LIC-95-0157
Attachment 1

ATTACHMENT 1

Fort Calhoun Station Inservice Inspection Program Plan
Third Ten-Year Interval 1993 - 2003
Revision 3

ATTACHMENT 1

Fort Calhoun Station Inservice Inspection Program Plan
Third Ten-Year Interval 1993 - 2003
Revision 3

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION, UNIT 1

INSERVICE INSPECTION PROGRAM PLAN FOR THE 1993-2003 INTERVAL

PROGRAM TABLE OF CONTENTS

PROGRAM TABLE OF CONTENTS (Continued)

PROGRAM TABLE OF CONTENTS (Continued)

INTRODUCTION

This report defines the Fort Calhoun Station Inservice Inspection (ISI) Program Plan for Class 1, Class 2, and Class 3 pressure retaining components for the ten year (120 month) interval from September 26, 1993, to September 25, 2003. This report also covers Class 1, Class 2, and Class 3 pump and valve Inservice Testing (IST) for the ten year (120 month) interval from September 26, 1993, to September 25, 2003.

This program has been developed as required by Section 50.55a of 10CFR Part 50 following the guidance of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI (hereinafter called Section XI), "*Rules for Inservice Inspection of Nuclear Power Plant Components*", and the ASME/ANSI Operation and Maintenance of Nuclear Power Plants manual (hereinafter called O&M Manual) Parts 1, 6, and 10, and the NRC Generic Letter 89-04, dated April 3, 1989. The ISI Program Plan is controlled by the Fort Calhoun Station Unit 1 Technical Specifications 3.3.(1)a.

This program is in compliance, where possible, with the applicable requirements of ASME Section XI, 1989 Edition (Program B) and the ASME/ANSI O&M Manual Parts 1, 6, and 10, 1987 Edition, 1988 Addenda, except as noted below:

> The O&M Manual, Part 6, 1987 Edition and 1988 Addenda have omitted the Figure 1 referred to on Table 3, Note 2 for vibration ranges. OPPD will use the Table 3 as listed in the 1989 addenda of the O&M Manual, Part 6 for vibration ranges for test parameters.

This program incorporates the results of previous inservice and preservice inspections. It is the intent of the Licensee (Omaha Public Power District) to continue to review and apply, as appropriate, changes in the ASME Section XI Code that would improve the total ISI Program Plan, pursuant to 10CFR50.55a.

Revision 1 of this program plan incorporates changes to the ISI Program (Part 1) as requested by the NRC.

Revision 2 of this program plan incorporates resolutions to the NRC Safety Evaluation Report (SER) anomalies identified in Part 4, Reference 7 of this program plan as well as typographical errors and changes due to Engineering Change Notices (ECNs)/Modifications (Mods) at FCS.

PART 1: CLASS 1, CLASS 2, AND CLASS 3 PRESSURE RETAINING COMPONENTS

1.0 Program Summary

1.1 The Inservice Inspection (ISI) Program for Class 1, 2, and 3 pressure retaining components was developed in accordance with, and meets the requirements of, the ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition. The ISI Program for Class 1, 2, and 3 pressure retaining components will remain in effect for the remainder of the ten year (120 month) interval, which commences on September 26, 1993. The Program will be reviewed and updated as required by the edition of the Code and Addenda in effect not more than 12 months prior to the start of the next (i.e., fourth) 120 month interval (beginning September 26, 2003).

2.0 Scope and Responsibility

2.1 The Piping and Instrumentation Drawings (P&IDs) for Fort Calhoun Station (FCS) identify the class boundaries. These P&IDs are subject to review and are changed as required in accordance with FCS administrative procedures.

