2	341-103
X0.1	1E32-0265 @	2 1/2" PIPE TO ELBOW	PT	3	341-103
X0.1	1E32-0266 @	2 1/2" ELBOW TO PIPE	PT	2	341-103
X0.1	1E32-0267 @	2 1/2" PIPE TO VALVE F001J	PT	3	341-103

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Inservice Examination Interval Listing (Cont.)

<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-B					
X0.1	1E51-0120 @	10" PIPE TO VALVE F064	UT	NS*	632-102
X0.1	1E51-0121 @	10" PENETRATION P422 PROCESS PIPE TO PIPE	UT	NS*	632-102
X0.1	1E51-0122 @	10" PIPE TO PENETRATION P422 PROCESS PIPE	UT	1	632-101
X0.1	1E51-0123 @	10" VALVE F063 TO PIPE	UT	3	632-101
X0.1	1E51-0124 @	10" PIPE TO VALVE F063	UT	2	632-101
X0.1	1G33-0060 @	6" PIPE TO VALVE F001	UT	NS*	671-103
X0.1	1G33-0061 @	6" VALVE F001 TO PIPE	UT	NS*	671-103
X0.1	1G33-0062 @	6" PIPE TO PENETRATION P131 PROCESS PIPE	UT	NS*	671-103
X0.1	1G33-0063 @	6" PENETRATION P131 PROCESS PIPE TO PIPE	UT	NS*	671-104
X0.1	1G33-0064 @	6" PIPE TO VALVE F004	UT	NS*	671-104
X0.1	1G33-0064A	6" VALVE F004 TO ELBOW	UT, PT	1	671-104
X0.1	1G33-0064B	6" ELBOW TO PIPE	UT, PT	1	671-104
X0.1	1G33-0064C	6" PIPE TO ELBOW	UT, PT	2	671-104
X0.1	1G33-0064D	6" ELBOW TO PIPE	UT, PT	2	671-104
X0.1	1G33-0064E	6" PIPE TO ELBOW	UT, PT	2	671-104
X0.1	1G33-0064F	6" ELBOW TO PIPE	UT, PT	2	671-104
X0.1	1G33-0114 @	6" VALVE F040 TO PENETRATION P132 PROCESS PIPE	UT, PT	NS**	672-102
X0.1	1G33-0115 @	6" PENETRATION P132 PROCESS PIPE TO VALVE F039	UT, PT	NS**	672-102
X0.1	1G33-0116 @	6" VALVE F039 TO PIPE	UT, PT	2	672-102
X0.1	1G33-0117 @	6" PIPE TO FLANGE FE N040	UT, PT	2	672-102
X0.1	1G33-0118 @	6" FLANGE FE N040 TO PIPE	UT, PT	1	672-102
X0.1	1G33-0119 @	6" PIPE TO ELBOW	UT, PT	1	672-102
X0.1	1G33-0120 @	6" ELBOW TO PIPE	UT, PT	3	672-102
X0.1	1G33-0121 @	PIPE TO 6" X 6" X 6" TEE	UT, PT	3	672-101
X0.1	1G33-0122 @	6" X 6" X 6" TEE TO VALVE F051A	UT, PT	NS**	672-101
X0.1	1G33-0123 @	6" VALVE F051A TO PIPE	UT, PT	2	672-101
X0.1	1G33-0124 @	6" PIPE TO ELBOW	UT, PT	2	672-101
X0.1	1G33-0125 @	6" ELBOW TO PIPE	UT, PT	2	672-101
X0.1	1G33-0126 @	6" PIPE TO VALVE F052A	UT, PT	2	672-101
X0.1	1G33-0127 @	6" VALVE F052A TO PIPE	UT, PT	2	672-101
X0.1	1G33-0128 @	6" PIPE TO ELBOW	UT, PT	2	672-101
X0.1	1G33-0129 @	6" ELBOW TO PIPE	UT, PT	2	672-101
X0.1	1G33-0130 @	6" PIPE TO ELBOW	UT, PT	1	672-101
X0.1	1G33-0131 @	6" ELBOW TO WELDOLET	UT, PT	1	672-101

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Inservice Examination Interval Listing (Cont.)

ITEM NO.	MARK NO.	COMPONENT DESCRIPTION	EXAM METHOD	PERIOD SCHED.	ISI ISO SS-305-
EXAMINATION CATEGORY: X-B					
X0.1	1G33-0132 @	6" TEE TO PIPE	UT, PT	1	672-101
X0.1	1G33-0132A @	6" PIPE TO PIPE	UT, PT	2	672-101
X0.1	1G33-0133 @	6" PIPE TO VALVE F051B	UT, PT	3	672-101
X0.1	1G33-0134 @	6" VALVE F051B TO ELBOW	UT, PT	3	672-101
X0.1	1G33-0135 @	6" ELBOW TO PIPE	UT, PT	3	672-101
X0.1	1G33-0136 @	6" PIPE TO ELBOW	UT, PT	1	672-101
X0.1	1G33-0137 @	6" ELBOW TO PIPE	UT, PT	1	672-101
X0.1	1G33-0138 @	6" PIPE TO VALVE F052B	UT, PT	3	672-101
X0.1	1G33-0139 @	6" VALVE F052B TO PIPE	UT, PT	3	672-101
X0.1	1G33-0140 @	6" PIPE TO ELBOW	UT, PT	3	672-101
X0.1	1G33-0141 @	6" ELBOW TO PIPE	UT, PT	3	672-101
X0.1	1G33-0142 @	6" PIPE TO ELBOW	UT, PT	3	672-101
X0.1	1G33-0143 @	6" ELBOW TO WELDOLET	UT, PT	3	672-101
X0.1	1G33-0158	4" PIPE TO VALVE F053	UT	1	672-103
X0.1	1G33-0159	4" VALVE F054 TO 4" PIPE	UT	1	672-103
X0.1	1G33-0160	4" VALVE F028 TO 4" PIPE	UT	2	672-103
X0.1	1G33-0161	4" PIPE TO VALVE F034	UT	2	672-103
X0.1	1N22-0026 @	VALVE F022C TO 2" PIPE	PT	NS*	121-102
X0.1	1N22-0027 @	2" PIPE TO ELBOW	PT	3	121-102
X0.1	1N22-0028 @	2" ELBOW TO PIPE	PT	2	121-102
X0.1	1N22-0029 @	2" PIPE TO ELBOW	PT	3	121-102
X0.1	1N22-0030 @	2" ELBOW TO PIPE	PT	NS*	121-102
X0.1	1N22-0030A @	2" PIPE TO COUPLING	PT	3	121-102
X0.1	1N22-0030B @	2" COUPLING TO PIPE	PT	1	121-102
X0.1	1N22-0031 @	2" PIPE TO ELBOW	PT	2	121-102
X0.1	1N22-0031A @	2" TEE TO PIPE	PT	2	121-102
X0.1	1N22-0031B @	2" PIPE TO TEE	PT	2	121-102
X0.1	1N22-0031C @	2" PIPE TO COUPLING	PT	NS*	121-102
X0.1	1N22-0032 @	2" ELBOW TO PIPE	PT	1	121-102
X0.1	1N22-0033 @	2" PIPE TO ELBOW	PT	3	121-102
X0.1	1N22-0034 @	2" ELBOW TO PIPE	PT	2	121-102
X0.1	1N22-0035 @	2" PIPE TO ELBOW	PT	3	121-102
X0.1	1N22-0036 @	2" ELBOW TO PIPE	PT	2	121-102
X0.1	1N22-0037 @	2" PIPE TO 2" X 3" X 3" TEE	PT	1	121-102

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Inservice Examination Interval Listing (Cont.)

<u>ITEM</u> <u>NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM</u> <u>METHOD</u>	<u>PERIOD</u> <u>SCHED.</u>	<u>ISI ISO</u> <u>SS-305-</u>
EXAMINATION CATEGORY: X-B					
X0.1	1N22-0059 @	2" COUPLING ON VALVE F022D TO PIPE	PT	NS*	121-101
X0.1	1N22-0060 @	2" PIPE TO ELBOW	PT	3	121-101
X0.1	1N22-0061 @	2" ELBOW TO PIPE	PT	3	121-101
X0.1	1N22-0062 @	2" PIPE TO ELBOW	PT	2	121-101
X0.1	1N22-0063 @	2" ELBOW TO PIPE	PT	3	121-101
X0.1	1N22-0064 @	2" PIPE TO ELBOW	PT	3	121-101
X0.1	1N22-0065 @	2" ELBOW TO PIPE	PT	2	121-101
X0.1	1N22-0066 @	2" PIPE TO 2" X 3" REDUCER	PT	1	121-101
X0.1	1N22-0067 @	2" X 3" REDUCER TO PIPE	PT	NS*	121-101
X0.1	1N22-0068 @	3" PIPE TO 3" X 3" X 2" TEE	PT	3	121-101
X0.1	1N22-0069 @	3" X 3" X 2" TEE TO 3" PIPE	PT	2	121-101
X0.1	1N22-0070 @	3" PIPE TO 3" X 3" X 2" TEE	PT	2	121-103
X0.1	1N22-0071 @	3" X 3" X 2" TEE TO 3" PIPE	PT	3	121-103
X0.1	1N22-0072 @	3" PIPE TO 3" X 3" X 2" TEE	PT	3	121-103
X0.1	1N22-0073 @	3" X 3" X 2" TEE TO 3" PIPE	PT	3	121-103
X0.1	1N22-0074 @	3" PIPE TO VALVE F016	PT	NS*	121-103
X0.1	1N22-0075 @	3" VALVE F016 TO PENETRATION P423	PT	3	121-103
X0.1	1N22-0076 @	PENETRATION P423 TO 3" PIPE	PT	NS*	121-103
X0.1	1N22-0077 @	3" PIPE TO VALVE F019	PT	2	121-103
X0.1	1N22-0103 @	2" COUPLING ON VALVE F022B	PT	NS*	121-101
X0.1	1N22-0104 @	2" PIPE TO ELBOW	PT	3	121-101
X0.1	1N22-0105 @	2" ELBOW TO PIPE	PT	2	121-101
X0.1	1N22-0106 @	2" PIPE TO ELBOW	PT	NS*	121-101
X0.1	1N22-0107 @	2" ELBOW TO PIPE	PT	3	121-101
X0.1	1N22-0108 @	2" PIPE TO ELBOW	PT	3	121-101
X0.1	1N22-0108A @	2" ELBOW TO PIPE	PT	3	121-101
X0.1	1N22-0108B @	2" PIPE TO ELBOW	PT	2	121-101
X0.1	1N22-0109 @	2" ELBOW TO PIPE	PT	3	121-101
X0.1	1N22-0109A @	2" PIPE TO COUPLING	PT	3	121-101
X0.1	1N22-0109B @	2" COUPLING TO PIPE	PT	3	121-101
X0.1	1N22-0110 @	2" PIPE TO ELBOW	PT	3	121-101
X0.1	1N22-0111 @	2" ELBOW TO PIPE	PT	3	121-101
X0.1	1N22-0112 @	2" PIPE TO ELBOW	PT	3	121-101
X0.1	1N22-0113 @	2" ELBOW TO PIPE	PT	3	121-101
X0.1	1N22-0114 @	2" PIPE TO ELBOW	PT	2	121-101

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-B					
X0.1	1N22-0115 @	2" ELBOW TO PIPE	PT	1	121-101
X0.1	1N22-0116 @	2" PIPE TO 3" X 3" X 2" TEE	PT	1	121-101
X0.1	1N22-0136 @	2" COUPLING ON VALVE F022A TO PIPE	PT	NS*	121-102
X0.1	1N22-0137 @	2" PIPE TO ELBOW	PT	3	121-102
X0.1	1N22-0138 @	2" ELBOW TO PIPE	PT	2	121-102
X0.1	1N22-0139 @	2" PIPE TO ELBOW	PT	2	121-102
X0.1	1N22-0140 @	2" ELBOW TO PIPE	PT	3	121-102
X0.1	1N22-0141 @	2" PIPE TO ELBOW	PT	2	121-102
X0.1	1N22-0142 @	2" ELBOW TO PIPE	PT	NS*	121-102
X0.1	1N22-0143 @	2" PIPE TO ELBOW	PT	3	121-102
X0.1	1N22-0144 @	2" ELBOW TO PIPE	PT	3	121-102
X0.1	1N22-0145 @	2" PIPE TO ELBOW	PT	NS*	121-102
X0.1	1N22-0146 @	2" ELBOW TO PIPE	PT	2	121-102
X0.1	1N22-0147 @	2" PIPE TO 3" X 3" X 2" TEE	PT	NS*	121-102
X0.1	1N27-0007 @	20" VALVE F559A TO PIPE	UT	3	082-102
X0.1	1N27-0008 @	20" PENETRATION P121 PROCESS PIPE TO VALVE F559A	UT	1	082-102
X0.1	1N27-0009 @	20" VALVE F032A TO PENETRATION P121 PROCESS PIPE	UT	1	082-101
X0.1	1N27-0010 @	20" PIPE TO VALVE F032A	UT	2	082-101
X0.1	1N27-0010A @	20" PIPE TO PIPE	UT	NS**	082-101
X0.1	1N27-0011 @	20" X 20" X 14" TEE TO 20" PIPE	UT	3	082-101
X0.1	1N27-0011A @	20" X 20" X 14" TEE TO 14" X 12" REDUCER	UT	3	082-101
X0.1	1N27-0012 @	20" PIPE TO 20" X 20" X 14" TEE	UT	3	082-101
X0.1	1N27-0013 @	20" VALVE F065A TO PIPE	UT	2	082-101
X0.1	1N27-0014	20" PIPE TO VALVE F065A	UT	2	082-101
X0.1	1N27-0021 @	20" VALVE F559B TO PIPE	UT	3	082-105
X0.1	1N27-0022 @	20" PENETRATION P414 PROCESS PIPE TO VALVE F559B	UT	1	082-105
X0.1	1N27-0023 @	20" VALVE F032B TO PENETRATION P414 PROCESS PIPE	UT	2	082-104
X0.1	1N27-0024 @	20" PIPE TO VALVE F032B	UT	2	082-104
X0.1	1N27-0024A @	20" PIPE TO PIPE	UT	2	082-104
X0.1	1N27-0025 @	20" X 20" X 14" TEE TO 20" PIPE	UT	NS**	082-104
X0.1	1N27-0025A @	20" X 20" X 24" TEE TO 14" X 12" REDUCER	UT	3	082-104
X0.1	1N27-0026 @	20" PIPE TO 20" X 20" X 14" TEE	UT	3	082-104
X0.1	1N27-0027 @	20" VALVE F065B TO PIPE	UT	3	082-104
X0.1	1N27-0028	20" PIPE TO VALVE F065B	UT	2	082-104

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<u>ITEM</u> <u>NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM</u> <u>METHOD</u>	<u>PERIOD</u> <u>SCHED.</u>	<u>ISI ISO</u> <u>SS-305-</u>
EXAMINATION CATEGORY: X-B					
X0.1	1N27-0071	1 1/2" VALVE F740 TO PIPE	PT	1	971-102
X0.1	1N27-0072	1 1/2" PIPE TO ELBOW	PT	3	971-102
X0.1	1N27-0073	1 1/2" ELBOW TO PIPE	PT	3	971-102
X0.1	1N27-0074	1 1/2" PIPE TO ELBOW	PT	2	971-102
X0.1	1N27-0075	1 1/2" ELBOW TO PIPE	PT	2	971-102
X0.1	1N27-0076	1 1/2" PIPE TO CROSS	PT	1	971-102
X0.1	1N27-0077	1 1/2" CROSS TO 1 1/2" X 1" REDUCER	PT	1	971-102
X0.1	1N27-0078	1 1/2" CROSS TO 1 1/2" X 1" REDUCER	PT	1	971-102
X0.1	1N27-0079	1 1/2" CROSS TO PIPE	PT	3	971-102
X0.1	1N27-0080	1 1/2" PIPE TO TEE	PT	3	971-102
X0.1	1N27-0081	1 1/2" TEE TO 1 1/2" X 1" REDUCER	PT	2	971-102
X0.1	1N27-0082	1 1/2" TEE TO 1 1/2" X 1" REDUCER	PT	3	971-102
X0.1	1N27-0083	1 1/2" VALVE F737 TO PIPE	PT	1	971-101
X0.1	1N27-0084	1 1/2" PIPE TO CROSS	PT	3	971-101
X0.1	1N27-0085	1 1/2" CROSS TO PIPE	PT	1	971-101
X0.1	1N27-0086	1 1/2" TEE TO 1 1/2" X 1" REDUCER	PT	2	971-101
X0.1	1N27-0087	1 1/2" CROSS TO 1 1/2" X 1" REDUCER	PT	2	971-101
X0.1	1N27-0088	1 1/2" PIPE TO TEE	PT	2	971-101
X0.1	1N27-0089	1 1/2" TEE TO 1 1/2" X 1" REDUCER	PT	2	971-101
X0.1	1N27-0090	1 1/2" TEE TO 1 1/2" X 1" REDUCER	PT	1	971-101

\* - These Category X-B welds are scheduled for examination in Section 2.0, Category B-J.

\*\* - These Category X-B welds are scheduled for examination in Section 3.0, Category C-F-2.

EXAMINATION CATEGORY: X-C

X0.6	1B13-FS	RPV FEEDWATER SPARGERS	VT-3	2,3	006-101
X0.6	1B13-N4A-INT	FEEDWATER NOZZLE INTERIOR SURFACES	PT	SR	006-108
X0.6	1B13-N4B-INT	FEEDWATER NOZZLE INTERIOR SURFACES	PT	SR	006-108
X0.6	1B13-N4C-INT	FEEDWATER NOZZLE INTERIOR SURFACES	PT	SR	006-108
X0.6	1B13-N4D-INT	FEEDWATER NOZZLE INTERIOR SURFACES	PT	SR	006-108
X0.6	1B13-N4E-INT	FEEDWATER NOZZLE INTERIOR SURFACES	PT	SR	006-108
X0.6	1B13-N4F-INT	FEEDWATER NOZZLE INTERIOR SURFACES	PT	SR	006-108
X0.6	1B13-N4A-IR @	FW NOZZLE N4A INNER RADIUS	UT	1,2	006-108
X0.6	1B13-N4B-IR @	FW NOZZLE N4B INNER RADIUS	UT	1,2	006-108

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-C					
X0.6	1B13-N4C-IR @	FW NOZZLE N4C INNER RADIUS	UT	2,3	006-108
X0.6	1B13-N4D-IR @	FW NOZZLE N4D INNER RADIUS	UT	1,2	006-108
X0.6	1B13-N4E-IR @	FW NOZZLE N4E INNER RADIUS	UT	1,2	006-108
X0.6	1B13-N4F-IR @	FW NOZZLE N4F INNER RADIUS	UT	2,3	006-108
EXAMINATION CATEGORY: X-D					
X0.7	1B33-C001A-PS	RECIRCULATION PUMP C001A, PUMP SHAFT CRACKING EXAM	UT	3	602-102
X0.7	1B33-C001B-PS	RECIRCULATION PUMP C001B, PUMP SHAFT CRACKING EXAM	UT	3	602-104
EXAMINATION CATEGORY: X-E					
1-348	X0.1	1B21-P122-WA @ PENETRATION P122 FLUED HEAD FITTING TO PROCESS PIPE ATTACHMENT WELD	UT	2	605-109
	X0.1	1B21-P124-WA @ PENETRATION P124 FLUED HEAD FITTING TO PROCESS PIPE ATTACHMENT WELD	UT	3	605-107
	X0.1	1B21-P415-WA @ PENETRATION P415 FLUED HEAD FITTING TO PROCESS PIPE ATTACHMENT WELD	UT	1	605-110
	X0.1	1B21-P416-WA @ PENETRATION P416 FLUED HEAD FITTING TO PROCESS PIPE ATTACHMENT WELD	UT	2	605-108
	X0.1	1N27-P121-WA @ PENETRATION P121 FLUED HEAD FITTING TO PROCESS PIPE ATTACHMENT WELD	UT	1	082-101
	X0.1	1N27-P414-WA @ PENETRATION P414 FLUED HEAD FITTING TO PROCESS PIPE ATTACHMENT WELD	UT	3	082-104
EXAMINATION CATEGORY: X-F					
X0.8	1B13-AE-SUR	NO. 4 SHELL RING TO SHELL FLANGE CIRCUMFERENTIAL SEAM USAR SECTION 5.3.1	MT	1,3	006-102
EXAMINATION CATEGORY: X-G					
Rev. 3	X0.12	1B13-N1A-KB @ RECIRCULATION OUTLET NOZZLE N1A TO SAFE-END	UT	1,2	006-107
	X0.12	1B13-N1B-KB @ RECIRCULATION INLET NOZZLE N1B TO SAFE-END	UT	1,2	006-107
	X0.12	1B13-N2A-KB @ RECIRCULATION INLET NOZZLE N2A TO SAFE-END	UT	1,2	006-107

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<u>ITEM</u> <u>NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM</u> <u>METHOD</u>	<u>PERIOD</u> <u>SCHED.</u>	<u>ISI ISO</u> <u>SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.12	1B13-N2B-KB @	RECIRCULATION INLET NOZZLE N2B TO SAFE-END	UT	1,2	006-107
X0.12	1B13-N2C-KB @	RECIRCULATION INLET NOZZLE N2C TO SAFE-END	UT	2,3	006-107
X0.12	1B13-N2D-KB @	RECIRCULATION INLET NOZZLE N2D TO SAFE-END	UT	1,2	006-107
X0.12	1B13-N2E-KB @	RECIRCULATION INLET NOZZLE N2E TO SAFE-END	UT	1,2	006-107
X0.12	1B13-N2F-KB @	RECIRCULATION INLET NOZZLE N2F TO SAFE-END	UT	1,2	006-107
X0.12	1B13-N2G-KB @	RECIRCULATION INLET NOZZLE N2G TO SAFE-END	UT	1,2	006-107
X0.12	1B13-N2H-KB @	RECIRCULATION INLET NOZZLE N2H TO SAFE-END	UT	1,2	006-107
X0.12	1B13-N2J-KB @	RECIRCULATION INLET NOZZLE N2J TO SAFE-END	UT	1,2	006-107
X0.12	1B13-N2K-KB @	RECIRCULATION INLET NOZZLE N2K TO SAFE-END	UT	2,3	006-107
X0.12	1B13-N4A-KB @	FEEDWATER NOZZLE N4A TO SAFE-END	UT	2,3	006-108
X0.12	1B13-N4B-KB @	FEEDWATER NOZZLE N4B TO SAFE-END	UT	1,2	006-108
X0.13	1B13-N4C-KB @	FEEDWATER NOZZLE N4C TO SAFE-END	UT	1,2	006-108
X0.12	1B13-N4D-KB @	FEEDWATER NOZZLE N4D TO SAFE-END	UT	2,3	006-108
X0.13	1B13-N4E-KB @	FEEDWATER NOZZLE N4E TO SAFE-END	UT	1,2	006-108
X0.12	1B13-N4F-KB @	FEEDWATER NOZZLE N4F TO SAFE-END	UT	1,2	006-108
X0.12	1B13-N5A-KB @	LOW PRESSURE CORE SPRAY NOZZLE TO SAFE-END	UT	2,3	006-108
X0.12	1B13-N5B-KB @	HIGH PRESSURE CORE SPRAY NOZZLE TO SAFE-END	UT	1,2	006-109
X0.12	1B13-N6A-KB @	RHR NOZZLE N6A TO SAFE-END	UT	1,2	006-109
X0.12	1B13-N6B-KB @	RHR NOZZLE N6B TO SAFE-END	UT	1,2	006-109
X0.12	1B13-N6C-KB @	RHR NOZZLE N6C TO SAFE-END	UT	1,2	006-109
X0.12	1B13-N9A-KB @	JET PUMP INSTRUMENT NOZZLE N9A TO SAFE-END	UT	2,3	006-109
X0.12	1B13-N9A-KC @	JET PUMP INSTRUMENT NOZZLE SAFE-END TO PENETRATION SEAL	UT	2,3	006-106
X0.12	1B13-N9B-KB @	JET PUMP INSTRUMENT NOZZLE N9B TO SAFE-END	UT	2,3	006-106
X0.12	1B13-N9B-KC @	JET PUMP INSTRUMENT NOZZLE SAFE-END TO PENETRATION SEAL	UT	2,3	006-106
X0.9	1B33-0002 @	22" NOZZLE N1A SAFE-END (CRC)	UT, PT	NS*	602-102
X0.10	1B33-0002-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0003 @	22" ELBOW TO PIPE	UT, PT	NS*	602-102
X0.10	1B33-0003-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0003-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0003-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0003A @	22" ELBOW TO PIPE	UT, PT	NS*	602-102
X0.10	1B33-0003A-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0003A-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS*	602-102

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.10	1B33-0003A-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.9	1B33-0004 @	22" PIPE TO PIPE (CRC)	UT, PT	NS	602-102
X0.10	1B33-0004-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0004-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0005 @	22" PIPE TO ELBOW	UT, PT	NS	602-102
X0.10	1B33-0005-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0005-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0005-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.9	1B33-0006 @	22" ELBOW TO VALVE, F023A (CRC)	UT, PT	NS	602-102
X0.10	1B33-0006-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0006-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS	602-102
X0.9	1B33-0007 @	VALVE F023A TO 22" PIPE (CRC)	UT, PT	NS	602-102
X0.10	1B33-0007-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0008 @	22" PIPE TO 22" X 4" CONTOUR NOZZLE	UT, PT	NS	602-102
X0.10	1B33-0008A @	22" PIPE TO 22" X 4" SWEEPOLET	UT, PT	NS	602-102
X0.10	1B33-0009 @	22" X 4" CONTOUR NOZZLE TO 4" PIPE	UT, PT	NS*	602-102
X0.10	1B33-0009-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0010 @	4" PIPE TO FLANGE	UT, PT	NS	602-102
X0.10	1B33-0010-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0011 @	22" PIPE TO ELBOW	UT, PT	NS*	602-102
X0.10	1B33-0011-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0011-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0011-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.9	1B33-0012 @	22" ELBOW TO PUMP C001A CASING (CRC)	UT, PT	NS*	602-102
X0.10	1B33-0012-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0012-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS*	602-102
X0.9	1B33-0014 @	PUMP C001A CASING TO 24" PIPE (CRC)	UT, PT	NS	602-102
X0.10	1B33-0014-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0015 @	24" PIPE TO 24" X 4" CONTOUR NOZZLE	UT, PT	NS	602-102
X0.10	1B33-0016 @	24" X 4" CONTOUR NOZZLE TO 4" PIPE	UT, PT	NS	602-102
X0.10	1B33-0016-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0017 @	4" PIPE TO FLANGE	UT, PT	NS	602-102
X0.10	1B33-0017-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102
X0.9	1B33-0018 @	24" PIPE TO VALVE F060A (CRC)	UT, PT	NS	602-102
X0.10	1B33-0018-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.9	1B33-0019 @	VALVE F060A TO 24" PIPE (CRC)	UT, PT	NS	602-102
X0.10	1B33-0019-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0020 @	24" PIPE TO ELBOW	UT, PT	NS*	602-102
X0.10	1B33-0020-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0020-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0020-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS*	602-102
X0.10	1B33-0021 @	24" ELBOW TO PIPE	UT, PT	NS	602-102
X0.10	1B33-0021-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0021-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0021-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.9	1B33-0022 @	24" PIPE TO VALVE F067A (CRC)	UT, PT	NS	602-102
X0.10	1B33-0022-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102
X0.9	1B33-0023 @	VALVE F067A TO 24" PIPE (CRC)	UT, PT	NS	602-102
X0.10	1B33-0023-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0024 @	24" PIPE TO ELBOW	UT, PT	NS	602-102
X0.10	1B33-0024-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0024-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0024-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.10	1B33-0025 @	24" ELBOW TO PIPE	UT, PT	NS	602-102
X0.10	1B33-0025-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0025-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS	602-102
X0.10	1B33-0025-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-102
X0.9	1B33-0026 @	24" PIPE TO 24" X 16" CROSS (CRC)	UT, PT	NS	602-102
X0.10	1B33-0026-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-102
X0.9	1B33-0027 @	16" PIPE CAP TO PIPE (CRC)	UT, PT	NS	602-102
X0.10	1B33-0027-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0028 @	16" PIPE TO 16" X 12" SWEEPOLET	UT, PT	NS*	602-101
X0.10	1B33-0029 @	16" PIPE TO 16" X 12" SWEEPOLET	UT, PT	NS	602-101
X0.10	1B33-0030 @	16" PIPE TO 24" X 16" CROSS	UT, PT	NS	602-101
X0.10	1B33-0030-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.9	1B33-0031 @	24" X 16" CROSS TO 16" PIPE (CRC)	UT, PT	NS	602-101
X0.10	1B33-0031-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0032 @	16" PIPE TO 16" X 12" SWEEPOLET	UT, PT	NS	602-101
X0.10	1B33-0033 @	16" PIPE TO 16" X 12" SWEEPOLET	UT, PT	NS	602-101
X0.9	1B33-0034 @	16" PIPE TO CAP (CRC)	UT, PT	NS	602-101

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.10	1B33-0034-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.9	1B33-0035 @	16" X 12" SWEEPOLET TO 12" PIPE (CRC)	UT, PT	NS	602-101
X0.10	1B33-0035-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0036 @	12" PIPE TO ELBOW	UT, PT	NS	602-101
X0.10	1B33-0036-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0036-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0037 @	12" ELBOW TO PIPE	UT, PT	NS	602-101
X0.10	1B33-0037-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0037-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.9	1B33-0038 @	12" PIPE TO NOZZLE N2A SAFE-END (CRC)	UT, PT	NS	602-101
X0.10	1B33-0038-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.9	1B33-0040 @	16" X 12" SWEEPOLET TO 12" PIPE (CRC)	UT, PT	NS	602-101
X0.10	1B33-0040-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0041 @	12" PIPE TO ELBOW	UT, PT	NS	602-101
X0.10	1B33-0041-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0041-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0042 @	12" ELBOW TO PIPE	UT, PT	NS	602-101
X0.10	1B33-0042-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0042-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.9	1B33-0043 @	12" PIPE TO NOZZLE N2B SAFE-END (CRC)	UT, PT	NS	602-101
X0.10	1B33-0043-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0045 @	24" X 16" CROSS TO 24" X 12" REDUCER	UT, PT	NS*	602-101
X0.9	1B33-0046 @	24" X 12" REDUCER TO 12" PIPE (CRC)	UT, PT	NS*	602-101
X0.10	1B33-0046-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-101
X0.10	1B33-0047 @	12" PIPE TO ELBOW	UT, PT	NS	602-101
X0.10	1B33-0047-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0047-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0048 @	12" ELBOW TO PIPE	UT, PT	NS	602-101
X0.10	1B33-0048-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0048-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.9	1B33-0049 @	12" PIPE TO NOZZLE N2C SAFE-END (CRC)	UT, PT	NS	602-101
X0.10	1B33-0049-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.9	1B33-0051 @	16" X 12" SWEEPOLET TO 12" PIPE (CRC)	UT, PT	NS	602-101
X0.10	1B33-0051-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0052 @	12" PIPE TO ELBOW	UT, PT	NS	602-101

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.10	1B33-0052-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0052-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0053 @	12" ELBOW TO PIPE	UT, PT	NS	602-101
X0.10	1B33-0053-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0053-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.9	1B33-0054 @	12" PIPE TO NOZZLE N2D SAFE-END (CRC)	UT, PT	NS*	602-101
X0.10	1B33-0054-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-101
X0.9	1B33-0056 @	16" X 12" SWEEPOLET TO 12" PIPE (CRC)	UT, PT	NS	602-101
X0.10	1B33-0056-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0057 @	12" PIPE TO ELBOW	UT, PT	NS	602-101
X0.10	1B33-0057-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-101
X0.10	1B33-0057-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-101
X0.10	1B33-0058 @	12" ELBOW TO PIPE	UT, PT	NS*	602-101
X0.10	1B33-0058-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS*	602-101
X0.10	1B33-0058-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-101
X0.9	1B33-0059 @	12" PIPE TO NOZZLE N2E SAFE-END (CRC)	UT, PT	NS*	602-101
X0.10	1B33-0059-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-101
X0.9	1B33-0062 @	22" NOZZLE N1B SAFE-END TO PIPE (CRC)	UT, PT	NS*	602-104
X0.10	1B33-0062-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0063 @	22" PIPE TO ELBOW	UT, PT	NS*	602-104
X0.10	1B33-0063-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0063-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0063-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0063A @	22" ELBOW TO PIPE	UT, PT	NS*	602-104
X0.10	1B33-0063A-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0063A-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0063A-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.9	1B33-0064 @	22" PIPE TO PIPE (CRC)	UT, PT	NS	602-104
X0.10	1B33-0064-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0064-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0065 @	22" PIPE TO 22" X 22" X 20" TEE	UT, PT	NS	602-104
X0.10	1B33-0065-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0066 @	22" X 22" X 20" TEE TO 22" PIPE	UT, PT	NS	602-104
X0.10	1B33-0066-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0067 @	22" PIPE TO ELBOW	UT, PT	NS	602-104

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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.10	1B33-0067-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0067-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0067-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.9	1B33-0068 @	22" ELBOW TO VALVE B33-F023B (CRC)	UT, PT	NS	602-104
X0.10	1B33-0068-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0068-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS	602-104
X0.9	1B33-0069 @	VALVE B33-F023B TO 22" PIPE (CRC)	UT, PT	NS	602-104
X0.10	1B33-0069-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0070 @	22" PIPE TO 22" X 4" CONTOUR NOZZLE	UT, PT	NS	602-104
X0.10	1B33-0070A @	22" PIPE TO 22" X 4" SWEEPOLET	UT, PT	NS	602-104
X0.10	1B33-0071 @	22" X 4" CONTOUR NOZZLE TO 4" PIPE	UT, PT	NS*	602-104
X0.10	1B33-0071-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0072 @	4" PIPE TO FLANGE	UT, PT	NS	602-104
X0.10	1B33-0072-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0073 @	22" PIPE TO ELBOW	UT, PT	NS*	602-104
X0.10	1B33-0073-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0073-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0073-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.9	1B33-0074 @	22" ELBOW TO PUMP C001B CASING (CRC)	UT, PT	NS*	602-104
X0.10	1B33-0074-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0074-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS*	602-104
X0.9	1B33-0076 @	PUMP C001B CASING TO 24" PIPE (CRC)	UT, PT	NS	602-104
X0.10	1B33-0076-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0077 @	24" PIPE TO 24" X 4" CONTOUR NOZZLE	UT, PT	NS	602-104
X0.10	1B33-0078 @	24" X 4" CONTOUR NOZZLE TO 4" PIPE	UT, PT	NS	602-104
X0.10	1B33-0078-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0079 @	4" PIPE TO FLANGE	UT, PT	NS	602-104
X0.10	1B33-0079-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.9	1B33-0080 @	24" PIPE TO VALVE B33-F060B (CRC)	UT, PT	NS	602-104
X0.10	1B33-0080-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.9	1B33-0081 @	VALVE F060B TO 24" PIPE (CRC)	UT, PT	NS	602-104
X0.10	1B33-0081-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0082 @	24" PIPE TO ELBOW	UT, PT	NS*	602-104
X0.10	1B33-0082-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0082-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS*	602-104



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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.10	1B33-0082-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS*	602-104
X0.10	1B33-0083 @	24" ELBOW TO PIPE	UT, PT	NS	602-104
X0.10	1B33-0083-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0083-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0083-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.9	1B33-0084 @	24" PIPE TO VALVE F067B (CRC)	UT, PT	NS	602-104
X0.10	1B33-0084-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.9	1B33-0085 @	VALVE F067B TO 24" PIPE (CRC)	UT, PT	NS	602-104
X0.10	1B33-0085-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0086 @	24" PIPE TO ELBOW	UT, PT	NS	602-104
X0.10	1B33-0086-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0086-D1 @	ELBOW SHORT SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0086-D2 @	ELBOW LONG SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.10	1B33-0087 @	24" ELBOW TO PIPE	UT, PT	NS	602-104
X0.10	1B33-0087-U1 @	ELBOW SHORT SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0087-U2 @	ELBOW LONG SEAM, UPSTREAM	UT, PT	NS	602-104
X0.10	1B33-0087-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-104
X0.9	1B33-0088 @	24" PIPE TO 24" X 16" CROSS (CRC)	UT, PT	NS	602-104
X0.10	1B33-0088-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-104
X0.9	1B33-0089 @	16" PIPE CAP TO PIPE (CRC)	UT, PT	NS	602-103
X0.10	1B33-0089-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-103
X0.10	1B33-0090 @	16" PIPE TO 16" X 12" SWEEPolet	UT, PT	NS*	602-103
X0.10	1B33-0091 @	16" PIPE TO 16" X 12" SWEEPolet	UT, PT	NS*	602-103
X0.10	1B33-0092 @	16" PIPE TO 24" X 16" CROSS	UT, PT	NS	602-103
X0.10	1B33-0092-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.9	1B33-0093 @	24" X 16" CROSS TO 16" PIPE (CRC)	UT, PT	NS	602-103
X0.10	1B33-0093-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0094 @	16" PIPE TO 16" X 12" SWEEPolet	UT, PT	NS*	602-103
X0.10	1B33-0095 @	16" PIPE TO 16" X 12" SWEEPolet	UT, PT	NS	602-103
X0.9	1B33-0096 @	16" PIPE TO CAP (CRC)	UT, PT	NS	602-103
X0.10	1B33-0096-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-103
X0.9	1B33-0097 @	16" X 12" SWEEPolet TO 12" PIPE (CRC)	UT, PT	NS	602-103
X0.10	1B33-0097-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0098 @	12" PIPE TO ELBOW	UT, PT	NS	602-103
X0.10	1B33-0098-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-103



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<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.10	1B33-0098-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-103
X0.10	1B33-0099 @	12" ELBOW TO PIPE	UT, PT	NS*	602-103
X0.10	1B33-0099-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-103
X0.10	1B33-0099-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS*	602-103
X0.9	1B33-0100 @	12" PIPE TO NOZZLE N2F SAFE-END (CRC)	UT, PT	NS*	602-103
X0.10	1B33-0100-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-103
X0.9	1B33-0102 @	16" X 12" SWEEPOLET TO 12" PIPE (CRC)	UT, PT	NS	602-103
X0.10	1B33-0102-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0103 @	12" PIPE TO ELBOW	UT, PT	NS	602-103
X0.10	1B33-0103-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0103-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-103
X0.10	1B33-0104 @	12" ELBOW TO PIPE	UT, PT	NS	602-103
X0.10	1B33-0104-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0104-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS	602-103
X0.9	1B33-0105 @	12" PIPE TO NOZZLE N2G SAFE-END (CRC)	UT, PT	NS	602-103
X0.10	1B33-0105-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-103
X0.10	1B33-0107 @	24" X 16" CROSS TO 24" X 12" REDUCER	UT, PT	NS*	602-103
X0.9	1B33-0108 @	24" X 12" REDUCER TO 12" PIPE (CRC)	UT, PT	NS	602-103
X0.10	1B33-0108-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0109 @	12" PIPE TO ELBOW	UT, PT	NS*	602-103
X0.10	1B33-0109-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS*	602-103
X0.10	1B33-0109-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-103
X0.10	1B33-0110 @	12" ELBOW TO PIPE	UT, PT	NS	602-103
X0.10	1B33-0110-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0110-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS	602-103
X0.9	1B33-0111 @	12" PIPE TO NOZZLE N2H SAFE-END (CRC)	UT, PT	NS*	602-103
X0.10	1B33-0111-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-103
X0.9	1B33-0113 @	16" X 12" SWEEPOLET TO 12" PIPE (CRC)	UT, PT	NS	602-103
X0.10	1B33-0113-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0114 @	12" PIPE TO ELBOW	UT, PT	NS	602-103
X0.10	1B33-0114-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0114-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-103
X0.10	1B33-0115 @	12" ELBOW TO PIPE	UT, PT	NS	602-103
X0.10	1B33-0115-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0115-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS	602-103

Inservice Examination Interval Listing (Cont.)

ITEM NO.	MARK NO.	COMPONENT DESCRIPTION	EXAM METHOD	PERIOD SCHED.	ISI ISO SS-305-
EXAMINATION CATEGORY: X-G					
X0.9	1B33-0116 @	12" PIPE TO NOZZLE N2J SAFE-END (CRC)	UT, PT	NS*	602-103
X0.10	1B33-0116-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-103
X0.9	1B33-0118 @	16" X 12" SWEEPolet TO 12" PIPE (CRC)	UT, PT	NS	602-103
X0.10	1B33-0118-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0119 @	12" PIPE TO ELBOW	UT, PT	NS	602-103
X0.10	1B33-0119-D @	ELBOW SEAM, DOWNSTREAM	UT, PT	NS	602-103
X0.10	1B33-0119-U @	PIPE SEAM, UPSTREAM	UT, PT	NS	602-103
X0.10	1B33-0120 @	12" ELBOW TO PIPE	UT, PT	NS*	602-103
X0.10	1B33-0120-D @	PIPE SEAM, DOWNSTREAM	UT, PT	NS*	602-103
X0.10	1B33-0120-U @	ELBOW SEAM, UPSTREAM	UT, PT	NS*	602-103
X0.9	1B33-0121 @	12" PIPE TO NOZZLE N2K SAFE-END (CRC)	UT, PT	NS*	602-103
X0.10	1B33-0121-U @	PIPE SEAM, UPSTREAM	UT, PT	NS*	602-103
X0.9	1E12-0001 @	22" X 22" X 20" TEE TO 20" PIPE (CRC ON TEE ONLY)	UT, PT	NS*	642-118
X0.10	1E12-0001A @	20" SS PIPE TO 20" CS PIPE (RR TIE-IN)	UT, PT	NS**	642-118
X0.10	1G33-0071 @	4" SS PIPE TO 4" CS PIPE	UT, PT	NS**	671-103
X0.10	1G33-0073 @	4" BENT PIPE TO PIPE	UT, PT	NS	671-105
X0.10	1G33-0075 @	4" X 4" TEE TO PIPE	UT, PT	NS	671-105
X0.10	1G33-0076 @	4" X 4" TEE TO PIPE	UT, PT	NS	671-105
X0.10	1G33-0078 @	4" PIPE TO BENT PIPE	UT, PT	NS	671-105
X0.10	1G33-0080 @	4" CS PIPE TO 4" SS PIPE	UT, PT	NS**	671-105
X0.9	1G33-0087 @	4" X 22" SWEEPolet TO 4" PIPE BI-METALLIC WELD, SS HAS CRC	UT, PT	NS**	671-105
X0.10	1G33-0088 @	4" PIPE TO TEE	UT, PT	NS	671-105
X0.10	1G33-0090 @	4" PIPE TO BENT PIPE	UT, PT	NS	671-106
X0.10	1G33-0091 @	4" PIPE TO PIPE	UT, PT	NS	671-106
X0.10	1G33-0092 @	4" BENT PIPE TO PIPE	UT, PT	NS	671-106
X0.10	1G33-0094 @	4" BENT PIPE TO PIPE	UT, PT	NS	671-106
X0.10	1G33-0096 @	4" BENT PIPE TO PIPE	UT, PT	NS	671-106
X0.10	1G33-0097 @	4" PIPE TO PIPE	UT, PT	NS	671-106

Inservice Examination Interval Listing (Cont.)

<u>ITEM NO.</u>	<u>MARK NO.</u>	<u>COMPONENT DESCRIPTION</u>	<u>EXAM METHOD</u>	<u>PERIOD SCHED.</u>	<u>ISI ISO SS-305-</u>
EXAMINATION CATEGORY: X-G					
X0.10	1G33-0099 @	4" PIPE TO BENT PIPE	UT, PT	NS	671-106
X0.10	1G33-0101 @	4" PIPE TO BENT PIPE	UT, PT	NS*	671-107
X0.10	1G33-0103 @	4" PIPE TO BENT PIPE	UT, PT	NS	671-107
X0.10	1G33-0106 @	4" CS PIPE TO 4" SS PIPE	UT, PT	NS**	671-107
X0.9	1G33-0113 @	4" X 22" SWEEPOLET TO 4" PIPE BI-METALLIC WELD, SS HAS CRC	UT, PT	NS**	671-107

\*These Category X-G welds are scheduled for examination in Section 2.0, Category B-J

\*\*These Category X-G welds are scheduled for examination in Section 2.0, Category B-F

## 7.0 SNUBBERS

Snubbers are devices (component supports) which provide restraint to a component or system during a sudden application of force but allows for freedom of motion during thermal movement. The ASME Code and plant Operational Requirements Manual (ORM) identify snubber examination boundaries differently. The ORM identifies snubber examination boundaries pin to pin. The ASME Code identifies snubber examination boundaries as pipe end attachment to structural support end attachment.