2.2 Class 1, Class 2, and Class 3 components and the methods of examination for each component are listed in Tables 1.1, 1.2, and 1.3, respectively. The total number of Class 1, 2, and 3 components and supports required by ASME Section XI 1989 Edition, no Addenda, are listed by category in Tables 1B, 1C, and 1D respectively. The required number of exams per category per forty (40) month period are also shown, as well as a proposed exam schedule per category per forty (40) month period. The specific components to be examined for each class shall be identified in the Fort Calhoun Station Unit 1 Ten Year Inservice Examination Plan by title and/or number. Exceptions to compliance with Subsection IWA, Tables IWB-2500-1, IWC-2500-1, and IWD-2500-1 of Section XI are listed in Appendices 1A, 1B, 1C, and 1D, respectively.

Class 3 portions of the Waste Disposal System have been classified as Class 3 in accordance with Subarticle IWA-1320, Paragraph (e) of Section XI. Examination in accordance with the rules of Subsection IWD will not be performed on the Class 3 portion of the Waste Disposal System. (Although the Waste Disposal System at FCS is classified Class 3, it is not considered safety related as required for inspection per IWD-2500.)

2.3 Class 1, Class 2, and Class 3 component supports and the methods of examination for each support are listed in Table 1.4.

2.4 Steam Generator, safety-related snubbers, metallic liners (of Class CC), containment spray nozzles and the concrete component examinations (Class CC) are not performed under this ISI Program Plan, but are performed as described below:

2.4.1 Steam Generator exams are performed under FCS Technical Specification 3.17.

2.4.2 Snubber exams are performed under FCS Technical Specification 3.14 and OM Code ISTD 1990, 1992 Addenda. Reference NRC letter dated April 6, 1995 (NRC 95-071).

2.4.3 Metallic liner exams (of Class CC) are not required at the time of this submittal per 10CFR50.

2.4.4 Concrete component exams are performed under FCS Technical Specification 3.5.

2.5 The containment spray nozzles are tested under FCS Technical Specification 3.6.

3.0 Inspection Intervals

3.1 The inspection intervals for Class 1, Class 2, and Class 3 components are ten year (120 month) intervals of service which commenced on September 26, 1973. This program plan covers the third ten year interval, i.e. September 26, 1993 to September 25, 2003.

The ten year Inservice Examination Plan describes the distribution of examinations within the inspection intervals in accordance with IWB-2400, IWC-2400, IWD-2400 and IWF-2400 of Section XI.

3.2 The inspection intervals and periods may be extended by as much as one year to permit inspections to be concurrent with plant outages as permitted by IWA-2430(d) of Section XI.

3.3 Selection of Class 1 pressure retaining piping welds for examination shall be in accordance with the requirements of the 1974 Edition of Section XI, Summer of 1975 Addenda. [As permitted by 10CFR50.55a(b)(2)(ii)]

4.0 Examination Categories

4.1 Class 1 components, as described in the ten-year examination plan, will be examined to the extent and frequency required by Table IWB-2500-1 of Section XI (except as noted in Appendix 1B).

4.2 Class 2 components as described in the ten-year examination plan will be examined to the extent and frequency required by Table IWC-2500-1 of Section XI (except as noted in Appendix 1C).

4.3 Class 3 components, as described in the ten year examination plan, shall be examined to the extent and frequency as required by Table IWD-2500-1 of Section XI (except as noted in Appendix 1D).

5.0 Examination Methods

5.1 Class 1 and Class 2 components shall be examined by the required visual, surface, and volumetric examination methods. These examinations shall include one or a combination of the following methods: visual (VT), liquid penetrant (PT), magnetic particle (MT), radiographic (RT), and ultrasonic (UT). Ultrasonic (UT) examinations shall be performed in accordance with the following:

5.1.1 When listing calibration blocks on piping reports, the block thickness shall be within ±25% of the pipe wall thickness examined per the rules of Code Case N-461.