### 7.1 Terminology

#### 7.1.1 Functional Adequacy

A visual examination to confirm operability by verification of settings or freedom of motion.

#### 7.1.2 Functional Testing

In-place or bench test exercising a snubber while measuring and observing required parameters.

#### 7.1.3 Hydraulic Snubber

A device which provides restraint to a component or system during a sudden application of force in which the load is transmitted through a mechanism which contains hydraulic fluid. The device shall allow essentially free motion during thermal movement.

#### 7.1.4 Inaccessible Snubber

Those snubbers that are in a high radiation area or other locations/conditions that would render it impractical for the snubbers to be examined during reactor operation without compromising personnel safety.

#### 7.1.5 Inspection

Denotes the performance of a visual observation by an inspector qualified by the owner or his agent in accordance with the guidelines of SNT-TC-1A (edition identified by the owner) or ANSI N45.2.6-1978. Applicable to ORM required snubber inspections only (i.e., not an ASME XI Code inspection).

#### 7.1.6 Mechanical Snubber

A device which provides restraint to a component or system during a sudden application of force in which the load is transmitted entirely through mechanical parts. The device shall allow essentially free motion during thermal movement.

#### 7.1.7 Transient Event

An unexpected or potential damaging occurrence which was determined from review of operating data or during a visual inspection/examination.

#### 7.1.8 Type

A snubber of the same design (mechanical or hydraulic) and manufacturer.

#### 7.2 Exemption

Snubbers are required to satisfy both the ORM and ASME Code scope requirements, therefore two exemption criteria exist.

##### 1. Operational Requirements Manual (ORM)

Snubbers not attached to safety class systems (1, 2, or 3), nor considered in the design as affecting a safety class system, are exempt from examination/inspection and testing requirement.

##### 2. ASME Code

Snubbers selected for code examinations shall be the supports of those components that are required to be examined under IWB, IWC, and IWD during the first inspection interval (they are identified as IWF examinations within Section 5.0 of this program).

#### 7.3 Examination Selection Process

Snubber examination/inspection selections are different for both the ORM and the ASME Code. The selection process is as follows:

##### 1. Operational Requirements Manual (ORM)

Routine ORM snubber selection is based on each snubber type and category (accessible/inaccessible). The visual inspection frequency for each snubber type and category shall be determined based on the criteria provided in ORM Table 6.4.1-1. The initial inspection interval utilizing this criteria shall be 18 months, beginning from the conclusion of the last visual inspection conducted during RFO4. Additionally, ORM snubbers shall be examined prior to and after performance of repairs, replacement or testing. Also, snubbers attached to sections of systems that have experienced an unexpected or potentially damaging transient shall be inspected (accessible systems within 72 hours and inaccessible systems within six months).

##### 2. ASME Code

All code snubbers shall be examined within each interval and each interval shall use a subdivision of periods to determine examination percentage requirements. Reference code inspection and program requirements identified in Section 5.0 herein.



#### 7.4 Additional Examination Requirements

Additional snubber examination/inspection requirements are different for both the ORM and the ASME Code. The requirements are as follows:

1. Operational Requirements Manual (ORM)

In accordance with the ORM, snubber inspections will be performed on 100% of a scheduled type and category of snubber. Therefore additional examinations (i.e., expanded scope within the type/category) is not applicable. (Note: The change to 100% inspection was T/S Amendment 68)

2. Code

See Section 5.2 herein.

#### 7.5 Successive Examination Requirements

Successive snubber examination/inspection requirements are different for both the ORM and the ASME Code. The requirements are as follows:

1. Operational Requirements Manual (ORM)

Successive visual inspection intervals for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval in accordance with ORM Table 6.4.1-1.

2. Code

See Section 5.3 herein.

## 7.6 Testing Requirements

Snubber testing requirements are performed in accordance with the ORM in lieu of the Code per Relief Request IR-023. The testing requirements utilize one of three sample plans. The three plans are: 1) at least 10% of the total of each type of snubber, 2) a representative sample of each type of snubber to comply with ORM Figure 4.7.4.1 (Figure 1 of IR-023 which is exhibited herein), and 3) an initial representative sample of 55 snubbers.

## 7.7 Additional Testing Requirements

Additional testing requirements, upon snubber testing failure, shall be established in accordance with the sample plan used (i.e., sample plan provided to the NRC).

1. At least 10% of the total of each type to be tested.
  - a. Each failure requires additional 5% of the same type to be tested until no further failures occur or all snubbers of that type have been functionally tested.
2. A representative sample tested in accordance with ORM Figure 6.4.1-1. |
  - a. Any time test sample of a type fails on or above "reject" line all snubbers of that type shall be functionally tested.
  - b. If test sample falls within continue testing range, additional snubbers of that type shall be tested until plot falls on or below "accept" line.
  - c. Terminate testing if all the snubbers of that type have been tested.
3. A representative sample of 55 snubbers of each type to be tested.
  - a. Each snubber type that fails another sample of at least one half the size of the initial sample shall be tested. When sample plan falls on or below the "Accept" line, testing of that type of snubber may be terminated.
    - 1) Accept line follows evaluation  $N = 55(1 + C/2)$  where  $N$  = number of snubbers of that type tested and  $C$  = number of failed snubber.
  - b. Terminate testing if all the snubbers of that type have been tested.

## 7.8 Snubber Categorization

Every snubber is given a unique category classification. The categorization is to allow for failure analysis and to ensure the random sampling application covers all types of snubbers. The categorization is as follows:

First Digit:	Type - 1) Hydraulic or 2) Mechanical
Second Digit:	ALARA - 1) Accessible or 2) Inaccessible
Third Digit:	Size for PSA Mechanical/Phoenix Hydraulic Snubbers - 1) PSA 1/4/EP 1/4, 2) PSA 1/2/EP 1/2, 3) PSA 1/EP 1, 4) PSA 3/EP 3, 5) PSA 10/EP 10, 6) PSA 35/EP 35, 7) PSA 100/EP 100
Third Digit:	Size for E-Systems Hydraulic Snubbers - 1) 20 KIP, 2) 30 KIP, 3) 50 KIP, 4) 70 KIP, 5) 100 KIP
Third Digit:	Size for Lisega Hydraulic Snubbers - 1) N/A, 2) 3018, 3) 3038, 4) 3042, 5) 3052, 6) 3062 & 3072, 7) 3082 & 3092
Fourth Digit:	System Characteristic - 1) Inservice or 2) Functional
Fifth Digit:	Operating Temperature - 1) <200°F or 2) ≥200°F
Sixth Digit:	Vibration - 1) <20 mils or 2) ≥20 mils

## 7.9 Relief Requests

When compliance to examination requirements are not achievable, relief from examinations are requested. The table listed below identifies those Inservice Relief Requests (IR) which have been filed with the NRC for snubbers.

IR-023 R-0

Note: IR-023 was submitted and approved by NRR with reference to the Technical Specifications. With the incorporation of Improved Technical Specifications, the snubber requirements were transferred into the Operational Requirements Manual. The requirements themselves were unchanged. Thus, IR-023, which is exhibited herein, stands as it was originally submitted.

Perry Nuclear Power Plant Unit 1  
RELIEF REQUEST #IR-023

I. Identification of Components

All safety-related hydraulic and mechanical snubbers.

II. ASME B&PV Section XI Requirements

- IWF-5400(b) A representative sample\* of 10% of the total number of nonexempt (IWF-1230) snubbers whose load rating is less than 50 kips shall be tested with each inspection period. Each representative sample shall consist of previously untested snubbers. After all nonexempt snubbers in the plant have been tested, the tests shall be repeated taking the same snubber (or their replacement) in the same sequence as in the original tests. These tests shall verify:
- (1) during low velocity displacements, the specified maximum drag or free movement force will initiate motion of the snubber rod in both tension and compression;
  - (2) activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression;
  - (3) snubber bleed, or release rate, where required, is within the specified range in compression or tension. For units specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement shall be demonstrated.

- IWF-5400(c) Snubbers that fail the inservice tests of (b) above shall be repaired in accordance with IWF-4000 and retested. An additional sample of 10% of the total number of snubbers shall also be tested at that time. Additional sample testing shall be continued until all units within the sample have met the requirements of (b) above.

\*A representative sample shall include snubbers from various locations, taking into consideration service and environment.

III. Relief Request

Relief is requested from the required method of sampling in IWF-5400(b) and (c).

Perry Nuclear Power Plant Unit 1  
RELIEF REQUEST #IR-023

IV. Basis for Relief

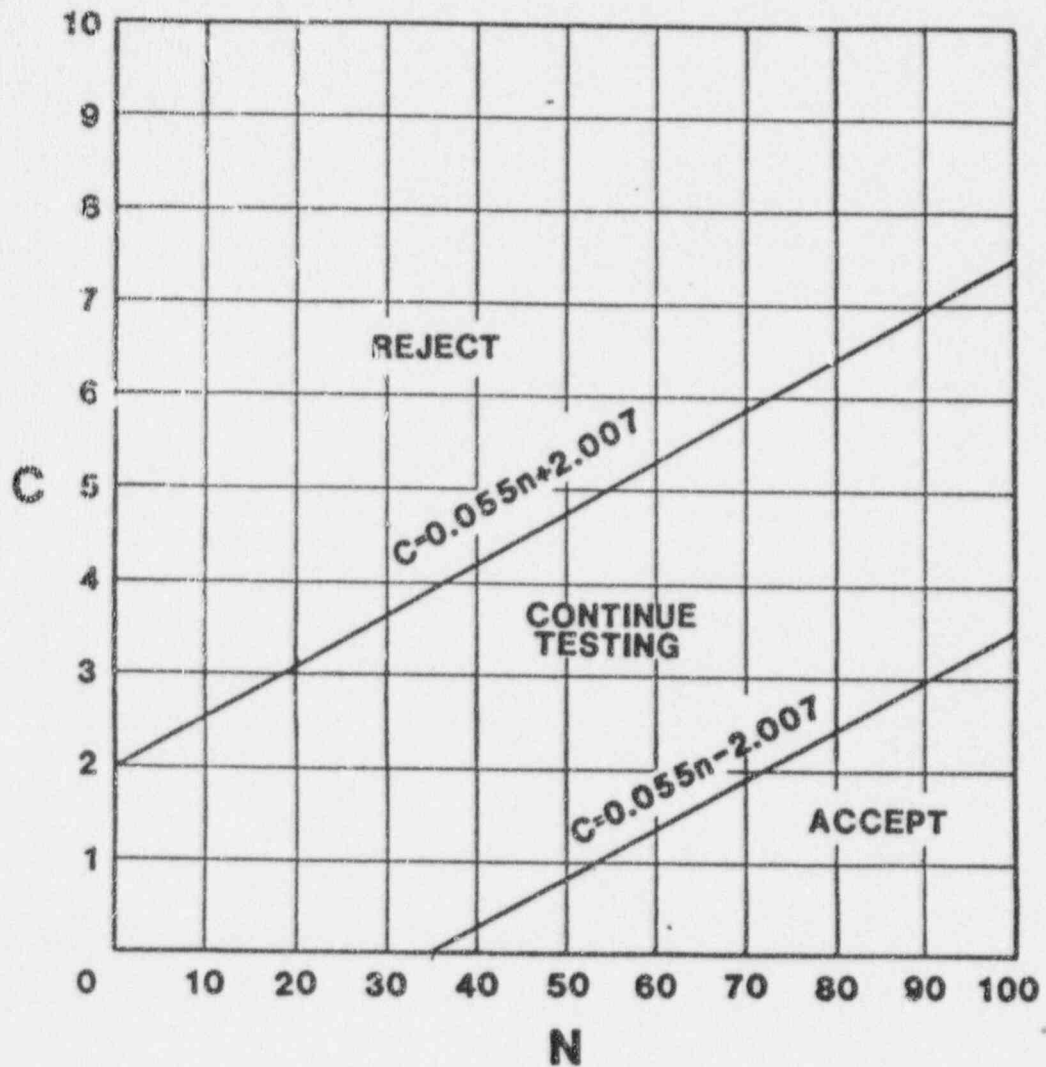
The PNPP Unit 1 Technical Specification 4.7.4.e Functional tests bases provides assurance of snubber functional reliability by using one of three functional testing methods. The methods used and stated acceptance criteria are:

- 1) At least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria an additional 5% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested; or
- 2) A representative sample of each type of snubber shall be functionally tested in accordance with Figure 4.7.4-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements. The cumulative number of snubbers of a type tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 4.7.4.-1. If at any time the point plotted falls on or below the "Accept" line, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or the "Reject" region, or all the snubbers of that type have been tested. Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time, providing all snubbers tested with the failed equipment during the day of the equipment failure are retested; or
- 3) An initial representative sample of 55 snubbers of each type shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor,  $1 + C/2$ , where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this sample plan shall be plotted using an "Accept" line which follows the equation  $N = 55(1 + C/2)$ . Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing of that type of snubber may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls on or below the "Accept" line or all the snubbers of that type have been tested.

V. Alternate Testing

None





SAMPLE PLAN FOR SNUBBER FUNCTIONAL TEST

PNPP UNIT 1 TECHNICAL SPECIFICATION FIGURE 4.7.4-1

Figure 1

### 7.10 Snubber Tables

The snubber tables contained in this section list all snubbers which fall under Technical Specification requirements. The listing is for reference purposes. The actual snubber schedule will be presented to management for approval as soon as possible before each outage.

NOTE: Changes to the snubber tables, such as additions or deletions due to design changes, have no impact on the context of this section. The snubber tables will be updated on a periodic basis.

The information presented in the tables is defined below:

1. ITEM NO. - A number used by ASME Section XI to determine examination requirements. This item number is used within to determine which snubbers are also Section XI snubbers.
2. MPL NO. - A unique identification number used to track snubber testing.
3. HANGER - MARK NO. - A unique number used to cross reference snubbers with Section XI requirements.
4. CATEGORY NO. - A unique number used for computer selection and identifies several operating characteristics of the snubber (reference 7.8).

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.1SN	1B21G7070	1B21-G006-S101B	H22121
F1.1SN	1B21G7071	1B21-G006-S101C	H22121
F1.1SN	1B21G7072	1B21-G006-S102A	H23121
F1.1SN	1B21G7073	1B21-G006-S102B	H24121
F1.1SN	1B21G7074	1B21-G006-S102C	H24121
F1.1SN	1B21G7076	1B21-G006-S103A	H22121
F1.1SN	1B21G7080	1B21-G006-S104A	H23121
F1.1SN	1B21G7083	1B21-G006-S104D	H23121
F1.1SN	1B21G7085	1B21-G006-S105B	H24121
F1.1SN	1B21G7086	1B21-G006-S105C	H24121
F1.1SN	1B21G7087	1B21-G006-S105D	H23121
F1.1SN	1B21G7090	1B21-G006-S107B	H23121
F1.1SN	1B21G7091	1B21-G006-S107C	H23121
F1.3SN	1B21H0002	1B21-H0002	M26221
F1.3SN	1B21H0004	1B21-H0004	M26221
F1.3SN	1B21H0005	1B21-H0005	M25221
F1.3SN	1B21H0006	1B21-H0006	M26221
F1.3SN	1B21H0007	1B21-H0007 (TANDEM)	M25221
F1.3SN	1B21H0009	1B21-H0009 (TANDEM)	M24221
F1.3SN	1B21H0010	1B21-H0010 (TANDEM)	M26221
F1.3SN	1B21H0012	1B21-H0012	M25221
F1.3SN	1B21H0013	1B21-H0013	M26221
F1.3SN	1B21H0014	1B21-H0014	M25221
F1.3SN	1B21H0015	1B21-H0015	M25221
F1.3SN	1B21H0020	1B21-H0020 (TANDEM)	M26221
F1.3SN	1B21H0021	1B21-H0021	M25221
F1.3SN	1B21H0022	1B21-H0022	M26221
F1.3SN	1B21H0023	1B21-H0023	M25221
F1.3SN	1B21H0024	1B21-H0024	M25221
F1.3SN	1B21H0025	1B21-H0025 (TANDEM)	M25221
F1.3SN	1B21H0029	1B21-H0029 (TANDEM)	M26221
F1.3SN	1B21H0031	1B21-H0031	M25221
F1.3SN	1B21H0032	1B21-H0032	M26221
F1.3SN	1B21H0033	1B21-H0033	M25221
F1.3SN	1B21H0039	1B21-H0039	M26221
F1.3SN	1B21H0040	1B21-H0040	M26221
F1.3SN	1B21H0041	1B21-H0041	M26221
F1.3SN	1B21H0042	1B21-H0042 (TANDEM)	M25221
F1.3SN	1B21H0043	1B21-H0043	M25221
F1.3SN	1B21H0045	1B21-H0045	M25221
F1.3SN	1B21H0046	1B21-H0046	M25221
F1.3SN	1B21H0047	1B21-H0047	M26221
F1.3SN	1B21H0048	1B21-H0048	M26221
F1.3SN	1B21H0049	1B21-H0049 (TANDEM)	M26221
F1.3SN	1B21H0051	1B21-H0051 (TANDEM)	M25221
F1.3SN	1B21H0054	1B21-H0054 (TANDEM)	M25221
F1.3SN	1B21H0056	1B21-H0056	M25221
F1.3SN	1B21H0057	1B21-H0057	M26221
F1.3SN	1B21H0058	1B21-H0058	M26221

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.3SN	1B21H0059	1B21-H0059	M25221
F1.3SN	1B21H0060	1B21-H0060	M24221
F1.3SN	1B21H0063	1B21-H0063 (TANDEM)	M25221
F1.3SN	1B21H0064	1B21-H0064	M26221
F1.3SN	1B21H0065	1B21-H0065 (TANDEM)	M26221
F1.3SN	1B21H0066	1B21-H0066	M26221
F1.3SN	1B21H0068	1B21-H0068	M26221
F1.3SN	1B21H0069	1B21-H0069 (TANDEM)	M24221
F1.3SN	1B21H0071	1B21-H0071	M25221
F1.3SN	1B21H0073	1B21-H0073	M26221
F1.3SN	1B21H0074	1B21-H0074 (TANDEM)	M26221
F1.3SN	1B21H0075	1B21-H0075	M26221
F1.3SN	1B21H0076	1B21-H0076	M25221
F1.3SN	1B21H0077	1B21-H0077	M26221
F1.3SN	1B21H0078	1B21-H0078	M25221
F1.3SN	1B21H0079	1B21-H0079	M26221
F1.3SN	1B21H0082	1B21-H0082	M25221
F1.3SN	1B21H0084	1B21-H0084	M26221
F1.3SN	1B21H0085	1B21-H0085	M26221
F1.3SN	1B21H0086	1B21-H0086 (TANDEM)	M26221
F1.3SN	1B21H0087	1B21-H0087 (TANDEM)	M26221
F1.3SN	1B21H0089	1B21-H0089	M25221
F1.3SN	1B21H0091	1B21-H0091	M25221
F1.3SN	1B21H0092	1B21-H0092 (TANDEM)	M25221
F1.3SN	1B21H0094	1B21-H0094	M25221
F1.3SN	1B21H0095	1B21-H0095 (TANDEM)	M26221
F1.3SN	1B21H0096	1B21-H0096	M26221
F1.3SN	1B21H0098	1B21-H0098 (TANDEM)	M26221
F1.3SN	1B21H0100	1B21-H0100	M25221
F1.3SN	1B21H0101	1B21-H0101	M26221
F1.3SN	1B21H0102	1B21-H0102	M25221
F1.3SN	1B21H0103	1B21-H0103	M25221
F1.3SN	1B21H0106	1B21-H0106 (TANDEM)	M26221
F1.3SN	1B21H0107	1B21-H0107 (TANDEM)	M26221
F1.3SN	1B21H0108	1B21-H0108	M25221
F1.3SN	1B21H0112	1B21-H0112	M26221
F1.3SN	1B21H0113	1B21-H0113	M24221
F1.3SN	1B21H0114	1B21-H0114	M26221
F1.3SN	1B21H0115	1B21-H0115	M26221
F1.3SN	1B21H0117	1B21-H0117 (TANDEM)	M26221
F1.3SN	1B21H0118	1B21-H0118 (TANDEM)	M24221
F1.3SN	1B21H0119	1B21-H0119 (TANDEM)	M26221
F1.3SN	1B21H0122	1B21-H0122	M26221
F1.3SN	1B21H0124	1B21-H0124	M26221
F1.3SN	1B21H0125	1B21-H0125	M26221
F1.3SN	1B21H0126	1B21-H0126	M26221
F1.3SN	1B21H0127	1B21-H0127 (TANDEM)	M26221
F1.3SN	1B21H0129	1B21-H0129	M26221
F1.3SN	1B21H0130	1B21-H0130	M26221
F1.3SN	1B21H0133	1B21-H0133	M25221



ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.3SN	1B21H0135	1B21-H0135 (TANDEM)	M25221
F1.3SN	1B21H0138	1B21-H0138	M25221
F1.3SN	1B21H0139	1B21-H0139	M25221
F1.3SN	1B21H0140	1B21-H0140 (TANDEM)	M26221
F1.3SN	1B21H0141	1B21-H0141 (TANDEM)	M26221
F1.3SN	1B21H0143	1B21-H0143	M26221
F1.3SN	1B21H0145	1B21-H0145	M25221
F1.3SN	1B21H0146	1B21-H0146	M24221
F1.3SN	1B21H0147	1B21-H0147	M26221
F1.3SN	1B21H0148	1B21-H0148	M24221
F1.3SN	1B21H0150	1B21-H0150 (TANDEM)	M26221
F1.3SN	1B21H0151	1B21-H0151 (TANDEM)	M26221
F1.3SN	1B21H0152	1B21-H0152	M24221
F1.3SN	1B21H0153	1B21-H0153 (TANDEM)	M26221
F1.3SN	1B21H0154	1B21-H0154 (TANDEM)	M26221
F1.3SN	1B21H0162	1B21-H0162 (TANDEM)	M25221
F1.3SN	1B21H0165	1B21-H0165	M25221
F1.3SN	1B21H0166	1B21-H0166	M26221
F1.3SN	1B21H0170	1B21-H0170 (TANDEM)	M25221
F1.3SN	1B21H0174	1B21-H0174 (TANDEM)	M25221
F1.3SN	1B21H0178	1B21-H0178 (TANDEM)	M25221
F1.3SN	1B21H0181	1B21-H0181 (TANDEM)	M26221
F1.3SN	1B21H0183	1B21-H0183	M25221
F1.3SN	1B21H0184	1B21-H0184	M26221
F1.3SN	1B21H0185	1B21-H0185	M25221
F1.3SN	1B21H0187	1B21-H0187 (TANDEM)	M25221
F1.3SN	1B21H0191	1B21-H0191	M26221
F1.3SN	1B21H0222	1B21-H0222	M26221
F1.3SN	1B21H0408	1B21-H0408	M25221
F1.3SN	1B21H0410	1B21-H0410	M26221
F1.3SN	1B21H0412	1B21-H0412	M26221
F1.3SN	1B21H0421	1B21-H0421	M25221
F1.3SN	1B21H0423	1B21-H0423	M25221
F1.3SN	1B21H0427	1B21-H0427	M25221
F1.1SN	1B21H0445	1B21-H0445	P24221
F1.1SN	1B21H0446	1B21-H0446 (TANDEM)	P24221
F1.1SN	1B21H0447	1B21-H0447	P24221
F1.1SN	1B21H0449	1B21-H0449	P24221
F1.1SN	1B21H0450	1B21-H0450	P23221
F1.1SN	1B21H0452	1B21-H0452	P23221
F1.1SN	1B21H0453	1B21-H0453	P24221
	1B21H0456	1B21-H0456	M23211
	1B21H0457	1B21-H0457	M24211
F1.1SN	1B21H0458	1B21-H0458	M24221
F1.1SN	1B21H0459	1B21-H0459	M24221
F1.1SN	1B21H0462	1B21-H0462	P24221
	1B21H0465	1B21-H0465	M23211
F1.1SN	1B21H0471	1B21-H0471	P23221
F1.1SN	1B21H0472	1B21-H0472	P25221
F1.1SN	1B21H0474	1B21-H0474	M24221

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
	1B21H0476	1B21-H0476	M24211
F1.1SN	1B21H0490	1B21-H0490	P24221
F1.1SN	1B21H0491	1B21-H0491	P24221
	1B21H7153	1B21-F022B-H3003	M23221
	1B21H7503	1B21-F041G-H3005	M22221
	1B21H7548	1B21-F047B-H3008	M21221
	1B21H7637	1B21-F047G-H3002	M22221
	1B21H7782	1B21-F051G-H3006	M22221
F1.1SN	1B33G7064A	1B33-G006-S369A	H25121
F1.1SN	1B33G7064B	1B33-G006-S369B	H25121
F1.1SN	1B33G7065A	1B33-G006-S370A	H25121
F1.1SN	1B33G7065B	1B33-G006-S370B	H25121
F1.1SN	1B33G7066A	1B33-G006-S371A	H25121
F1.1SN	1B33G7066B	1B33-G006-S371B	H25121
F1.1SN	1B33G7067A	1B33-G006-S372A	H25121
F1.1SN	1B33G7067B	1B33-G006-S372B	H25121
F1.1SN	1B33G7068A	1B33-G006-S373A	H25121
F1.1SN	1B33G7068B	1B33-G006-S373B	H25121
F1.1SN	1B33G7069A	1B33-G006-S374A	H25121
F1.1SN	1B33G7069B	1B33-G006-S374B	H25121
F1.1SN	1B33G7070A	1B33-G006-S375A	H25121
F1.1SN	1B33G7070B	1B33-G006-S375B	H25121
	1B33H0007	1B33-H0007	M23221
F1.2SN	1C11H0659	1C11-H0659	M14121
F1.2SN	1C11H0661	1C11-H0661	M14121
F1.2SN	1C11H0662	1C11-H0662	M14122
F1.2SN	1C11H0663	1C11-H0663	M14121
	1C11H0664	1C11-H0664	M15121
F1.2SN	1C11H0666	1C11-H0666	M14121
	1C11H0671	1C11-H0671	M15121
F1.2SN	1C11H0673	1C11-H0673	M14121
F1.2SN	1C11H0675	1C11-H0675	M14121
	1C11H0693	1C11-H0693	M11111
	1C11H0694	1C11-H0694	M11111
	1C11H3081	1C11-H3081	M13121
	1C11H3085	1C11-H3085	M13121
F1.2SN	1C11H5013	1C11-H5013	M14121
F1.2SN	1C11H5014	1C11-H5014	M14121
F1.1SN	1C41H0067	1C41-H0067	M21221
F1.1SN	1C41H0109	1C41-H0109 (TANDEM)	M23221
F1.1SN	1C41H0110	1C41-H0110	M21221
	1C41H3002	1C41-H3002	M13211
	1C41H3035	1C41-H3035	M12211
F1.1SN	1C41H5000	1C41-H5000	M22221
F1.1SN	1C41H5001	1C41-H5001	M22221
F1.1SN	1C41H5002	1C41-H5002	M24221
F1.1SN	1C41H5003	1C41-H5003	M21221
F1.1SN	1C41H5005	1C41-H5005	M21221
	1C41H5020	1C41-H5020	M11211
F1.1SN	1E12H0004	1E12-H0004	M26221

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.1SN	1E12H0005	1E12-H0005	M26221
F1.1SN	1E12H0006	1E12-H0006	M26221
F1.1SN	1E12H0007	1E12-H0007	M26221
F1.1SN	1E12H0010	1E12-H0010	M26221
F1.1SN	1E12H0011	1E12-H0011	M26221
F1.1SN	1E12H0012	1E12-H0012	M26221
F1.1SN	1E12H0015	1E12-H0015	M25221
F1.1SN	1E12H0016	1E12-H0016	M26221
F1.1SN	1E12H0017	1E12-H0017	M26221
F1.1SN	1E12H0018	1E12-H0018	M25221
F1.1SN	1E12H0026	1E12-H0026	M25221
F1.1SN	1E12H0030	1E12-H0030	M25221
F1.1SN	1E12H0035	1E12-H0035	M15221
F1.1SN	1E12H0036	1E12-H0036	M15221
F1.2SN	1E12H0039	1E12-H0039	M15211
F1.2SN	1E12H0045	1E12-H0045 (TANDEM)	M14211
F1.1SN	1E12H0046	1E12-H0046	M24221
F1.1SN	1E12H0047	1E12-H0047	M25221
F1.1SN	1E12H0049	1E12-H0049	M25211
F1.1SN	1E12H0051	1E12-H0051	M16211
F1.3SN	1E12H0060	1E12-H0060 (TANDEM)	M14211
	1E12H0068	1E12-H0068 (TANDEM)	M14211
	1E12H0073	1E12-H0073 (TANDEM)	M15211
F1.1SN	1E12H0074	1E12-H0074	M26221
F1.2SN	1E12H0104	1E12-H0104	M15211
F1.2SN	1E12H0105	1E12-H0105	M15211
F1.2SN	1E12H0106	1E12-H0106	M16211
F1.2SN	1E12H0108	1E12-H0108	M16211
F1.2SN	1E12H0109	1E12-H0109	P14211
F1.2SN	1E12H0110	1E12-H0110	M13211
F1.2SN	1E12H0115	1E12-H0115	M16211
F1.2SN	1E12H0116	1E12-H0116 (TANDEM)	M16211
F1.2SN	1E12H0122	1E12-H0122 (TANDEM)	M16211
F1.2SN	1E12H0124	1E12-H0124	M16211
F1.2SN	1E12H0162	1E12-H0162	M12211
F1.2SN	1E12H0164	1E12-H0164	M14211
F1.2SN	1E12H0165	1E12-H0165	M15211
F1.2SN	1E12H0169	1E12-H0169 (TANDEM)	L15211
F1.2SN	1E12H0170	1E12-H0170	L16211
F1.2SN	1E12H0171	1E12-H0171	L16211
F1.2SN	1E12H0172	1E12-H0172	M15211
F1.2SN	1E12H0180	1E12-H0180	M13211
F1.2SN	1E12H0190	1E12-H0190	M13221
F1.2SN	1E12H0192	1E12-H0192	M14221
F1.2SN	1E12H0195	1E12-H0195	M14211
	1E12H0205	1E12-H0205	M14211
F1.2SN	1E12H0211	1E12-H0211	M15221
F1.2SN	1E12H0213	1E12-H0213	M15221
F1.2SN	1E12H0234	1E12-H0234	M15211
F1.2SN	1E12H0255	1E12-H0255	M15211

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.2SN	1E12H0256	1E12-H0256	M15211
F1.2SN	1E12H0257	1E12-H0257	M15211
F1.2SN	1E12H0263	1E12-H0263 (TANDEM)	M15211
F1.2SN	1E12H0264	1E12-H0264	M15211
F1.2SN	1E12H0280	1E12-H0280	M25221
F1.2SN	1E12H0284	1E12-H0284	M25221
F1.2SN	1E12H0288	1E12-H0288	M15211
F1.2SN	1E12H0289	1E12-H0289	M15211
F1.2SN	1E12H0290	1E12-H0290	M15211
F1.2SN	1E12H0292	1E12-H0292	M15211
F1.2SN	1E12H0293	1E12-H0293 (TANDEM)	L14211
F1.2SN	1E12H0295	1E12-H0295	M16211
F1.2SN	1E12H0303	1E12-H0303	M14211
F1.2SN	1E12H0305	1E12-H0305	M15211
F1.2SN	1E12H0309	1E12-H0309	M15211
F1.2SN	1E12H0310	1E12-H0310	M15211
F1.2SN	1E12H0313	1E12-H0313	M16211
F1.2SN	1E12H0314	1E12-H0314	M16211
F1.2SN	1E12H0315	1E12-H0315	M11211
F1.2SN	1E12H0316	1E12-H0316	M11211
F1.2SN	1E12H0317	1E12-H0317	M13211
F1.2SN	1E12H0318	1E12-H0318	M13211
F1.2SN	1E12H0322	1E12-H0322	M15211
F1.2SN	1E12H0323	1E12-H0323 (TANDEM)	M15211
F1.2SN	1E12H0324	1E12-H0324	M15211
F1.2SN	1E12H0325	1E12-H0325	M15211
F1.2SN	1E12H0333	1E12-H0333	M14211
F1.2SN	1E12H0339	1E12-H0339	M14211
F1.2SN	1E12H0340	1E12-H0340	M13211
F1.2SN	1E12H0344	1E12-H0344	M14211
F1.2SN	1E12H0345	1E12-H0345	M14211
F1.2SN	1E12H0347	1E12-H0347	M13211
F1.2SN	1E12H0349	1E12-H0349	M25221
F1.2SN	1E12H0359	1E12-H0359	M16211
F1.2SN	1E12H0360	1E12-H0360	M16211
F1.2SN	1E12H0361	1E12-H0361	M11211
F1.2SN	1E12H0362	1E12-H0362	M11211
F1.2SN	1E12H0365	1E12-H0365	M15211
F1.2SN	1E12H0367	1E12-H0367	M12211
F1.2SN	1E12H0368	1E12-H0368	M15211
F1.2SN	1E12H0370	1E12-H0370	M15211
F1.2SN	1E12H0373	1E12-H0373	M16211
F1.2SN	1E12H0374	1E12-H0374	M15211
F1.2SN	1E12H0375	1E12-H0375	M15211
F1.2SN	1E12H0376	1E12-H0376	M16211
F1.2SN	1E12H0377	1E12-H0377	M15211
F1.2SN	1E12H0378	1E12-H0378	M15211
F1.2SN	1E12H0379	1E12-H0379	M15211
F1.2SN	1E12H0382	1E12-H0382	M13211
F1.2SN	1E12H0383	1E12-H0383	M13211



ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.2SN	1E12H0385	1E12-H0385	M15211
F1.2SN	1E12H0386	1E12-H0386	M16211
F1.2SN	1E12H0388	1E12-H0388	M15211
F1.2SN	1E12H0389	1E12-H0389	M25211
F1.2SN	1E12H0391	1E12-H0391	M15211
F1.2SN	1E12H0392	1E12-H0392	M15211
F1.2SN	1E12H0393	1E12-H0393	M25211
F1.2SN	1E12H0394	1E12-H0394	M25211
F1.2SN	1E12H0407	1E12-H0407	M14211
F1.2SN	1E12H0408	1E12-H0408	M14211
F1.2SN	1E12H0410	1E12-H0410	M16211
F1.2SN	1E12H0414	1E12-H0414	M13211
F1.1SN	1E12H0416	1E12-H0416	M15221
F1.1SN	1E12H0418	1E12-H0418	M15221
F1.1SN	1E12H0419	1E12-H0419	M14221
F1.2SN	1E12H0421	1E12-H0421	M13211
F1.2SN	1E12H0422	1E12-H0422	M14211
F1.2SN	1E12H0423	1E12-H0423	M14211
F1.2SN	1E12H0424	1E12-H0424	M15211
F1.2SN	1E12H0425	1E12-H0425	M15211
F1.2SN	1E12H0427	1E12-H0427	M15211
F1.2SN	1E12H0428	1E12-H0428	M15211
	1E12H0429	1E12-H0429	M15211
F1.2SN	1E12H0430	1E12-H0430	M15211
	1E12H0431	1E12-H0431	M15211
F1.2SN	1E12H0435	1E12-H0435	M14221
F1.2SN	1E12H0437	1E12-H0437	M14221
F1.2SN	1E12H0439	1E12-H0439	M14221
F1.2SN	1E12H0440	1E12-H0440	M14221
F1.2SN	1E12H0441	1E12-H0441	M14221
F1.2SN	1E12H0447	1E12-H0447 (TANDEM)	M14221
F1.2SN	1E12H0449	1E12-H0449	M15211
F1.2SN	1E12H0455	1E12-H0455	M15221
F1.2SN	1E12H0457	1E12-H0457	M13221
F1.2SN	1E12H0459	1E12-H0459	M14221
F1.2SN	1E12H0460	1E12-H0460 (TANDEM)	M14221
F1.2SN	1E12H0462	1E12-H0462	M14221
F1.2SN	1E12H0466	1E12-H0466 (TANDEM)	M14221
F1.2SN	1E12H0467	1E12-H0467 (TANDEM)	M14221
F1.2SN	1E12H0484	1E12-H0484	M15211
F1.2SN	1E12H0485	1E12-H0485	M15211
F1.2SN	1E12H0486	1E12-H0486	M15211
F1.2SN	1E12H0488	1E12-H0488	M14211
F1.2SN	1E12H0490	1E12-H0490	M11211
F1.2SN	1E12H0491	1E12-H0491	M11211
F1.2SN	1E12H0492	1E12-H0492	M11211
F1.2SN	1E12H0496	1E12-H0496	M15211
F1.2SN	1E12H0497	1E12-H0497	M15211
F1.2SN	1E12H0498	1E12-H0498 (TANDEM)	M14211
F1.2SN	1E12H0500	1E12-H0500	M16211



ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.2SN	1E12H0501	1E12-H0501	M15211
F1.2SN	1E12H0502	1E12-H0502	M15211
F1.2SN	1E12H0503	1E12-H0503	M15211
F1.2SN	1E12H0506	1E12-H0506 (TANDEM)	M14311
F1.2SN	1E12H0510	1E12-H0510	M13212
F1.2SN	1E12H0511	1E12-H0511	M13212
F1.2SN	1E12H0512	1E12-H0512	M13212
F1.2SN	1E12H0513	1E12-H0513	M13212
	1E12H0518	1E12-H0518	M11221
	1E12H0520	1E12-H0520	M12221
	1E12H0521	1E12-H0521	M11221
	1E12H0522	1E12-H0522	M13221
	1E12H0523	1E12-H0523	M12221
F1.2SN	1E12H0526	1E12-H0526	M15211
F1.2SN	1E12H0528	1E12-H0528	M16211
F1.2SN	1E12H0533	1E12-H0533	M15211
F1.2SN	1E12H0535	1E12-H0535	M15211
	1E12H0538	1E12-H0538	M13221
	1E12H0539	1E12-H0539	M13221
	1E12H0542	1E12-H0542	M12221
F1.2SN	1E12H0545	1E12-H0545	M13221
F1.2SN	1E12H0546	1E12-H0546	M13221
F1.2SN	1E12H0551	1E12-H0551	M15211
F1.2SN	1E12H0554	1E12-H0554	M15211
F1.2SN	1E12H0555	1E12-H0555	M16211
F1.2SN	1E12H0556	1E12-H0556 (TANDEM)	M15211
F1.2SN	1E12H0557	1E12-H0557	M15211
F1.2SN	1E12H0558	1E12-H0558	M15211
F1.2SN	1E12H0560	1E12-H0560 (TANDEM)	M15211
F1.2SN	1E12H0561	1E12-H0561	M14211
F1.2SN	1E12H0565	1E12-H0565 (TANDEM)	M14221
F1.2SN	1E12H0567	1E12-H0567	M15221
	1E12H0568	1E12-H0568	M14221
F1.2SN	1E12H0569	1E12-H0569	M16211
F1.2SN	1E12H0570	1E12-H0570	M16211
F1.2SN	1E12H0571	1E12-H0571	M16211
	1E12H0580	1E12-H0580 (TANDEM)	M13221
	1E12H0581	1E12-H0581	M15221
	1E12H0582	1E12-H0582	M15221
	1E12H0583	1E12-H0583	M14221
	1E12H0585	1E12-H0585	M14211
	1E12H0586	1E12-H0586	M14211
	1E12H0587	1E12-H0587	M14211
	1E12H0588	1E12-H0588 (TANDEM)	M14211
	1E12H0590	1E12-H0590	M14211
	1E12H0591	1E12-H0591	M14211
	1E12H0595	1E12-H0595	M15211
	1E12H0597	1E12-H0597 (TANDEM)	M13211
	1E12H0599	1E12-H0599	M14211
	1E12H0601	1E12-H0601	M14211

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
	1E12H0602	1E12-H0602	M14211
	1E12H0603	1E12-H0603	M14211
	1E12H0604	1E12-H0604	M13211
	1E12H0605	1E12-H0605	M15211
	1E12H0606	1E12-H0606	M14211
F1.2SN	1E12H0616	1E12-H0616	M15211
F1.2SN	1E12H0617	1E12-H0617	M15211
	1E12H0623	1E12-H0623	M15211
F1.1SN	1E12H0652	1E12-H0652	M16211
F1.1SN	1E12H0653	1E12-H0653	M15211
F1.1SN	1E12H0660	1E12-H0660 (TANDEM)	M16211
F1.2SN	1E12H0666	1E12-H0666	M14211
	1E12H0668	1E12-H0668	M14211
F1.1SN	1E12H0671	1E12-H0671 (TANDEM)	M26221
F1.2SN	1E12H0679	1E12-H0679	M12211
F1.2SN	1E12H0680	1E12-H0680	M12211
F1.2SN	1E12H0681	1E12-H0681	M14211
F1.2SN	1E12H0682	1E12-H0682	M14211
F1.2SN	1E12H0694	1E12-H0694	M15211
F1.3SN	1E12H0699	1E12-H0699	M16211
F1.2SN	1E12H0710	1E12-H0710	M15211
F1.2SN	1E12H0712	1E12-H0712	M14211
F1.1SN	1E12H0726	1E12-H0726	P27221
F1.2SN	1E12H0729	1E12-H0729	M26211
F1.2SN	1E12H0730	1E12-H0730	M16211
F1.2SN	1E12H0731	1E12-H0731	M26211
F1.2SN	1E12H0734	1E12-H0734	M16211
F1.1SN	1E12H0736	1E12-H0736	M16221
F1.2SN	1E12H0737	1E12-H0737	M15211
F1.2SN	1E12H0738	1E12-H0738	M15211
F1.1SN	1E12H0741	1E12-H0741 (TANDEM)	M25221
F1.1SN	1E12H0747	1E12-H0747	M14211
F1.1SN	1E12H0749	1E12-H0749	M26221
F1.1SN	1E12H0750	1E12-H0750	M26221
F1.2SN	1E12H0751	1E12-H0751	M15211
F1.2SN	1E12H0752	1E12-H0752	M14211
	1E12H0754	1E12-H0754	M12211
	1E12H0756	1E12-H0756	M15211
	1E12H0758	1E12-H0758	M14211
	1E12H0759	1E12-H0759	M13211
	1E12H0760	1E12-H0760	M13221
	1E12H0761	1E12-H0761 (TANDEM)	M14221
	1E12H0762	1E12-H0762	M13211
F1.1SN	1E12H0764	1E12-H0764	M26221
F1.1SN	1E12H0765	1E12-H0765	M26221
F1.1SN	1E12H0766	1E12-H0766 (TANDEM)	M26221
F1.2SN	1E12H0769	1E12-H0769	M16211
F1.2SN	1E12H0770	1E12-H0770	M15211
F1.2SN	1E12H0771	1E12-H0771	M16211
F1.2SN	1E12H0772	1E12-H0772	M16211

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.2SN	1E12H0774	1E12-H0774	M25221
F1.1SN	1E12H0777	1E12-H0777	M25221
F1.2SN	1E12H0779	1E12-H0779	M13211
F1.2SN	1E12H0780	1E12-H0780	M14211
F1.2SN	1E12H0781	1E12-H0781	M12221
F1.2SN	1E12H0782	1E12-H0782 (TANDEM)	M13221
F1.2SN	1E12H0787	1E12-H0787	M14211
F1.2SN	1E12H0788	1E12-H0788	M14211
	1E12H1037	1E12-H1037	M11211
	1E12H1038	1E12-H1038	M11211
	1E12H1039	1E12-H1039	M11211
	1E12H1043	1E12-H1043	M21221
	1E12H1051	1E12-H1051	M11211
	1E12H2019	1E12-H2019	M11211
	1E12H2023	1E12-H2023	M12211
	1E12H2028	1E12-H2028	M12211
	1E12H2051	1E12-H2051	M11221
	1E12H2073	1E12-H2073	M11221
	1E12H2075	1E12-H2075	M11221
	1E12H2119	1E12-H2119	M11221
	1E12H2138	1E12-H2138	M11211
	1E12H2139	1E12-H2139	M11211
	1E12H2140	1E12-H2140	M11211
	1E12H2142	1E12-H2142	M11211
	1E12H2143	1E12-H2143	M11211
	1E12H2144	1E12-H2144	M11211
	1E12H2146	1E12-H2146	M11211
	1E12H2150	1E12-H2150	M11211
	1E12H2161	1E12-H2161	M11211
	1E12H2220	1E12-H2220	M11211
	1E12H2222	1E12-H2222	M11211
	1E12H2229	1E12-H2229	M11221
	1E12H2236	1E12-H2236	M21221
	1E12H2256	1E12-H2256	M21221
	1E12H2258	1E12-H2258	M11211
	1E12H2259	1E12-H2259	M11211
	1E12H2268	1E12-H2268	M11221
	1E12H2276	1E12-H2276	M11211
	1E12H2291	1E12-H2291	M11211
	1E12H2294	1E12-H2294	M11211
	1E12H2297	1E12-H2297	M11211
	1E12H2299	1E12-H2299	M12211
	1E12H2302	1E12-H2302	M12211
F1.1SN	1E12H5000	1E12-H5000 (TANDEM)	M14221
F1.1SN	1E12H5001	1E12-H5001	M16221
F1.2SN	1E12H5002	1E12-H5002	M15221
	1E15H0110	1E15-H0110	M15211
F1.1SN	1E21H0001	1E21-H0001	M23221
F1.1SN	1E21H0002	1E21-H0002	M23221
F1.1SN	1E21H0004	1E21-H0004	M26221

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.1SN	1E21H0007	1E21-H0007	M15221
F1.1SN	1E21H0008	1E21-H0008	M15221
F1.1SN	1E21H0011	1E21-H0011	M15221
F1.1SN	1E21H0012	1E21-H0012	M14221
F1.1SN	1E21H0015	1E21-H0015	M14221
F1.1SN	1E21H0016	1E21-H0016	M15221
	1E21H0024	1E21-H0024	M15211
F1.2SN	1E21H0026	1E21-H0026	M15211
F1.2SN	1E21H0028	1E21-H0028	M16211
F1.2SN	1E21H0030	1E21-H0030 (TANDEM)	M15211
F1.2SN	1E21H0038	1E21-H0038	L14211
F1.2SN	1E21H0039	1E21-H0039	L14211
F1.2SN	1E21H0040	1E21-H0040	M14211
F1.2SN	1E21H0042	1E21-H0042	M14211
	1E21H0044	1E21-H0044	M14211
	1E21H0047	1E21-H0047	M14211
F1.2SN	1E21H0050	1E21-H0050 (TANDEM)	L16211
F1.2SN	1E21H0053	1E21-H0053	L14211
F1.1SN	1E21H0060	1E21-H0060	M15221
F1.1SN	1E21H0061	1E21-H0061	M15221
F1.1SN	1E21H0062	1E21-H0062	M15221
F1.1SN	1E21H0063	1E21-H0063	M15221
F1.2SN	1E21H0065	1E21-H0065	M15211
F1.2SN	1E21H0066	1E21-H0066	M15211
F1.2SN	1E21H0067	1E21-H0067	M14211
F1.2SN	1E21H0069	1E21-H0069	M15211
	1E21H0071	1E21-H0071	M14212
	1E21H0072	1E21-H0072	M11211
F1.2SN	1E21H0079	1E21-H0079	M13211
F1.2SN	1E21H0084	1E21-H0084	M15211
	1E21H0091	1E21-H0091	M14212
F1.2SN	1E21H0096	1E21-H0096	M14211
	1E21H1019	1E21-H1019	M11211
F1.1SN	1E22H0001	1E22-H0001	M23221
F1.1SN	1E22H0002	1E22-H0002	M23221
F1.1SN	1E22H0005	1E22-H0005	M26221
F1.1SN	1E22H0007	1E22-H0007	M15221
F1.1SN	1E22H0008	1E22-H0008	M15221
F1.1SN	1E22H0010	1E22-H0010	M15221
F1.1SN	1E22H0011	1E22-H0011	M14221
F1.1SN	1E22H0015	1E22-H0015	M16221
F1.1SN	1E22H0017	1E22-H0017	M15221
F1.2SN	1E22H0032	1E22-H0032	M14211
F1.2SN	1E22H0034	1E22-H0034	M15211
F1.2SN	1E22H0037	1E22-H0037	M14211
F1.2SN	1E22H0038	1E22-H0038	M14211
F1.2SN	1E22H0047	1E22-H0047	M15211



ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.2SN	1E22H0053	1E22-H0053	M14211
F1.2SN	1E22H0054	1E22-H0054	M16211
F1.2SN	1E22H0057	1E22-H0057	M14211
F1.2SN	1E22H0060	1E22-H0060	M15211
F1.2SN	1E22H0064	1E22-H0064	M15211
F1.2SN	1E22H0066	1E22-H0066 (TANDEM)	M14211
F1.2SN	1E22H0067	1E22-H0067	M14211
F1.2SN	1E22H0070	1E22-H0070	M16211
F1.2SN	1E22H0081	1E22-H0081	M14211
	1E22H0087	1E22-H0087	M16211
	1E22H0089	1E22-H0089	M14211
	1E22H0090	1E22-H0090	M14211
F1.2SN	1E22H0105	1E22-H0105	M15211
F1.2SN	1E22H0107	1E22-H0107 (TANDEM)	M14211
F1.1SN	1E22H0118	1E22-H0118	M15221
F1.1SN	1E22H0119	1E22-H0119	M15211
F1.2SN	1E22H0122	1E22-H0122	M15211
	1E22H0123	1E22-H0123	M16211
F1.3SN	1E22H0134	1E22-H0134	M13221
F1.3SN	1E22H0135	1E22-H0135	M13221
F1.3SN	1E22H5000	1E22-H5000	M13221
	1E32H0003	1E32-H0003	M11221
	1E32H0008	1E32-H0008	M12221
	1E32H0035	1E32-H0035	M11221
	1E32H0036	1E32-H0036	M11221
	1E32H0037	1E32-H0037	M11221
	1E32H0038	1E32-H0038	M11221
	1E32H0039	1E32-H0039	M11221
	1E32H0040	1E32-H0040	M11221
	1E32H0041	1E32-H0041	M11221
	1E32H0042	1E32-H0042	M11221
	1E32H0045	1E32-H0045	M11221
	1E32H0046	1E32-H0046	M11221
	1E32H0048	1E32-H0048	M11221
	1E32H0053	1E32-H0053	M13221
	1E32H0054	1E32-H0054	M13221
	1E32H0055	1E32-H0055	M13221
	1E32H0056	1E32-H0056	M13221
	1E32H0063	1E32-H0063	M12221
	1E32H0064	1E32-H0064	M13221
	1E32H0065	1E32-H0065	M12221
	1E32H0066	1E32-H0066	M12221
	1E32H0067	1E32-H0067	M11221
	1E32H0068	1E32-H0068	M11221
	1E32H0070	1E32-H0070	M12221
	1E32H0071	1E32-H0071	M12221
	1E32H0072	1E32-H0072	M12221
	1E32H0073	1E32-H0073	M12221
	1E32H0074	1E32-H0074	M11221
	1E32H0076	1E32-H0076	M11221



ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.1SN	1E32H0078	1E32-H0078	M11221
	1E32H0080	1E32-H0080	M11221
	1E32H0084	1E32-H0084 (TANDEM)	M21221
	1E32H0086	1E32-H0086 (TANDEM)	M21221
	1E32H0088	1E32-H0088	M22221
	1E32H0090	1E32-H0090	M23221
	1E32H0094	1E32-H0094	M23221
	1E32H0095	1E32-H0095	M22221
	1E32H0096	1E32-H0096	M21221
	1E32H0097	1E32-H0097	M23221
F1.1SN	1E32H0101	1E32-H0101	M22221
F1.1SN	1E32H0102	1E32-H0102	M23221
F1.1SN	1E32H0105	1E32-H0105	M23221
	1E32H0106	1E32-H0106	M23221
	1E32H0107	1E32-H0107	M22221
	1E32H0110	1E32-H0110 (TANDEM)	M21221
	1E32H0112	1E32-H0112	M23221
	1E32H0113	1E32-H0113 (TANDEM)	M21221
	1E32H0117	1E32-H0117 (TANDEM)	M21221
	1E32H0118	1E32-H0118	M21221
	1E32H0120	1E32-H0120 (TANDEM)	M22221
	1E32H0121	1E32-H0121	M23221
	1E32H0124	1E32-H0124	M23221
F1.1SN	1E32H0125	1E32-H0125	M24221
F1.1SN	1E32H0132	1E32-H0132 (TANDEM)	M22211
	1E32H0150	1E32-H0150	M21211
	1E32H0151	1E32-H0151	M23211
	1E32H0152	1E32-H0152	M23211
	1E32H0154	1E32-H0154	M23221
	1E32H0156	1E32-H0156 (TANDEM)	M22221
	1E32H0158	1E32-H0158 (TANDEM)	M22221
	1E32H0160	1E32-H0160 (TANDEM)	M22221
	1E32H0184	1E32-H0184	M21211
	1E32H0187	1E32-H0187	M21211
	1E32H0189	1E32-H0189	M21211
	1E32H0190	1E32-H0190	M21211
	1E32H0195	1E32-H0195 (TANDEM)	M21221
	1E32H0197	1E32-H0197	M22221
	1E32H0201	1E32-H0201	M21221
	1E32H0203	1E32-H0203	M21221
	1E32H0205	1E32-H0205	M22221
	1E32H0207	1E32-H0207	M21221
	1E32H0215	1E32-H0215	M21221
	1E32H0226	1E32-H0226	M22211
	1E32H0231	1E32-H0231	M21211
	1E32H0234	1E32-H0234	M21211
	1E32H0237	1E32-H0237	M21211
	1E32H0243	1E32-H0243	M21211
	1E32H0246	1E32-H0246	M21211
	1E32H0247	1E32-H0247	M21211

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
	1E32H0250	1E32-H0250	M21211
	1E32H0251	1E32-H0251	M21211
	1E32H0258	1E32-H0258	M22221
	1E32H0260	1E32-H0260	M22221
	1E32H0261	1E32-H0261	M21211
	1E32H0262	1E32-H0262	M23221
	1E32H0268	1E32-H0268	M12221
	1E32H2002	1E32-H2002	M11221
	1E32H2006	1E32-H2006	M11221
	1E32H5003	1E32-H5003	M13221
	1E51H0002	1E51-H0002	M14221
F1.2SN	1E51H0008	1E51-H0008	M13221
	1E51H0036	1E51-H0036	M15221
	1E51H0053	1E51-H0053	M13221
F1.2SN	1E51H0056	1E51-H0056	M11221
F1.2SN	1E51H0057	1E51-H0057	M13211
	1E51H0062	1E51-H0062 (TANDEM)	M13211
F1.1SN	1E51H0072	1E51-H0072	P24221
F1.1SN	1E51H0073	1E51-H0073	P24221
F1.1SN	1E51H0074	1E51-H0074	P24221
	1E51H0105	1E51-H0105	M11221
	1E51H0106	1E51-H0106	M12221
F1.1SN	1E51H0110	1E51-H0110	M25221
F1.1SN	1E51H0111	1E51-H0111	M25221
	1E51H0122	1E51-H0122	M14221
	1E51H0132	1E51-H0132	M14221
	1E51H0134	1E51-H0134	M11221
	1E51H0135	1E51-H0135	M13221
F1.2SN	1E51H0156	1E51-H0156	M13221
	1E51H0168	1E51-H0168 (TANDEM)	M13221
	1E51H1018	1E51-H1018	M12211
	1E51H1020	1E51-H1020	M13211
	1E51H1031	1E51-H1031	M12211
	1E51H2028	1E51-H2028	M11221
	1E51H2069	1E51-H2069	P22221
	1E51H2074	1E51-H2074	M11221
	1E51H2076	1E51-H2076	P22221
	1E51H2078	1E51-H2078	P21221
	1E61H0047	1E61-H0047	M15211
	1E61H0058	1E61-H0058	M13211
	1E61H1005	1E61-H1005	M11211
	1E61H1011	1E61-H1011	M11211
	1E61H1015	1E61-H1015 (TANDEM)	M21211
	1G33H0001	1G33-H0001	M25121
	1G33H0003	1G33-H0003	M23121
	1G33H0004	1G33-H0004	M23121
	1G33H0032	1G33-H0032	M24121
	1G33H0037	1G33-H0037	M24121

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
	1G33H0052	1G33-H0052	M24121
	1G33H0054	1G33-H0054	M24121
	1G33H0056	1G33-H0056	M23121
	1G33H0057	1G33-H0057 (TANDEM)	M23121
F1.50	1G33H0142	1G33-H0142	M25121
F1.50	1G33H0144	1G33-H0144	M24121
F1.50	1G33H0146	1G33-H0146	M24121
	1G33H0147	1G33-H0147	M24121
	1G33H0149	1G33-H0149	M14121
	1G33H0158	1G33-H0158 (TANDEM)	M13121
	1G33H0160	1G33-H0160 (TANDEM)	M14121
	1G33H0163	1G33-H0163	M14121
	1G33H0171	1G33-H0171	M13121
	1G33H0175	1G33-H0175	M24121
	1G33H0176	1G33-H0176	M24121
	1G33H0200	1G33-H0200	M24121
F1.2SN	1G33H0215	1G33-H0215	M24121
F1.2SN	1G33H0216	1G33-H0216	M24121
F1.2SN	1G33H0217	1G33-H0217	M25121
F1.2SN	1G33H0218	1G33-H0218	M25121
F1.2SN	1G33H0219	1G33-H0219	M25121
F1.2SN	1G33H0220	1G33-H0220	M25121
F1.2SN	1G33H0221	1G33-H0221	M25121
F1.2SN	1G33H0222	1G33-H0222	M25121
F1.2SN	1G33H0223	1G33-H0223	M25121
F1.2SN	1G33H0224	1G33-H0224 (TANDEM)	M25121
	1G33H0228	1G33-H0228 (TANDEM)	M23121
	1G33H0234	1G33-H0234	M23121
	1G33H0236	1G33-H0236	M14121
	1G33H0237	1G33-H0237	M14121
F1.2SN	1G33H0239	1G33-H0239	M24121
F1.2SN	1G33H0240	1G33-H0240	M24121
	1G33H0250	1G33-H0250	M24121
	1G33H0268	1G33-H0268 (TANDEM)	M24121
F1.2SN	1G33H0269	1G33-H0269	M23121
	1G33H0272	1G33-H0272	M13121
F1.1SN	1G33H0276	1G33-H0276	M22121
F1.1SN	1G33H0277	1G33-H0277	P22121
F1.1SN	1G33H0279	1G33-H0279	M22122
F1.1SN	1G33H0280	1G33-H0280	P22122
F1.3SN	1G41H0012	1G41-H0012 (TANDEM)	M12211
F1.3SN	1G41H0025	1G41-H0025	M13211
F1.3SN	1G41H0037	1G41-H0037 (TANDEM)	M14211
F1.3SN	1G41H0048	1G41-H0048	M16211
F1.3SN	1G41H0050	1G41-H0050	M14211

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.3SN	1G41H0051	1G41-H0051	M14211
F1.3SN	1G41H0059	1G41-H0059	M14211
F1.3SN	1G41H0068	1G41-H0068	M14211
F1.3SN	1G41H0070	1G41-H0070	M13211
F1.3SN	1G41H0119	1G41-H0119	M14211
F1.3SN	1G41H0121	1G41-H0121	M16211
	1G41H0138	1G41-H0138	M14211
	1G41H0143	1G41-H0143	M14211
	1G41H0145	1G41-H0145	M15211
	1G41H0149	1G41-H0149	M15211
	1G41H0151	1G41-H0151 (TANDEM)	M14211
F1.3SN	1G41H0170	1G41-H0170	M15211
F1.3SN	1G41H0171	1G41-H0171	M15211
F1.3SN	1G41H0179	1G41-H0179	M14211
	1G41H0181	1G41-H0181	M15211
	1G41H0182	1G41-H0182	M15211
	1G41H0183	1G41-H0183	M14211
	1G41H0185	1G41-H0185	M15211
F1.3SN	1G41H0191	1G41-H0191	M14211
F1.3SN	1G41H0227	1G41-H0227	M14211
F1.3SN	1G41H0228	1G41-H0228 (TANDEM)	M14211
F1.3SN	1G41H0230	1G41-H0230	M14211
F1.3SN	1G41H0232	1G41-H0232	M14211
F1.3SN	1G41H0233	1G41-H0233	M14211
F1.3SN	1G41H0236	1G41-H0236 (TANDEM)	M14211
F1.3SN	1G41H0238	1G41-H0238	M15211
F1.3SN	1G41H0241	1G41-H0241	M14211
F1.3SN	1G41H0242	1G41-H0242 (TANDEM)	M16211
F1.3SN	1G41H0243	1G41-H0243	M14211
F1.3SN	1G41H0301	1G41-H0301	M13211
	1G41H0321	1G41-H0321	M16211
	1G41H0322	1G41-H0322	M16211
	1G41H0330	1G41-H0330	M15211
	1G41H0331	1G41-H0331	M15211
	1G41H0332	1G41-H0332	M16211
	1G41H0333	1G41-H0333	M16211
	1G41H0342	1G41-H0342	M15211
	1G41H0343	1G41-H0343	M15211
	1G41H0344	1G41-H0344	M14211
	1G41H0345	1G41-H0345	M15211
	1G41H0346	1G41-H0346	M15211
	1G41H0352	1G41-H0352	M15211
F1.3SN	1G41H0363	1G41-H0363	M14211
F1.3SN	1G41H0368	1G41-H0368	M16211
F1.3SN	1G41H0369	1G41-H0369	M15211
F1.3SN	1G41H0388	1G41-H0388	M15211
F1.3SN	1G41H0389	1G41-H0389	M15211
	1G41H0397	1G41-H0397	M14211
	1G41H0398	1G41-H0398	M14211
F1.3SN	1G41H0450	1G41-H0450 (TANDEM)	M14211



ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.3SN	1G41H0466	1G41-H0466	M13211
	1G41H0472	1G41-H0472	M14211
	1G41H0474	1G41-H0474	M14211
	1G41H0475	1G41-H0475	M15211
F1.3SN	1G41H0478	1G41-H0478	M14211
	1G41H0483	1G41-H0483	M14211
F1.3SN	1G41H0493	1G41-H0493	M14211
F1.3SN	1G41H0494	1G41-H0494	M15211
	1G41H1009	1G41-H1009	P21211
	1G41H1011	1G41-H1011	P21211
	1G41H1025	1G41-H1025	P21211
	1G41H1026	1G41-H1026	P21211
F1.3SN	1G41H5001	1G41-H5001 (TANDEM)	M14211
F1.3SN	1G42H0004	1G42-H0004	M14211
F1.3SN	1G42H0010	1G42-H0010	M14211
F1.3SN	1G42H0013	1G42-H0013	M14211
F1.3SN	1G42H0048	1G42-H0048	M15211
	1G50H0068	1G50-H0068	M22211
	1G61H0038	1G61-H0038	M11211
	1G61H0045	1G61-H0045	M11211
	1H22H0208	1H22-P0004-H1042	M21121
	1H22H0209	1H22-P0004-H1043	M21121
	1H22H0365	1H22-P0004-H1206	M21121
	1H22H0379	1H22-P0004-H1220	M21121
	1H22H0389	1H22-P0004-H1230	M21121
	1H22H0561	1H22-P0005-H1072	M21121
	1H22H0564	1H22-P0005-H1075	M21121
	1H22H1910	1H22-P0015-H1291	M21121
	1H22H1915	1H22-P0015-H1297	M21121
	1H22H2495	1H22-P0026-H1086	M21121
	1H22H2683	1H22-P0027-H1058	M21121
	1H22H2687	1H22-P0027-H1062	M21121
	1H22H2706	1H22-P0027-H1083	M21121
	1H22H2710	1H22-P0027-H1087	M21121
	1H22H2744	1H22-P0027-H1122	P21121
	1H22H2761	1H22-P0027-H1140	M21121
	1H22H2764	1H22-P0027-H1143	M21121
	1H22H4577	1H22-P0021-H0203	M11121
	1H51H0068	1H51-P1368-H0068	M11111
	1H51H0073	1H51-P1368-H0073	M11111
	1H51H0078	1H51-P1368-H0078	M11111
	1H51H0083	1H51-P1368-H0083	M11111
	1H51H0301	1H51-P1370-H3013	M21111
	1M14H0005	1M14-H0005	M15211
	1M14H0007	1M14-H0007	M15211
	1M17H0002	1M17-H0002	M14211
	1M17H0003	1M17-H0003	M14211
	1M17H0005	1M17-H0005	M14211
	1M17H0006	1M17-H0006	M14211
	1M17H0008	1M17-H0008	M14211



ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
	1M17H0009	1M17-H0009	M14211
	1M17H0011	1M17-H0011	M14211
	1M17H0012	1M17-H0012	M14211
	1M51H0054	1M51-H0054	M14211
	1M51H0055	1M51-H0055	M12211
	1M51H0068	1M51-H0068	M22211
	1M51H0070	1M51-H0070	M14211
	1M51H0071	1M51-H0071	M12211
	1M51H0089	1M51-H0089	M22211
	1M51H1024	1M51-H1024	M21211
	1M51H1028	1M51-H1028	M12211
	1M51H1031	1M51-H1031	M12211
	1M51H1076	1M51-H1076	M11211
	1N11H0205	1N11-H0205	P27121
	1N11H0206	1N11-H0206	M27121
	1N11H0207	1N11-H0207	P27121
	1N11H0208	1N11-H0208	P27121
	1N11H0278	1N11-H0278	M26121
	1N11H0279	1N11-H0279	M26121
	1N11H0280	1N11-H0280	M26121
	1N11H0281	1N11-H0281	M26121
	1N11H0282	1N11-H0282	M26121
	1N11H0283	1N11-H0283	M26121
	1N11H0284	1N11-H0284	M26121
	1N11H0285	1N11-H0285	M26121
	1N11H0286	1N11-H0286	H25121
	1N11H0287	1N11-H0287	H25121
	1N11H0288	1N11-H0288	H25121
	1N11H0289	1N11-H0289	H25121
	1N11H0290	1N11-H0290	P27121
	1N11H0291	1N11-H0291	P27121
	1N11H0292	1N11-H0292	P27121
	1N11H0293	1N11-H0293	P27121
	1N11H0294	1N11-H0294	P27121
	1N11H0295	1N11-H0295	P27121
	1N11H0357	1N11-H0357	P27121
	1N11H0358	1N11-H0358	P27121
	1N11H0468	1N11-H0468	M26121
	1N11H0469	1N11-H0469	M26121
	1N11H0470	1N11-H0470	M26121
	1N11H0471	1N11-H0471	M26121
	1N11H0472	1N11-H0472	M26121
	1N11H0473	1N11-H0473	M26121
	1N11H0474	1N11-H0474	M26121
	1N11H0475	1N11-H0475	M26121
F1.1SN	1N22H0004	1N22-H0004	M23121
F1.1SN	1N22H0006	1N22-H0006	M24121
F1.1SN	1N22H0008	1N22-H0008	M23121
F1.1SN	1N22H0011	1N22-H0011	M23121
F1.1SN	1N22H0013	1N22-H0013	M23121

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.1SN	1N22H0015	1N22-H0015	M23121
F1.1SN	1N22H0017	1N22-H0017	M23121
	1N22H0025	1N22-H0025	M24121
	1N22H0029	1N22-H0029	M24121
	1N22H0030	1N22-H0030	M24121
	1N22H0036	1N22-H0036	M24121
	1N22H0038	1N22-H0038	M21121
	1N22H0040	1N22-H0040	M21121
	1N22H0044	1N22-H0044	M21121
	1N22H0046	1N22-H0046	M21121
	1N22H0048	1N22-H0048	M21121
	1N22H0050	1N22-H0050	M21121
	1N22H0052	1N22-H0052	M21121
	1N22H0055	1N22-H0055	M21121
	1N22H0056	1N22-H0056	M22121
	1N22H0057	1N22-H0057	M21121
	1N22H0059	1N22-H0059 (TANDEM)	M21121
	1N22H0060	1N22-H0060	M21121
	1N22H0062	1N22-H0062	M21121
	1N22H0064	1N22-H0064	M21121
	1N22H0065	1N22-H0065	M21121
	1N22H0066	1N22-H0066	M21121
	1N22H0068	1N22-H0068	M22121
	1N22H0070	1N22-H0070	M21121
	1N22H0072	1N22-H0072	M21121
	1N22H0074	1N22-H0074	M21121
	1N22H0078	1N22-H0078	M23121
	1N22H0079	1N22-H0079	M21121
	1N22H0081	1N22-H0081	M21121
	1N22H0083	1N22-H0083 (TANDEM)	M21121
	1N22H0084	1N22-H0084 (TANDEM)	M21121
	1N22H0087	1N22-H0087	M21121
	1N22H0089	1N22-H0089	M22121
	1N22H0091	1N22-H0091	M21121
	1N22H0093	1N22-H0093	M21121
	1N22H0095	1N22-H0095	M23121
	1N22H0097	1N22-H0097	M21121
	1N22H0099	1N22-H0099	M21121
	1N22H0100	1N22-H0100	M21121
	1N22H0101	1N22-H0101	M21121
	1N22H0109	1N22-H0109	M23121
	1N22H0111	1N22-H0111	M21121
	1N22H0113	1N22-H0113	M21121
	1N22H0115	1N22-H0115	M21121
	1N22H0116	1N22-H0116	M21121
	1N22H0117	1N22-H0117 (TANDEM)	M21121
	1N22H0119	1N22-H0119 (TANDEM)	M21121
	1N22H0121	1N22-H0121 (TANDEM)	M21121
	1N22H0123	1N22-H0123 (TANDEM)	M21121
F1.1SN	1N22H0126	1N22-H0126	M22121

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
F1.1SN	1N22H0127	1N22-H0127	M23121
F1.1SN	1N22H0128	1N22-H0128	M22121
F1.1SN	1N22H0129	1N22-H0129	M23121
F1.1SN	1N22H0130	1N22-H0130	M24121
F1.1SN	1N22H0131	1N22-H0131	M23121
	1N22H0146	1N22-H0146	M22121
	1N22H0147	1N22-H0147	M22121
F1.1SN	1N22H0148	1N22-H0148	M23121
	1N22H0255	1N22-H0255	M22121
	1N22H0257	1N22-H0257	M22121
	1N22H0259	1N22-H0259	M22121
F1.1SN	1N27H0001	1N27-H0001	M23121
F1.1SN	1N27H0004	1N27-H0004	M23121
F1.1SN	1N27H0005	1N27-H0005	M23121
F1.1SN	1N27H0006	1N27-H0006	M24121
F1.1SN	1N27H0007	1N27-H0007	M24121
F1.1SN	1N27H0013	1N27-H0013	M23121
F1.1SN	1N27H0016	1N27-H0016	M23121
F1.1SN	1N27H0017	1N27-H0017	M23121
F1.1SN	1N27H0018	1N27-H0018	M24121
F1.1SN	1N27H0019	1N27-H0019	M24121
	1N27H0220	1N27-H0220	M26121
	1N27H0221	1N27-H0221	M26121
	1N27H0222	1N27-H0222	P27121
	1N27H0223	1N27-H0223	M26121
	1N27H0224	1N27-H0224	M26121
	1N27H0225	1N27-H0225	P27121
	1N27H0226	1N27-H0226	M26121
	1N27H0227	1N27-H0227	P27121
	1N27H1012	1N27-H1012	M21121
	1N27H1016	1N27-H1016	M21121
	1N27H1068	1N27-H1068	M11121
	1N27H1086	1N27-H1086	M22121
	1N27H1145	1N27-H1145	P21121
	1P11H0063	1P11-H0063	M16211
	1P11H0079	1P11-H0079	M15211
	1P11H0083	1P11-H0083	M15211
	1P11H0085	1P11-H0085	M14211
	1P11H5000	1P11-H5000	M16211
	1P41H0115	1P41-H0115	M16111
	1P41H0121	1P41-H0121	M14111
	1P42H0049	1P42-H0049	M14111
	1P42H0050	1P42-H0050	M14111
	1P42H0051	1P42-H0051	M14111
	1P42H0052	1P42-H0052	M14111
	1P42H0057	1P42-H0057	M14111
	1P42H0058	1P42-H0058 (TANDEM)	M14111
	1P42H0059	1P42-H0059	M14111
	1P42H0060	1P42-H0060	M13111
	1P42H0100	1P42-H0100	M13111

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
	1P42H0154	1P42-H0154	M11111
	1P42H0372	1P42-H0372	M13111
	1P42H0388	1P42-H0388	M13111
	1P42H0401	1P42-H0401	M14111
	1P42H0422	1P42-H0422	M14111
	1P42H0430	1P42-H0430	M13111
	1P43H0047	1P43-H0047 (TANDEM)	M15111
	1P43H0052	1P43-H0052	M14111
F1.3SN	1P45H0097	1P45-H0097	M15111
F1.3SN	1P45H0104	1P45-H0104 (TANDEM)	M14111
F1.3SN	1P45H0126	1P45-H0126	M15111
F1.3SN	1P45H0132	1P45-H0132 (TANDEM)	M14111
F1.3SN	1P45H0176	1P45-H0176 (TANDEM)	M14111
F1.3SN	1P45H0177	1P45-H0177 (TANDEM)	M14111
F1.3SN	1P45H0179	1P45-H0179	M15111
F1.3SN	1P45H0183	1P45-H0183	M15111
F1.3SN	1P45H0185	1P45-H0185 (TANDEM)	M14111
F1.3SN	1P45H0186	1P45-H0186	M15111
F1.3SN	1P45H0192	1P45-H0192	M14111
F1.3SN	1P45H0212	1P45-H0212	M15111
F1.3SN	1P45H0216	1P45-H0216	M14111
F1.3SN	1P45H0222	1P45-H0222	M15111
F1.3SN	1P45H0270	1P45-H0270	H11111
F1.3SN	1P45H0292	1P45-H0292	M14111
F1.3SN	1P45H0353	1P45-H0353 (TANDEM)	M14111
F1.3SN	1P45H0422	1P45-H0422	M16111
F1.3SN	1P45H0440	1P45-H0440	M14111
F1.3SN	1P45H0441	1P45-H0441	M14111
F1.3SN	1P45H0444	1P45-H0444	M14111
F1.3SN	1P45H0445	1P45-H0445	M14111
F1.3SN	1P45H0502	1P45-H0502	M15111
F1.3SN	1P45H0509	1P45-H0509	M15111
F1.3SN	1P45H0510	1P45-H0510	M15111
F1.3SN	1P45H0512	1P45-H0512	M16111
F1.3SN	1P45H0516	1P45-H0516	M15111
F1.3SN	1P45H0521	1P45-H0521	M15111
F1.3SN	1P45H0525	1P45-H0525 (TANDEM)	M14111
F1.3SN	1P45H0526	1P45-H0526	M15111
F1.2SN	1P45H0610	1P45-H0610 (TANDEM)	M15111
F1.2SN	1P45H0611	1P45-H0611	M16111
F1.3SN	1P45H0617	1P45-H0617 (TANDEM)	M14111
F1.3SN	1P45H0684	1P45-H0684	M14111
	1P45H1050	1P45-H1050	M13111
	1P45H1068	1P45-H1068	M13111
	1P45H1233	1P45-H1233	M12111
	1P45H1234	1P45-H1234	M12111
	1P45H1328	1P45-H1328	M11111
F1.3SN	1P47H0278	1P47-H0278	M15111
F1.3SN	1P47H0279	1P47-H0279	M15111
	1P51H0037	1P51-H0037	M12111

ITEM NO.	MPL NO.	HANGER - MARK NO.	CATEGORY NO.
	1P52H1002	1P52-H1002	M12111
	1P52H1020	1P52-H1020	M13111
	1P54H0035	1P54-H0035	M15211
	1P54H0049	1P54-H0049	M16211
	1P61H0008	1P61-H0008	M12221
	1P61H0009	1P61-H0009	M11221
	1P61H5000	1P61-H5000	M12221
	1P86H3014	1P86-H3014	M11221
F1.3SN	1R48H0027	1R48-H0027 (TANDEM)	M14221
F1.3SN	1R48H0028	1R48-H0028 (TANDEM)	M13221
F1.3SN	1R48H0034	1R48-H0034 (TANDEM)	M14221
F1.3SN	1R48H0035	1R48-H0035 (TANDEM)	M13221
	2G41H0031	2G41-H0031	M14211
F1.3SN	2G41H0033	2G41-H0033	M14211
F1.3SN	2G41H0034	2G41-H0034	M13211
F1.3SN	2G41H0036	2G41-H0036	M14211
F1.3SN	2G41H0038	2G41-H0038	M13211
F1.3SN	2P42H0050	2P42-H0050 (TANDEM)	M14211
F1.3SN	2P42H0052	2P42-H0052	M14211
	2P42H0061	2P42-H0061	M11211
F1.3SN	2P42H0312	2P42-H0312	M14211



## 8.0 SYSTEM PRESSURE TESTS

The VT-2 Visual Examination is the method of locating system/component boundary leakage. In order to detect leakage, systems must be placed in unique configurations to allow pressurization of the fluid within components. The guidance for establishing proper system conditions are provided within Article 5000, System Pressure Tests, for each component and general subsection of ASME Code, Section XI. Under proper system conditions the VT-2 visual examination will verify the structural integrity and leak tightness of safety-related components.

### 8.1 Terminology

#### Pressure Retaining Boundary Material

The component and component items used to maintain the system fluid inside the component pressure retaining components include: Valve (items: body, bonnet and flanged surface), Pump (items: casing, cover and flanged surface), Vessel (items: vessel, upper head, lower head and flanged surface) and piping system (items: piping and branch connections).

#### Non-Pressure Retaining Boundary Material

Component items manufactured and stamped as pressure retaining material but not classified as boundary material. Non-Pressure retaining material items include: Shafts, Stems, Valve Disks and Seats, Spray Nozzles, Packing, Gaskets, Seals, Insulating Material, Bolting, and Tack/Seal Welds.

#### Pressure

Pressure is the force or thrust exerted over a surface divided by its area. The unique classification for pressure conditions include:

Design Pressure (Pd)	-	That pressure listed by the material certification specification or line specification.
Nominal Pressure (Po)	-	That pressure associated with the reactor coolant pressure boundary when the plant is operating at 100% Rated Reactor Power.
Normal Pressure (Pn)	-	That pressure associated with the system during normal system operation.
Safety Valve Pressure (Psv)	-	That pressure associated with the lowest pressure setting among the number of safety or relief valves provided for overpressure protection within the boundary of the system to be tested.

### System Pressure Tests

Pressure tests are grouped by system operational requirements, associated safety class and frequency. The system pressure test are grouped as:

- Inservice - Conducted on systems (or components) required to operate during normal plant operation while the system is in service under operating pressure.
- Leakage - Conducted following opening and re-closing of a component in the Class 1 system after pressurization to nominal operating pressure.
- Functional - Conducted on systems (or components) not required to operate during normal plant operation. Tests are conducted within the system boundary pressurized under the test mode of systems operations.
- Hydrostatic - Conducted during a plant shutdown at a pressure above nominal operating pressure or system pressure for which overpressure protection is provided.
- Pneumatic - Conducted in lieu of a hydrostatic pressure test for Class 2 and Class 3 components.

### 8.2 Exemptions

No components within the pressure retaining boundary are exempt or excluded from the examination requirements, except as specified in the subparagraph for repairs and replacement, "where repaired or replaced components are isolable within a portion of the system, only that portion need be pressure tested."

### 8.3 Test Pressurization Boundaries

Pressurization boundaries are utilized to provide a scope of testing required to satisfy parts to be examined. The boundary limits are generally defined by the location of the safety class interface valves within the system.

#### 1. System Leakage Test

The boundary subject to test pressurization shall extend to the pressure retaining components within the system boundary containing pressurized reactor coolant under the plant mode of normal reactor startup. However, the VT-2 examination shall extend to and include the second closed valve at the boundary extremity.

#### 2. System Functional Test Boundary

The boundary subject to test pressurization shall include only those pressure retaining components within the system boundary pressurized under the test mode required during the performance of a periodic system or component functional test.

### 3. System Inservice Test Boundary

The boundary subject to test pressurization shall extend to those pressure retaining components under operating pressure during normal system service.

### 4. System Hydrostatic Test Boundary

The boundary subject to test pressurization shall include:

- a. By the system boundary (or each portion of the boundary) within which the components have the same minimum required classification and are designed to the same primary pressure rating as governed by the system function and the internal fluid operating conditions, respectively.
- b. Systems which share safety functions for different modes of plant operation, and within which the component classifications differ, shall be subject to separate system pressure tests of each portion of the system boundary having the same minimum required component classifications.
- c. Systems designed to operate at different pressures under several modes of plant operation or post-accident conditions shall be subject to a system pressure test within the test boundary defined by the operating mode with the higher pressure.
- d. Where the respective system primary pressure ratings on the suction and discharge sides of system pumps differ, the system test boundary shall be divided into two separate boundaries (such as suction side and discharge side test boundaries). In the case of positive displacement pumps, the boundary interface shall be considered as the pump.

## 8.4 Repair

After repairs by welding on the pressure retaining boundary material a system pressure test shall be performed in accordance with Code Case N-416-1. Items exempted for the system pressure test requirements are: Cladding repairs; heat exchanger tube plugging; piping, pump, and valve repairs that do not penetrate through the pressure boundary; pressure vessel repairs where the repaired cavity does not exceed 10% of the minimum design wall thickness; component connections, piping, and associated valves that are 1 inch nominal pipe size and smaller; and tube-to-tubesheet repair welds where such welds are made on the cladding.

## 8.5 Replacement

Replacement items shall be required to have proper certification documentation. The items and parts which are exempt from the requirement of replacements are: gaskets; instruments; electrical conducting and insulating material; piping, valves, and fittings 1 inch nominal pipe size and less, except that materials and primary stress levels shall be consistent with the requirements of the applicable Construction Code. Detailed stress analysis and consideration of secondary stress is not required; nonstructural pump and valve internals, except when the original equipment was constructed in accordance with a Construction Code or Code Case; and pump seal package and valve packing.

#### 8.6 Reference Requirements for System Pressure Tests

The following table identifies paragraphs for compliance to the ASME Boiler and Pressure Vessel Code, Section XI, 1983 Edition; through Summer 1983 Addenda with the use of Code Case N-416-1.

ASME CODE CLASS	SYSTEM PRESSURE TESTS	REPAIRS AND REPLACEMENT	EXAMINATION CATEGORY	CORRECTIVE MEASURES
1	IWA-5211(a) IWA-5211(d)  IWB-5210	IWA-5000 1992 Edition	Table IWB-2500-1 Category B-P	IWA-5250
2	IWA-5211(a) IWA-5211(d)  IWB-5210	IWA-5000 1992 Edition	Table IWC-2500-1 Category C-H	IWA-5250
3	IWA-5211(a) IWA-5211(d)  IWB-5210	IWA-5000 1992 Edition	Table IWB-2500-1 Category D-A, D-B, D-C	IWA-5250

#### 8.7 Relief Requests

When compliance to code specified testing requirements are not achievable relief must be requested. The following Pressure Test (PT) Relief Requests have been filed with the NRC:

PR NO.  
PT-001 R-1  
PT-002 R-1

Perry Nuclear Power Plant Unit 1  
RELIEF REQUEST #PT-001

I. Identification of Components

- Class 2 systems/components attached to the Reactor Coolant Pressure Boundary (Class 1) which are not provided with either pressure or test isolation (i.e., instrumentation, drain, vent, and test piping). A list of valve numbers identifies the affected components (i.e., valves, piping systems and instruments).

II. ASME B&PV Section XI Requirements

IWA-5213(c) Test Condition Holding Time, "System Inservice Tests - no holding time required, provided the system has been in operation for at least 4 hours."

IWC-5210(a)(2) Test, "A system pressure test conducted during a system inservice test [IWA-5211(c)] for those systems required to operate during normal plant operation."

III. Relief Request

Relief is requested from using the requirement of - operating the system for four hours before commencing the VT-2 examinations - for Class 2 components and instruments non-isolable from the Reactor Coolant Pressure Boundary (Class 1). These components shall be examined (VT-2 Visual Examination) during the Class 1 Reactor Coolant Boundary System Leakage Pressure Test at the frequency intervals specified within Subsection IWC. Thus, this relief request proposes substituting IWA-5213(a) for IWA-5213(c) and IWB-5210(a)(1) for IWC-5210(a)(2).

IV. Basis for Relief

Numerous components attached to the reactor coolant pressure boundary are covered by the provisions of 10CFR50.55a(c) Reactor Coolant Pressure Boundary. The following excerpt from 10CFR50a(c) is provided:

"(2) Components which are connected to the reactor coolant system and are part of the reactor coolant pressure boundary as defined in Section 50.2 need not meet the requirements of paragraph (c)(1) of this section, Provided:

(i) In the event of postulated failure of the component during normal reactor operation, the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system; or



Perry Nuclear Power Plant 1  
RELIEF REQUEST #PT-001

(ii) The component is or can be isolated from the reactor coolant system by two valves in series (both closed, both open, or one closed and the other open). Each open valve must be capable of automatic actuation and, assuming the other valve is open, its closure time must be such that, in the event of postulated failure of the component during normal reactor operation, each valve remains operable and the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only.\*

The piping systems and their associated components connected to the reactor coolant pressure boundary and less than 1 inch in diameter were constructed to the requirements of ASME Code, Section III, Subsection NC, and identified as Safety Class 2 for inservice inspection. The associated components and component parts are identified by valve number and listed below. These piping systems shall be pressurized during the Class 1 reactor coolant pressure boundary System Leakage Pressure Test and a VT-2 Visual Examination will be performed. The System Leakage Pressure Test frequency and pressure will be that required for a Class 2 System Inservice Test. Although the system will not have been in operation for four hours prior to commencing the examinations, the time required to bring the reactor coolant system up to test pressure will allow for the detection of leakage.

Within ASME Section XI the test conditions (i.e., pressure, temperature and hold time) between the reactor coolant pressure boundary and other safety systems are different. Although there are differences, all the system pressure tests ensure leak tightness. Therefore, the substitution of IWA-5213(a) for IWA-5213(c) and the substitution of IWB-5210(a)(1) for IWC-5210(a)(2) satisfies the intent of the Code.

#### V. Alternate Examination

N/A, VT-2 Visual Examination is performed.