5.1.2 The reactor coolant pumps (RCP) shall be examined per the rules of ASME Code Cases N-481 and N-498-1.

5.1.2.1 Class 3 components shall be visually examined for leakage in accordance with Article IWD-2500 of Section XI.

6.0 Evaluation of Examination Results

6.1 Class 1 Components

The evaluation of the nondestructive examination results shall be in accordance with Article IWB-3000 of Section XI. All indications shall be subject to comparison with previous data to help in characterization and in determining origin.

6.2 Class 2 Components

The evaluation of nondestructive examination results shall be in accordance with Article IWC-3000 of Section XI. All indications shall be subject to comparison with previous data to help in characterization and in determining origin.

6.3 Class 3 Components

The evaluation of the nondestructive examination results shall be in accordance with Article IWD-3000 of Section XI. All indications shall be subject to comparison with previous data to help in characterization and in determining origin.

6.4 Indications which have been recorded in the preservice inspection or in a previous inservice inspection which are not characterized as propagating flaws shall be considered acceptable for continued service.

7.0 Repair Requirements

7.1 Repair of Class 1, Class 2, and Class 3 components shall be performed in accordance with Article IWA-4000 of Section XI.

7.2 Surface defects in Class 1 and Class 2 pressure retaining components may be removed by mechanical means when the removal of a defect will not alter the basic configurations of the item. Pressure retaining components that have defects that cannot be removed by mechanical means will be replaced in accordance with Article IWA-7000 of Section XI, or monitored for further growth per IWB-2420 or IWC-2420.

8.0 System Pressure Testing

8.1 General Requirements

8.1.1 System pressure tests will be conducted in accordance with Article IWA-5000 of Section XI and ASME Code Case N-498.

8.1.2 Evaluation of any corroded area will be performed in accordance with Section XI.

8.1.3 Repairs of corroded areas shall be performed in accordance with Section 7 of this Program.

8.2 Class 1 Components

8.2.1 After each Refueling Outage, the system will be leak tested in accordance with Article IWB-5000 of Section XI and in accordance with FCS Technical Specification 2.1 (Figures 2-1A and 2-1B).

8.2.2 The ten year hydrostatic tests for ASME Class 1 systems will not be performed in the ISI Program. In lieu of the hydrostatic tests required by ASME Section XI, alternative testing consisting of system pressure and leakage tests as described in ASME Code Case N-498-1 will be performed. Refer to ASME Code Case N-498-1, dated May 11, 1994, and NRC letter dated January 30, 1995 (NRC-95-017).

8.2.3 Partial penetration welds on the reactor vessel and the pressurizer shall be examined in accordance with Table IWB-2500 Examination Category B-E of Section XI.

8.3 Class 2 Components

8.3.1 Pressure tests and visual examination of Class 2 components will be performed in accordance with the guidelines of Table IWC-2500 of Section XI.

8.3.2 The ten year hydrostatic tests for ASME Class 2 systems will not be performed in the ISI Program. In lieu of the hydrostatic tests required by Section XI, alternative testing consisting of system pressure and leakage tests as

described in ASME Code Case N-498-1, will be performed. Refer to ASME Code Case N-498-1, dated May 11, 1994, and NRC letter dated January 30, 1995 (NRC-95-017).

8.3.3 System leakage tests will be used in lieu of required hydrostatic tests for repairs/replacements of Class 2 components/piping at the discretion of the ISI Coordinator and ANII in accordance with ASME Code Case N-416. The required hydrostatic tests will be performed at the next regularly scheduled Refueling Outage.

8.4 Class 3 Components

8.4.1 Pressure tests and visual examination of Class 3 components will be performed in accordance with the guidelines of Table IWD-2500 of Section XI.

8.4.2 The ten year hydrostatic tests for ASME Class 3 systems will not be performed in the ISI Program. In lieu of the hydrostatic tests required by Section XI, alternative testing consisting of system pressure and leakage tests as described in ASME Code Case N-498-1, will be performed. Refer to ASME Code Case N-498-1, dated May 11, 1994, and NRC letter dated January 30, 1995 (NRC-95-017).