<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B33-F068A/B	Recirc Pump A/B Discharge Valve Vent	D-302-601, 602
1B33-F070A/B	Recirc Pump A/B Discharge Valve Drain	D-302-601, 602
1B33-F065A/B	Recirc Loop A/B FCV Drain	D-302-601, 602
1B33-F647A/B	Recirc Loop A/B FCV Vent	D-302-601, 602
1B33-F686A/B	Recirc Loop A/B FCV Drain	D-302-601, 602
1B33-F025A/B	Recirc Pump A/B Suction Valve Vent	D-302-601, 602
1B33-F027A/B	Recirc Pump A/B Suction Valve Drain	D-302-601, 602
1B33-F503A/B	Instrument Isolation Valves for dPT-N015A/B,	D-302-602
-F504A/B	Respectively	
1B33-F505A	Instrument Isolation Valves for FT-N014C/D	D-302-602
-F506A		

<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B33-F505B -F506B	Instrument Isolation Valves for FT-N011B and FT-N024C/D	D-302-602
1B33-F507A -F508A	Instrument Isolation Valves for FT-N011A and FT-N014A/B	D-302-602
1B33-F507B -F508B	Instrument Isolation Valves for FT-N024A/B	D-302-602
1B33-F512A/B	Recirc Pump A/B Diff Pressure Instrument Vent	D-302-602
1B33-F513A/B	Recirc Pump A/B Diff Pressure Instrument Vent	D-302-602
1B33-F577	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F578	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F579	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F580	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F581	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F582	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F583	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F584	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F059	Recirc System Sample Isolation	D-302-602
1B33-F019	Reactor Water Sample Isolation	D-302-602
1B33-F110	Rx Recirc Sample Line Drain	D-302-602
1G33-F507	Instrument Isolation Valve for FT-N037	D-302-671
1G33-F523	RWCU Bottom Head Flow Instrument Vent	D-302-671
1E32-F506A -544A	Instrument Isolation Valves for PT-N051A, PT-N061A	D-302-341
1E32-F506E -F544E	Instrument Isolation Valves for PT-N051E, PT-N061E	D-302-341
1E32-F506J -F544J	Instrument Isolation Valve for PT-N051J, PT-N061J	D-302-341
1E32-F506N -F544N	Instrument Isolation Valve for PT-N051N, PT-N061N	D-302-341
1B21-F596	1B21-F016 Test Connection Root Valve	D-302-121
1B21-F017	MST Drain and MSIV Bypass Line Drain	D-302-121
1N27-F551A/B/C	Feedwater Header A Branch Test Isolation	D-302-082
1N27-F551D/E/F	Feedwater Header B Branch Test Isolation	D-302-082
1N27-F557A/B	Feedwater Header A/B First Test Connection	D-302-082
1G33-F508A/B	Instrument Isolation Valves for PT-N076A, PT-N076B	D-302-671, 962
1G33-F108	Pen 131 INBD Test Conn First Isolation Valve	D-302-671
1E31-F540B	RWCU Diff Flow LD Low Side Test Connection	D-302-962
1E31-F541B	RWCU Diff Flow LD High Side Test Connection	D-302-962
1E51-F528A/B/C/D	Instrument Isolation Valves for PT-N084A/B, PT-N085A/B	D-302-632, 961
1E31-F542A/B	RCIC/RHR ST Supply LD Low Stby Test Conn	D-302-961
1E31-F543A/B	RCIC/RHR ST Supply LD High Stby Test Conn	D-302-961
1E31-N084B-G	Cross-Tie Low Side PT-N084A/B	D-302-961
1E31-N084B-R	Cross-Tie High Side PT-N084A/B	D-302-961
1E31-F519	Instrument Isolation Valve For PT-N080A	D-302-705, 962
1E31-F545A	RHR A to LPCS LD High Side Test Connection	D-302-962
1E31-F523	Instrument Isolation Valve for PT-N081	D-302-701, 962
1E31-F547	HPCS to SLC Ref Diff Pressure Test Connection	D-302-962
1E31-F520	Instrument Isolation Valve for PT-N080A	D-302-642, 962
1E31-F544A	RHR A to LPCS LD Low Side Test Connection	D-302-962
1E31-F521	Instrument Isolation Valve for PT-N080B	D-302-642, 962

<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1E31-F522	Instrument Isolation Valve for PT-N080B	D-302-642, 962
1E21-F502	LPCS to Rx Line Test Connection	D-302-705
1E22-F501	HPCS to Rx Line Test connection	D-302-701
1C41-F501	SLC Discharge Line Inboard Drywell Drain Vlv	D-302-691
1E12-F508A	LPCI From RHR A Inbd First Test Connection	D-302-642
1E12-F508B	LPCI From RHR B Inbd First Test Connection	D-302-642
1E12-F508C	LPCI From RHR C Inbd First Test Connection	D-302-642
1E12-F501	Shutdown Cooling Suction Hdr Inbd First Conn	D-302-642
1E51-F072	RHR & RCIC Steam Supply Line Test Connection	D-302-632
1B33-F514	Recirc Jet Pump 15 Flow Instrument Vent	D-302-604
1B33-F515	Recirc Jet Pump 12 Flow Instrument Vent	D-302-604
1B33-F516	Recirc Jet Pump 18 Flow Instrument Vent	D-302-604
1B33-F517	Recirc Jet Pump 19 Flow Instrument Vent	D-302-604
1B33-F518	Recirc Jet Pump 15 Flow Instrument Vent	D-302-604
1B33-F519	Recirc Jet Pump 16 Flow Instrument Vent	D-302-604
1B33-F520	Recirc Jet Pump 17 Flow Instrument Vent	D-302-604
1B33-F521	Recirc Jet Pump 11 Flow Instrument Vent	D-302-604
1B33-F522	Recirc Jet Pump 13 Flow Instrument Vent	D-302-604
1B33-F523	Recirc Jet Pump 20 Flow Instrument Vent	D-302-604
1B33-F524	Recirc Jet Pump 20 Flow Instrument Vent	D-302-604
1B33-F525	Recirc Jet Pump 14 Flow Instrument Vent	D-302-604
1B33-F526	Recirc Jet Pump 15 Flow Instrument Root FT-N038B, LT-N044D	D-302-604
1B33-F527	Recirc Jet Pump 12 Flow Instrument Root FT-N037F	D-302-604
1B33-F528	Recirc Jet Pump 18 Flow Instrument Root FT-N037M	D-302-604
1B33-F529	Recirc Jet Pump 19 Flow Instrument Root FT-N037S	D-302-604
1B33-F530	Recirc Jet Pump 15 Flow Instrument Root FT-N037U, FT-N038B	D-302-604
1B33-F531	Recirc Jet Pump 16 Flow Inst Root FT-N037D	D-302-604
1B33-F532	Recirc Jet Pump 17 Flow Inst Root FT-N037H	D-302-604
1B33-F533	Recirc Jet Pump 11 Flow Inst Root FT-N037B	D-302-604
1B33-F534	Recirc Jet Pump 13 Flow Inst Root FT-N037K	D-302-604
1B33-F535	Recirc Jet Pump 20 Flow Inst Root FT-N038D	D-302-604
1B33-F536	Recirc Jet Pump 20 Flow Inst Root FT-N037W, FT-N038D	D-302-604
1B33-F537	Recirc Jet Pump 14 Flow Inst Root FT-N037P	D-302-604
1B33-F646	Jet Pump Post Accident Sample Isolation	D-302-604
1P87-F001	Reactor Recirc B Sample Isolation Valve	D-302-431
1B33-F538	Recirc Jet Pump 7 Flow Instrument Vent	D-302-603
1B33-F539	Recirc Jet Pump 9 Flow Instrument Vent	D-302-603
1B33-F540	Recirc Jet Pump 10 Flow Instrument Vent	D-302-603
1B33-F541	Recirc Jet Pump 1 Flow Instrument Vent	D-302-603
1B33-F542	Recirc Jet Pump 2 Flow Instrument Vent	D-302-603
1B33-F543	Recirc Jet Pump 5 Flow Instrument Vent	D-302-603
1B33-F544	Recirc Jet Pump 3 Flow Instrument Vent	D-302-603
1B33-F545	Recirc Jet Pump 10 Flow Instrument Vent	D-302-603
1B33-F546	Recirc Jet Pump 5 Flow Instrument Vent	D-302-603
1B33-F547	Recirc Jet Pump 4 Flow Instrument Vent	D-302-603
1B33-F548	Recirc Jet Pump 6 Flow Instrument Vent	D-302-603

<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B33-F549	Recirc Jet Pump 8 Flow Instrument Vent	D-302-603
1B33-F550	Recirc Jet Pump 7 Flow Instrument Root FT-N037G	D-302-603
1B33-F551	Recirc Jet Pump 9 Flow Instrument Root FT-N037R	D-302-603
1B33-F552	Recirc Jet Pump 10 Flow Instrument Root FT-N037V, FT-N038C	D-302-603
1B33-F553	Recirc Jet Pump 1 Flow Instrument Root FT-N037A	D-302-603
1B33-F554	Recirc Jet Pump 2 Flow Instrument Root FT-N037E	D-302-603
1B33-F555	Recirc Jet Pump 5 Flow Instrument Root FT-N038A, LT-N044C	D-302-603
1B33-F556	Recirc Jet Pump 3 Flow Instrument Root FT-N037J	D-302-603
1B33-F557	Recirc Jet Pump 10 Flow Instrument Root FT-N038C	D-302-603
1B33-F558	Recirc Jet Pump 5 Flow Instrument Root FT-N037T, FT-N038A	D-302-603
1B33-F559	Recirc Jet Pump 4 Flow Instrument Root FT-N037N	D-302-603
1B33-F560	Recirc Jet Pump 6 Flow Instrument Root FT-N037C	D-302-603
1B33-F561	Recirc Jet Pump 8 Flow Instrument Root FT-N037L	D-302-603
1B33-F570	Jet Pump Flow Instrument Vent	D-302-603
1B33-F571	Jet Pump Flow Instrument Isolation FT-N037G, FT-N037R, FT-N037V, FT-N037A, FT-N037E, FT-N037J, FT-N037T, FT-N037N, FT-N037C, FT-N037L	D-302-603
1B33-F645	Jet Pump Post Accident Sample Isolation	D-302-603
1P87-F007	Reactor Recirc A Sample Isolation Valve	D-302-431
1E31-F503	Instrument Isolation Valves for PT-N003A, -F504	D-302-961
1E31-F505	Instrument Isolation Valves for PT-N086C, -F506	D-302-961
1E31-F507	Instrument Isolation Valves for PT-N003B, -F508	D-302-961
1E31-F509	Instrument Isolation Valves for PT-N087C, -F510	D-302-961
1E31-F570	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F571	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F572	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F573	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F574	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F575	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F576	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F577	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F511	Instrument Isolation Valves for PT-N088A, -F512	D-302-961
1E31-F513	Instrument Isolation Valves for PT-N003C, -F514	D-302-961
	PT-N088C, PT-N088D	



<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1E31-F515	Instrument Isolation Valves for PT-N089A,	D-302-961
-F516	PT-N089B	
1E31-F517	Instrument isolation Valves for PT-N003D,	D-302-961
-F518	PT-N089C, PT-N089D	
1E31-F578	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F579	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F580	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F581	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F582	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F583	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F584	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F585	Main Steam Line D Flow Instrument Test Conn	D-302-961
1B21-F512	Instrument Isol Valve for LT-N027, LT-N017	D-302-606
1B21-F514	Instrument Isol Valve for LT-N095B, PT-N403B, PI-R004B, PT-N058, PT-N403F, PT-N068B, PT-N008B, PT-N068F, PT-N040, PT-N078B, PT-N062B, PT-N004B, LT-N080B, LT-N490, LT-N091B, LT-N402B, LT-N091F, dPI-R009B, LT-N081B	D-302-606
1B21-F510	Instrument Isolation Valve for PT-N078D, LT-N080D, LT-N073L, LT-N073R, LT-N081D, LT-N402F, LT-N044D	D-302-606
1B21-F542	RPV Level Instrument Line Drain	D-302-606
1B21-F511	Instrument Isolation Valve for LT-N080D, dPI-R005	D-302-606
1B21-F544	RPV Level Instrument Line Vent	D-302-606
1B21-F546	RPV Level Instrument Line Drain	D-302-606
1B21-F51-	Instrument Isolation Valve for LT-N080B, LT-N004, LT-N017, LT-N027, LT-N095B	D-302-606
1B21-F551	RPV Level Instrument Line Vent	D-302-606
1B21-F540	RPV Level Instrument Line Drain	D-302-606
1B21-F545	RPV Level Instrument Line Vent	D-302-606
1B21-F509	Instrument Isolation Valve for LT-N073L, LT-N073R, LT-N081D, LT-N402F	D-302-606
1B21-F548	RPV Level Instrument Line Drain	D-302-606
1B21-F549	RPV Level Instrument Line Vent	D-302-606
1B21-F513	Instrument Isolation Valve for LT-N081B, LT-N091F, dPI-R009B, LT-N402B, LT-N091B	D-302-606
1B21-F583	Instrument Isolation Valve for PT-N081, dPT-N032	D-302-606, 962
1B21-F582	Jet Pump Instrument Line Vent	D-302-606
1B21-F585	Instrument Isolation Valve For dPT-N011, dPT-N008	D-302-606, 872
1B21-F523	Instrument Isolation Valve for Flow Instruments P009, dPI-R005, LT-N490, dPT-N032, FT-N037, FT-N032, dPI-R005	D-302-606, 604, 671
1B21-F584	Jet Pump Instrument Line Vent	D-302-606
1B21-F553	Instrument Isolation Valve for LT-N095A, PT-N403A, PI-R004A, PT-N403E, PT-N005, PT-N068A, PT-N050, PT-N068E, PT-N006, PT-N008A, PT-N078A, PT-N062A, LT-N004A, LT-N080A, LT-N010, LT-N091A, LT-N402A, dPI-R009A, LT-N091E, LT-N081A	D-302-606



<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B21-F505	Instrument Isolation Valves for LT-N080C, PT-N078C, LT-N004C, LT-N073G, LT-N402E, LT-N073C, LT-N081C, LT-N044C	D-302-606
1B21-F536	RPV Level Instrument Line Drain	D-302-606
1B21-F506	Instrument Isolation Valve for LT-N080C, LT-N004C	D-302-606
1B21-F539	RPV Level Instrument Line Vent	D-302-606
1B21-F528	RPV Level Instrument Line Drain	D-302-606
1B21-F552	Instrument Isolation Valve for LT-N080A, LT-N004A, LT-N095A	D-302-606
1B21-F533	RPV Level Instrument Line Vent	D-302-606
1B21-F535	RPV Level Instrument Line Drain	D-302-606
1B21-F504	Instrument Isolation Valves for LT-N081C, LT-N073C, LT-N402E, LT-N073G	D-302-606
1B21-F534	RPV Level Instrument Line Vent	D-302-606
1B21-F529	RPV Level Instrument Line Drain	D-302-606
1B21-F555	Instrument Isolation Valve for LT-N081A, LT-N091E, dPI-R009A, LT-N402A, LT-N091A, LT-N010	D-302-606
1B21-F531	RPV Level Instrument Line Vent	D-302-606

Perry Nuclear Power Plant Unit 1  
RELIEF REQUEST #PT-002

I. Identification of Components

Class 2 systems/components attached to the Reactor Coolant Pressure Boundary (Class 1) which are not provided with either pressure or test isolation (i.e., instrumentation, drain, vent, and test piping). A list of valve numbers identifies the affected components (i.e., valves, piping systems and instruments).

II. ASME B&PV Section XI Requirements

IWC-5210(a)(3) Test, "A system hydrostatic pressure test [IWA-5211(d)] for each system or portion of systems and for repaired or replaced components, or altered portions of systems."

IWC-5222(a) System Hydrostatic Test, "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  $P_{SV}$  shall be the lowest pressure setting among the number of safety or relief valves provided for overpressure protection within the boundary of the system to be tested. For systems (or portions of systems) not provided with safety or relief valves, the system design pressure  $P_d$  shall be substituted for  $P_{SV}$ ."

III. Relief Requested

Relief is requested from using the Class 2 System Hydrostatic Pressure Test requirements for Class 2 components and instruments non-isolable from the Reactor Coolant Pressure Boundary (Class 1). These components shall be examined (VT-2 Visual Examination) during the Class 1 Reactor Coolant Pressure Boundary System Hydrostatic Pressure Test at the frequency intervals specified within subsection IWB. Thus, this relief request proposes substituting IWB-5210(a)(2) for IWC-5210(a)(3) and IWB-5222/IWB-5230 for IWC-5222(a).

IV. Basis For Relief

Numerous components attached to the Reactor Coolant Pressure Boundary are covered by the provisions of 10CFR50.55a(c) Reactor Coolant Pressure Boundary. The following excerpt from 10CFR50.55a(c) is provided:

"(2) Components which are connected to the reactor coolant system and are part of the reactor coolant pressure boundary as defined in Section 50.2 need not meet the requirements of paragraph (c)(1) of this section, Provided:

(i) In the event of postulated failure of the component during normal reactor operation, the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system; or

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RELIEF REQUEST #PT-002

(ii) The component is or can be isolated from the reactor coolant system by two valves in series (both closed, both open, or one closed and the other open). Each open valve must be capable of automatic actuation and, assuming the other valve is open, its closure time must be such that, in the event of postulated failure of the component during normal reactor operation, each valve remains operable and the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only."

The piping systems and their associated components less than 1 inch in diameter were constructed to the requirements of ASME Code, Section III, Subsection NC, and identified as Safety Class 2 for inservice inspection. The associated components and component parts are identified by valve number and listed below. These piping systems shall be pressurized during the Class 1 System Hydrostatic Pressure Test and a VT-2 Visual Examination will be performed. The frequency and hold time of the system hydrostatic pressure tests are identical for Class 1 and Class 2.

Within ASME Section XI the test conditions (i.e., pressure and temperature) between the reactor coolant pressure boundary and other safety systems are different. The Class 1 test pressure has a maximum limit of 1127.5 psig (Reference: Table IWB-5222-1, Test Pressure) with the Class 2 having its minimum test pressure at 1379 psig (Reference: IWC-5222(a) for design temperature greater than 200 degrees F). Because the piping systems and their associated components less than 1 inch in diameter for which relief is requested are non-isolable from the reactor coolant pressure boundary, and the maximum test pressure for the Class 1 reactor coolant pressure boundary System Hydrostatic Test is less than the minimum test pressure required for a Class 2 System Hydrostatic Test, hydrostatic testing of these Class 2 components is necessarily limited to the Class 1 System Hydrostatic Test pressure. Although there are differences, both the Class 1 and Class 2 hydrostatic pressure tests ensure structural integrity and leak tightness. Therefore, the substitution of IWB requirements for IWC satisfies the intent of the Code.

V. Alternate Examination

N/A, VT-2 Visual Examination is performed.

<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B33-F068A/B	Recirc Pump A/B Discharge Valve Vent	D-302-601, 602
1B33-F070A/B	Recirc Pump A/B Discharge Valve Drain	D-302-601, 602
1B33-F065A/B	Recirc Loop A/B FCV Drain	D-302-601, 602
1B33-F647A/B	Recirc Loop A/B FCV Vent	D-302-601, 602
1B33-F686A/B	Recirc Loop A/B FCV Drain	D-302-601, 602
1B33-F025A/B	Recirc Pump A/B Suction Valve Vent	D-302-601, 602
1B33-F027A/B	Recirc Pump A/B Suction Valve Drain	D-302-601, 602

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<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B33-F503A/B -F504A/B	Instrument Isolation Valves for dPT-N015A/B, Respectively	D-302-602
1B33-F505A -F506A	Instrument Isolation Valves for FT-N014C/D	D-302-602
1B33-F505B -F506B	Instrument Isolation Valves for FT-N011B and FT-N024C/D	D-302-602
1B33-F507A -F508A	Instrument Isolation Valves for FT-N011A and FT-N014A/B	D-302-602
1B33-F507B -F508B	Instrument Isolation Valves for FT-N024A/B	D-302-602
1B33-F512A/B	Recirc Pump A/B Diff Pressure Instrument Vent	D-302-602
1B33-F513A/B	Recirc Pump A/B Diff Pressure Instrument Vent	D-302-602
1B33-F577	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F578	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F579	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F580	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F581	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F582	Recirc Loop B Flow Instrument Vent	D-302-602
1B33-F583	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F584	Recirc Loop A Flow Instrument Vent	D-302-602
1B33-F059	Recirc System Sample Isolation	D-302-602
1B33-F019	Reactor Water Sample Isolation	D-302-602
1B33-F110	Rx Recirc Sample Line Drain	D-302-602
1B33-F020	Reactor Water Sample Isolation	D-302-602
1B33-F021	Recirc System Sample Test Connection	D-302-602
1G33-F507	Instrument Isolation Valve for FT-N037	D-302-671
1G33-F523	RWCU Bottom Head Flow Instrument Vent	D-302-671
1E32-F506A -F544A	Instrument Isolation Valves for PT-N051A, PT-N061A	D-302-341
1E32-F506E -F544E	Instrument Isolation Valves for PT-N051E, PT-N061E	D-302-341
1E32-F506J -F544J	Instrument Isolation Valve for PT-N051J, PT-N061J	D-302-341
1E32-F506N -F544N	Instrument Isolation Valve for PT-N051N PT-N061N	D-302-341
1B21-F596	1B21-F016 Test Connection Root Valve	D-302-121
1B21-F017	MST Drain and MSIV Bypass Line Drain	D-302-121
1N27-F551A/B/C	Feedwater Header A Branch Test Isolation	D-302-082
1N27-F551D/E/F	Feedwater Header B Branch Test Isolation	D-302-082
1N27-F557A/B	Feedwater Header A/B First Test Connection	D-302-082
1G33-F508A/B	Instrument Isolation Valves for PT-N076A, PT-N076B	D-302-671, 962
1G33-F108	Pen 131 INBD Test Conn First Isolation Valve	D-302-671
1E31-F540B	RWCU Diff Flow LD Low Side Test Connection	D-302-962
1E31-F541B	RWCU Diff Flow LD High Side Test Connection	D-302-962