9.0 Examination Schedule

Minor schedule changes such as interval substitutions or component switches in accordance with the ISI philosophy will be recorded and maintained in a log for review and consideration in establishing future inspection plans by the ISI Administrator.

The third ten year interval (1993-2003) is divided into three 40-month periods. Each 40-month period encompasses two refueling outages as follows:

1st period	1995 and 1996
2nd period	1998 and 1999
3rd period	2001 and 2002

The detailed schedule designates which period an examination is to occur by listing the last two digits of the refueling outage year.

10.0 Records and Reports

Records and reports made in accordance with this program shall be developed and maintained in accordance with Article IWA-6000 of Section XI.

TABLES

TABLE 1.1

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWB-2500-1

ITEM NO.	EXAMINATION CATEGORY TABLE IWB-2500-1	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		REACTOR VESSEL	
B1.10	B-A	Longitudinal and circumferential shell welds	Volumetric
B1.20	B-A	Circumferential and meridional head welds (accessible length)	Volumetric
B1.30	B-A	Shell-to-flange welds	Volumetric
B1.40	B-A	Head-to-flange weld	Volumetric & Surface
B3.90	B-D	Nozzle-to-vessel welds	Volumetric
B3.100	B-D	Nozzle inside radius section	Volumetric
B4.10	B-E	Partial penetration welds, including vessel nozzles, control rod drive nozzles & instrumentation nozzles	Visual, VT-2
B5.10	B-F	Nozzle-to-safe end butt welds NPS 4 or larger	Volumetric & Surface
B6.10	B-G-1	Closure head nuts	Surface
B6.30	B-G-1	Closure studs, when removed	Volumetric & Surface
B6.40	B-G-1	Threads in flange	Volumetric
B6.50	B-G-1	Closure washers	Visual, VT-1
B7.80	B-G-2	Bolts, studs & nut $\leq$2 in. diameter in CRD housing	Visual, VT-1
B13.10	B-N-1	Vessel interior	Visual, VT-3
B13.50	B-N-2	Interior attachments within beltline region	Visual, VT-1
B13.60	B-N-2	Interior attachments beyond beltline region	Visual, VT-3
B13.70	B-N-3	Core support structure	Visual, VT-3
B14.10	B-O	Pressure retaining welds in Control rod drive housings	Surface or Volumetric
B15.10	B-P	Pressure retaining boundary	Visual, VT-2
B15.11	B-P	Pressure retaining boundary	Visual, VT-2

TABLE 1.1 (Continued)

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWB-2500-1

ITEM NO.	EXAMINATION CATEGORY TABLE IWB-2500-1	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Pressurizer	
B2.10	B-B	Longitudinal and circumferential shell-to-head welds	Volumetric
B3.110	B-D	Nozzle-to-vessel welds	Volumetric
B3.120	B-D	Nozzle inside radius section	Volumetric
B4.20	B-E	Heater penetration welds	Visual, VT-2
B5.40	B-F	Nozzle-to-safe end welds NPS 4 or larger	Volumetric & Surface
B5.50	B-F	Nozzle-to-safe end NPS less than 4	Surface
B7.20	B-G-2	Bolts, studs and nuts $\leq$2 in. diameter	Visual, VT-1
B10.10	B-K-1	Integrally welded attachments	Surface or Volumetric
B15.20	B-P	Pressure retaining boundary	Visual, VT-2
B15.21	B-P	Pressure retaining boundary	Visual, VT-2
		Steam Generators (Primary Side)	
B2.30	B-B	Head welds, circumferential and meridional	Volumetric
B2.40	B-B	Tubesheet-to-head weld	Volumetric
B3.130	B-D	Nozzle-to-vessel welds	Volumetric
B3.140	B-D	Nozzle inside radius section	Volumetric
B5.70	B-F	Nozzle-to-safe end welds NPS 4 or larger	Volumetric & Surface
B7.30	B-G-2	Bolts, studs, and nuts $\leq$2 in. diameter	Visual, VT-1
B10.10	B-K-1	Integrally welded attachments	Surface or Volumetric
B15.30	B-P	Pressure retaining boundary	Visual, VT-2
B15.31	B-P	Pressure retaining boundary	Visual, VT-2
		Heat Exchanger	
B2.50	B-B	Head welds, circumferential and meridional	Volumetric