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<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1E51-F528A/B/C/D	Instrument Isolation Valves for PT-N084A/B, PT-N085A/B	D-302-632, 961
1E31-F542A/B	RCIC/RHR ST Supply LD Low Stby Test Conn	D-302-632, 961
1E31-F543A/B	RCIC/RHR ST Supply LD High Stby Test Conn	D-302-632, 961
1E31-N084B-G	Cross-Tie Low Side PT-N084A/B	D-302-961
1E31-N084B-R	Cross-Tie High Side PT-N084A/B	D-302-961
1E31-F519	Instrument Isolation Valve For PT-N080A	D-302-705, 962
1E31-F545A	RHR A to LPCS LD High Side Test Connection	D-302-962
1E31-F523	Instrument Isolation Valve for PT-N081	D-302-701, 962
1E31-F547	HPCS to SLC Ref Diff Pressure Test Connection	D-302-962
1E31-F520	Instrument Isolation Valve for PT-N080A	D-302-642, 962
1E31-F544A	RHR A to LPCS LD Low Side Test Connection	D-302-962
1E31-F521	Instrument Isolation Valve for PT-N080B	D-302-642, 962
1E31-F522	Instrument Isolation Valve for PT-N080B	D-302-642, 962
1E21-F502	LPCS to Rx Line Test Connection	D-302-705
1E22-F501	HPCS to Rx Line Test connection	D-302-701
1C41-F501	SLC Discharge Line Inboard Drywell Drain Vlv	D-302-691
1E12-F508A	LPCI From RHR A Inbd First Test Connection	D-302-642
1E12-F508B	LPCI From RHR B Inbd First Test Connection	D-302-642
1E12-F508C	LPCI From RHR C Inbd First Test Connection	D-302-642
1E12-F501	Shutdown Cooling Suction Hdr Inbd First Conn	D-302-642
1E51-F072	RHR & RCIC Steam Supply Line Test Connection	D-302-632
1B33-F514	Recirc Jet Pump 15 Flow Instrument Vent	D-302-604
1B33-F515	Recirc Jet Pump 12 Flow Instrument Vent	D-302-604
1B33-F516	Recirc Jet Pump 18 Flow Instrument Vent	D-302-604
1B33-F517	Recirc Jet Pump 19 Flow Instrument Vent	D-302-604
1B33-F518	Recirc Jet Pump 15 Flow Instrument Vent	D-302-604
1B33-F519	Recirc Jet Pump 16 Flow Instrument Vent	D-302-604
1B33-F520	Recirc Jet Pump 17 Flow Instrument Vent	D-302-604
1B33-F521	Recirc Jet Pump 11 Flow Instrument Vent	D-302-604
1B33-F522	Recirc Jet Pump 13 Flow Instrument Vent	D-302-604
1B33-F523	Recirc Jet Pump 20 Flow Instrument Vent	D-302-604
1B33-F524	Recirc Jet Pump 20 Flow Instrument Vent	D-302-604
1B33-F525	Recirc Jet Pump 14 Flow Instrument Vent	D-302-604
1B33-F526	Recirc Jet Pump 15 Flow Instrument Root FT-N038B, LT-N044D	D-302-604
1B33-F527	Recirc Jet Pump 12 Flow Instrument Root FT-N037F	D-302-604
1B33-F528	Recirc Jet Pump 18 Flow Instrument Root FT-N037M	D-302-604
1B33-F529	Recirc Jet Pump 19 Flow Instrument Root FT-N037S	D-302-604
1B33-F530	Recirc Jet Pump 15 Flow Instrument Root FT-N037U, FT-N038B	D-302-604
1B33-F531	Recirc Jet Pump 16 Flow Inst Root FT-N037D	D-302-604
1B33-F532	Recirc Jet Pump 17 Flow Inst Root FT-N037H	D-302-604
1B33-F533	Recirc Jet Pump 11 Flow Inst Root FT-N037B	D-302-604



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<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B33-F534	Recirc Jet Pump 13 Flow Inst Root FT-N037K	D-302-604
1B33-F535	Recirc Jet Pump 20 Flow Inst Root FT-N038D	D-302-604
1B33-F536	Recirc Jet Pump 20 Flow Inst Root FT-N037W, FT-N038D	D-302-604
1B33-F537	Recirc Jet Pump 14 Flow Inst Root FT-N037P	D-302-604
1B33-F646	Jet Pump Post Accident Sample Isolation	D-302-604
1P87-F001	Reactor Recirc B Sample Isolation Valve	D-302-431
1B33-F558	Recirc Jet Pump 7 Flow Instrument Vent	D-302-603
1B33-F539	Recirc Jet Pump 9 Flow Instrument Vent	D-302-603
1B33-F540	Recirc Jet Pump 10 Flow Instrument Vent	D-302-603
1B33-F541	Recirc Jet Pump 1 Flow Instrument Vent	D-302-603
1B33-F542	Recirc Jet Pump 2 Flow Instrument Vent	D-302-603
1B33-F543	Recirc Jet Pump 5 Flow Instrument Vent	D-302-603
1B33-F544	Recirc Jet Pump 3 Flow Instrument Vent	D-302-603
1B33-F545	Recirc Jet Pump 10 Flow Instrument Vent	D-302-603
1B33-F546	Recirc Jet Pump 5 Flow Instrument Vent	D-302-603
1B33-F547	Recirc Jet Pump 4 Flow Instrument Vent	D-302-603
1B33-F548	Recirc Jet Pump 6 Flow Instrument Vent	D-302-603
1B33-F549	Recirc Jet Pump 8 Flow Instrument Vent	D-302-603
1B33-F550	Recirc Jet Pump 7 Flow Instrument Root FT-N037G	D-302-603
1B33-F551	Recirc Jet Pump 9 Flow Instrument Root FT-N037R	D-302-603
1B33-F552	Recirc Jet Pump 10 Flow Instrument Root FT-N037V, FT-N038C	D-302-603
1B33-F553	Recirc Jet Pump 1 Flow Instrument Root FT-N037A	D-302-603
1B33-F554	Recirc Jet Pump 2 Flow Instrument Root FT-N037E	D-302-603
1B33-F555	Recirc Jet Pump 5 Flow Instrument Root FT-N038A, LT-N044C	D-302-603
1B33-F556	Recirc Jet Pump 3 Flow Instrument Root FT-N037J	D-302-603
1B33-F557	Recirc Jet Pump 10 Flow Instrument Root FT-N038C	D-302-603
1B33-F558	Recirc Jet Pump 5 Flow Instrument Root FT-N037T, FT-N038A	D-302-603
1B33-F559	Recirc Jet Pump 4 Flow Instrument Root FT-N037N	D-302-603
1B33-F560	Recirc Jet Pump 6 Flow Instrument Root FT-N037C	D-302-603
1B33-F561	Recirc Jet Pump 8 Flow Instrument Root FT-N037L	D-302-603
1B33-F570	Jet Pump Flow Instrument Vent	D-302-603
1B33-F571	Jet Pump Flow Instrument Isolation FT-N037G, FT-N037R, FT-N037V, FT-N037A, FT-N037E, FT-N037J, FT-N037T, FT-N037N, FT-N037C, FT-N037L	D-302-603

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<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B33-F645	Jet Pump Post Accident Sample Isolation	D-302-603
1P87-F007	Reactor Recirc A Sample Isolation Valve	D-302-431
1E31-F503	Instrument Isolation Valves for PT-N003A,	D-302-961
-F504	PT-N086A, PT-N086B	
1E31-F505	Instrument Isolation Valves for PT-N086C,	D-302-961
-F506	PT-N086D	
1E31-F507	Instrument Isolation Valves for PT-N003B,	D-302-961
-F508	PT-N087A, PT-N087B	
1E31-F509	Instrument Isolation Valves for PT-N087C,	D-302-961
-F510	PT-N087D	
1E31-F570	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F571	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F572	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F573	Main Steam Line A Flow Instrument Test Conn	D-302-961
1E31-F574	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F575	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F576	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F577	Main Steam Line B Flow Instrument Test Conn	D-302-961
1E31-F511	Instrument Isolation Valves for PT-N088A,	D-302-961
-F512	PT-N088B	
1E31-F513	Instrument Isolation Valves for PT-N003C,	D-302-961
-F514	PT-N088C, PT-N088D	
1E31-F515	Instrument Isolation Valves for PT-N089A,	D-302-961
-F516	PT-N089B	
1E31-F517	Instrument Isolation Valves for PT-N003D,	D-302-961
-F518	PT-N089C, PT-N089D	
1E31-F578	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F579	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F580	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F581	Main Steam Line C Flow Instrument Test Conn	D-302-961
1E31-F582	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F583	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F584	Main Steam Line D Flow Instrument Test Conn	D-302-961
1E31-F585	Main Steam Line D Flow Instrument Test Conn	D-302-961
1B21-F512	Instrument Isol Valve for LT-N027, LT-N017	D-302-606
1B21-F514	Instrument Isol Valve for LT-N095B, PT-N403B,	D-302-606
	PI-R004B, PT-N058, PT-N403F, PT-N068E,	
	PT-N008B, PT-N068F, PT-N040, PT-N078B,	
	PT-N062B, PT-N004B, LT-N080B, LT-N490,	
	LT-N091B, LT-N402B, LT-N091F, dPI-R009B,	
	LT-N081B	
1B21-F510	Instrument Isolation Valve for PT-N078D,	D-302-606
	LT-N080D, LT-N073L, LT-N073R, LT-N081D,	
	LT-N402F, LT-N044D	
1E21-F542	RPV Level Instrument Line Drain	D-302-606
1B21-F511	Instrument Isolation Valve for LT-N080D,	D-302-606
	dPI-R005	

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<u>Valve No.</u>	<u>Description</u>	<u>P&amp;ID No.</u>
1B21-F544	RPV Level Instrument Line Vent	D-302-606
1B21-F546	RPV Level Instrument Line Drain	D-302-606
1B21-F515	Instrument Isolation Valve for LT-N080B, LT-N004, LT-N017, LT-N027, LT-N095B	D-302-606
1B21-F551	RPV Level Instrument Line Vent	D-302-606
1B21-F540	RPV Level Instrument Line Drain	D-302-606
1B21-F545	RPV Level Instrument Line Vent	D-302-606
1B21-F509	Instrument Isolation Valve for LT-N073L, LT-N073R, LT-N081D, LT-N402F	D-302-606
1B21-F548	RPV Level Instrument Line Drain	D-302-606
1B21-F549	RPV Level Instrument Line Vent	D-302-606
1B21-F513	Instrument Isolation Valve for LT-N081B, LT-N091F, dPI-R009B, LT-N402B, LT-N091F	D-302-606
1B21-F583	Instrument Isolation Valve for PT-N081, dPT-N032	D-302-606, 962
1B21-F582	Jet Pump Instrument Line Vent	D-302-606
1B21-F585	Instrument Isolation Valve For dPT-N011, dPT-N008	D-302-606, 872
1B21-F523	Instrument Isolation Valve for Flow Instruments P009, dPI-R005, LT-N490, dPT-N032, FT-N037, FT-N032, dPI-R005	D-302-606, 604, 671
1B21-F584	Jet Pump Instrument Line Vent	D-302-606
1B21-F553	Instrument Isolation Valve for LT-N095A, PT-N403A, PI-R004A, PT-N403E, PT-N005, PT-N068A, PT-N050, PT-N068E, PT-N006, PT-N008A, PT-N078A, PT-N062A, LT-N004A, LT-N080A, LT-N010, LT-N091A, LT-N402A, dPI-R009A, LT-N091E, LT-N081A	D-302-606
1B21-F505	Instrument Isolation Valves for LT-N080C, PT-N078C, LT-N004C, LT-N073G, LT-N402E, LT-N073C, LT-N081C, LT-N044C	D-302-606
1B21-F536	RPV Level Instrument Line Drain	D-302-606
1B21-F506	Instrument Isolation Valve for LT-N080C, LT-N004C	D-302-606
1B21-F539	RPV Level Instrument Line Vent	D-302-606
1B21-F528	RPV Level Instrument Line Drain	D-302-606
1B21-F552	Instrument Isolation Valve for LT-N080A, LT-N004A, LT-N095A	D-302-606
1B21-F533	RPV Level Instrument Line Vent	D-302-606
1B21-F535	RPV Level Instrument Line Drain	D-302-606
1B21-F504	Instrument Isolation Valves for LT-N081C, LT-N073C, LT-N402E, LT-N073G	D-302-606
1B21-F534	RPV Level Instrument Line Vent	D-302-606
1B21-F529	RPV Level Instrument Line Drain	D-302-606
1B21-F555	Instrument Isolation Valve for LT-N081A, LT-N091E, dPI-R009A, LT-N402A, LT-N091A, LT-N010	D-302-606
1B21-F531	RPV Level Instrument Line Vent	D-302-606

## 9.0 CALIBRATION STANDARD DRAWINGS

### 9.1 Calibration Standards

Included in this section is a listing of NDE calibration standards required to perform ultrasonic examinations on piping and components subject to the examination requirements of ASME Section XI.

The UT calibration standard design and material selection is in accordance with the requirements of ASME Section V and XI as applicable. In addition to the required notches, drilled holes have been installed as additional reflectors in accordance with the provisions of the applicable Codes.

The actual drawings are not included in this document at this time. They are in process of being fabricated as "As-Built" and will be added upon completion.

Table 9-1 is a listing of the calibration standards required in the performance of reactor vessel examinations.

Table 9-2 is a listing of the calibration standards required in the performance of examinations on piping and components other than the reactor vessel.

TABLE 9-1

CALIBRATION STANDARDS (REACTOR VESSEL)

<u>TITLE</u>	<u>NOMINAL WALL THICKNESS</u>	<u>MATERIAL SPECIFICATION</u>	<u>DRAWING NO.</u>
PY-SE-CS-1	.755*	SA105	4549-08-899
PY-SE-BI-1	.755*	SA508 C1-1 & SA336 C1-F8	4549-08-907
PY-SE-BI-2	.890*	SA508 C1-1 & SB166	4549-08-905
PY-SE-BI-3	1.145*	SA508 C1-1 & SB166	4549-08-916
PY-SE-BI-4	1.258*	SA508 C1-1 & SA182 F316L	4549-08-915
PY-SE-BI-5	1.498*	SA508 C1-1 & SA336 C1-F8	4549-08-906
PY-123-1-RPV	8.0*	SA553 Grade B	4549-08-917
PY-124-1-RPV	7.35*	SA533 Grade B	4549-08-918
PY-125-1-RPV	6.25*	SA533 Grade B	4549-08-919
PY-126-1-RPV	7.375*	SA533 Grade B	4549-08-920
PY-127-1-RPV	3.88*	SA553 Grade B	4549-08-921
PY-128-1-RPV	4.88*	SA553 Grade B	4549-08-922
PY-FLG-1-RPV	7.4* X 35°	SA553 Grade B	4549-08-911
PY-NUT-1-RPV-A	6.953*	SA540 Grade B24	4549-08-912
PY-STUD-1-RPV-A	6* Dia.	SA540 Grade B	4549-08-923
PY-IR-5.3	5.3*	SA533 Grade B	4549-08-903
PY-IR-6.6	6.6*	SA533 Grade B	4549-08-903
PY-1R-7.7	7.7*	SA533 Grade B	4549-08-903



TABLE 9-2

CALIBRATION STANDARDS (PIPING AND OTHER COMPONENTS)

<u>TITLE</u>	<u>NOMINAL WALL THICKNESS</u>	<u>MATERIAL SPECIFICATION</u>	<u>DRAWING NO.</u>
PY-4-80-SS	0.400	SA376, TP 347	4549-08-893
PY-4-80-CS	0.337*	SA106, Grade B	4549-08-898
PY-4-XX1-CS-F	0.337*	SA234, WPB	4549-08-893
PY-4-XX1-SS	0.325*	SA358, TP 304	4549-08-893
PY-6-40-CS	.280*	SA106 Grade B	4549-08-893
PY-6-80-CS	0.432*	SA106, Grade B	4549-08-890
PY-6-120-CS	0.562*	SA106, Grade B	4549-08-890
PY-6-XX1-CS-F	0.562*	SA234, WPB	4549-08-893
PY-8-40-CS	.322*	SA106 Grade B	4549-08-893
PY-8-100-CS	0.594*	SA106, Grade B	4549-08-893
PY-8-XX1-CS-F	0.594*	SA234, WPB	4549-08-893
PY-10-40-CS	.365*	SA106 Grade B	4549-08-893
PY-10-80-CS	0.593*	SA106, Grade B	4549-08-890
PY-10-100-CS	0.718*	SA106, Grade B	4549-08-890
PY-10-XX1-CS-F	0.718*	SA234, WPB	4549-08-893
PY-10-XX2-CS-F	1.45*	SA105	4549-08-894
PY-12-40-CS	.406*	SA106 Grade B	4549-08-893
PY-12-80-CS	0.687*	SA106, Grade B	4549-08-890
PY-12-80-SS-F	0.685*	SA403, WP 304 W	4549-08-893
PY-12-100-CS	0.843*	SA106, Grade B	4549-08-890
PY-12-120-CS	1.00*	SA106, Grade B	4549-08-890
PY-12-CLAD-SS	.688*	SA358 TP 304 & Clad-TP E308 L	4549-08-910

TABLE 9-2 (Cont.)

CALIBRATION STANDARDS (PIPING AND OTHER COMPONENTS)

<u>TITLE</u>	<u>NOMINAL WALL THICKNESS</u>	<u>MATERIAL SPECIFICATION</u>	<u>DRAWING NO.</u>
PY-12-PEN-CS-2	6.5" X 3"	SA 105 & SA106 Grade B	Tube Turns Dwg. 70195Y-C153.1
PY-12-STD-CS	.375"	SA106 Grade B	4549-08-893
PY-12-XX1-CS-F	0.688"	SA234, WPB	4549-08-893
PY-12-XX1-SS	0.700"	SA358, TP 304	4549-08-893
PY-12-XX2-CS-F	0.843"	SA234, WPB	4549-08-893
PY-12-XX3-CS-F	1.312"	SA234, WPB	4549-08-894
PY-14-40-CS	.438"	SA106 Grade B	4549-08-893
PY-14-80-CS	0.750"	SA106, Grade B	4549-08-890
PY-14-XX1-CS-F	0.750"	SA234, WPB	4549-08-893
PY-16-40-CS	.500"	SA106 Grade B	4549-08-893
PY-16-100-CS	1.031"	SA106, Grade B	4549-08-891
PY-16-100-SS	1.031"	SA358, TP 304	4549-08-894
PY-16-CLAD-SS	1.03"	SA358 TP 304 & Clad-TP E308 L	4549-08-910
PY-16-STD-CS	.375"	SA106 Grade B	4549-08-893
PY-16-XX1-CS-F	1.031"	SA234, WPB	4549-08-894
PY-18-40-CS	0.562"	SA106, Grade B	4549-08-890
PY-18-STD-CS	0.375"	SA106 Grade B	4549-08-893
PY-18-XX1-CS-F	0.562"	SA234, WPB	4549-08-893
PY-18-XX1-SS-F	0.562"	SA403, WP 304	4549-08-893
PY-20-40-CS	0.594"	SA106, Grade B	4549-08-890
PY-20-80-CS	1.031"	SA106, Grade B	4549-08-891
PY-20-100-CS	1.281"	SA106, Grade B	4549-08-891

TABLE 9-2 (Cont.)

CALIBRATION STANDARDS (PIPING AND OTHER COMPONENTS)

<u>TITLE</u>	<u>NOMINAL WALL THICKNESS</u>	<u>MATERIAL SPECIFICATION</u>	<u>DRAWING NO.</u>
PY-20-12-CS	1.500*	SA106, Grade B	4549-08-894
PY-20-XX1-CS-F	0.594*	SA234, WPB	4549-08-893
PY-20-XX1-SS-F	1.281*	SA182, F 316 L	4549-08-894
PY-22-CLAD-SS	1.0*	SA358 TP 304 & Clad-TP E308 L	4549-08-910
PY-22-XX1-SS	1.006*	SA358, TP 304	4549-08-894
PY-22-XX1-SS-F	1.13*	SA403, WP 304	4549-08-894
PY-22-XX2-SS-F	1.38*	SA403 WP 304 & Clad-TP E308 L	4549-08-913
PY-24-40-CS	0.687*	SA106, Grade B	4549-08-890
PY-24-CLAD-SS	1.315*	SA358 TP 304 & Clad-TP E308 L	4549-08-910
PY-24-STD-CS	0.375*	SA106 Grade B	4549-08-893
PY-24-XX1-CS-F	0.687*	SA234, WPB	4549-08-893
PY-24-XX1-SS	1.386	SA358, TP 304	4549-08-894
PY-24-XX1-SS-F	1.735*	SA403, WP 304	4549-08-894
PY-24-XX2-SS-F	1.400*	SA403, WP 304	4549-08-894
PY-26-80-CS	1.499*	SA155, Grade KCF 70	4549-08-891
PY-26-XX1-CS	1.147*	SA155, Grade KCF 70	4549-08-891
PY-26-XX1-CS-F	1.414*	SA234, WPB	4549-08-894
PY-26-XX2-CS	1.321*	SA106, Grade B	4549-08-891
PY-28-140-CS	2.406*	SA106, Grade C	4549-08-894
PY-1.5-RHR	1.50*	SA516 Grade 70	4549-08-908
PY-IR-RHR	5.3*	SA105	4549-08-902
PY-STUD-LPCS 2.25 - CS	2.25*	SA193 Grade B7	4549-08-900

TABLE 9-2 (Cont.)CALIBRATION STANDARDS (PIPING AND OTHER COMPONENTS)

<u>TITLE</u>	<u>NOMINAL WALL THICKNESS</u>	<u>MATERIAL SPECIFICATION</u>	<u>DRAWING NO.</u>
PY-STUD-MS- 2.25-CS	2.25*	SA540 Grade B23, CL5	4549-08-901
PY-STUD-RR- 3 - CS	3.0*	SA540 Grade B23, CLA	4549-08-909
PY-VALVE-XX1-CS	2.2"	SA105	80D7547
PY-VALVE-XX2-CS	1.5*	SA105	80D7547
PY-VALVE-XX3-CS	1.12"	SA105	80D7547
PY-STUD-MS- 2.25-CS-1	2.25*	SA540 Grade B23, CL5	4549-08-925

## 10.0 ISI DRAWINGS

### 10.1 ISI Piping and Instrumentation Diagrams (P&ID's)

Included in Volume 2 of the ISEP are the ISI P&ID's delineating the ISI boundaries for piping systems subject to the requirements of ASME Section XI.

The ISI boundary classifications are developed specifically to define the extent of examinations applicable to Section XI. The Section XI Class 1, 2 and 3 boundaries differ somewhat from the ASME Section III design boundaries. These differences occur as a result of systems, or portions of systems, being optionally upgraded in design.

The ISI classification boundaries are established by applying the provisions set forth in ASME Section XI, 10CFR50, Regulatory Guide 1.26 Revision 3, and NUREG-0800.

The actual drawings are color-coded, for ease of use. Due to reproduction limitations, only black and white copies are used in this document.

### 10.2 ISI Isometric Drawings

Also included in Volume 2 of the ISEP are the ISI isometric drawings delineating the components, welds, and supports which are subject to examination in accordance with the ISEP.

The ISI isometric drawings are established by applying the rules of ASME Section XI to components and systems which are not exempt from examination.

Each weld, support, and component subject to examination is identified by a unique number. These numbers are included on the isometrics with lines (arrows) identifying the particular item and its location within a system or component.