TABLE 1.1 (Continued)

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWB-2500-1

ITEM NO.	EXAMINATION CATEGORY TABLE IWB-2500-1	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Heat Exchanger (Continued)	
B2.70	B-B	Longitudinal welds	Volumetric
B2.80	B-B	Tubesheet-to-shell welds	Volumetric
B3.150	B-D	Nozzle-to-vessel welds	Volumetric
B3.160*	B-D	Nozzle inside radius section	Volumetric
B15.40	B-P	Pressure retaining boundary	Visual, VT-2
B15.41	B-P	Pressure retaining boundary	Visual, VT-2
		Piping Pressure Boundary	
B5.130	B-F	NPS 4 or larger dissimilar metal butt welds	Surface & Volumetric
B5.140	B-F	Less than NPS 4 dissimilar metal butt welds	Surface
B7.50	B-G-2	Bolts, studs and nuts ≤2 in. diameter	Visual, VT-1
B9.10	B-J	Circumferential welds & longitudinal welds NPS 4 or larger	Surface & Volumetric
B9.20	B-J	Circumferential & longitudinal welds less than NPS 4	Surface
B9.31	B-J	Branch pipe connection welds nominal pipe size NPS 4 or larger	Surface & Volumetric
B9.32	B-J	Branch pipe connection welds nominal pipe size less than NPS 4	Surface
B9.40	B-J	Socket welds	Surface
B10.20	B-K-1	Integrally welded attachments	Surface or Volumetric
B15.50	B-P	Pressure retaining boundary	Visual, VT-2
B15.51	B-P	Pressure retaining boundary	Visual, VT-2
		Pump Pressure Boundary	
B6.180	B-G-1	Bolts and studs >2 in. diameter	Volumetric

* See Appendix 1B

TABLE 1.1 (Continued)

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWB-2500-1

ITEM NO.	EXAMINATION CATEGORY TABLE IWB-2500-1	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Pump Pressure Boundary (Continued)	
B6.190	B-G-1	Flange surface when disassembled (with >2 in. bolting or studs)	Visual, VT-1
B6.200	B-G-1	Nuts, bushings, and washers >2 in.	Visual, VT-1
B7.60	B-G-2	Bolts, studs, and nuts ≤2 in.	Visual, VT-1
B10.30	B-K-1	Integrally welded attachments	Surface or Volumetric
B12.10	B-L-1	Pump casing welds	*Visual, VT-1
B12.20	B-L-2	Pump casings	Visual, VT-3
B15.60	B-P	Pressure retaining boundary	Visual, VT-2
B15.61	B-P	Pressure retaining boundary	Visual, VT-2
		Valve Pressure Boundary	
B7.70	B-G-2	Bolts, studs, and nuts ≤2 in. diameter	Visual, VT-1
B12.30	B-M-1	Valve body welds less than NPS 4	Surface
B12.40	B-M-1	Valve body welds NPS 4 or larger	Volumetric
B12.50	B-M-2	Valve body exceeding NPS 4	Visual, VT-3
B15.70	B-P	Pressure retaining boundary	Visual, VT-2
B15.71	B-P	Pressure retaining boundary	Visual, VT-2

* Per Code Case N-481

TABLE 1.2

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWC-2500-1

ITEM NO.	EXAMINATION CATEGORY TABLE IWC-2500-1	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Pressure Vessels	
C1.10	C-A	Shell circumferential welds	Volumetric
C1.20	C-A	Head circumferential welds	Volumetric
C1.30	C-A	Tubesheet-to-shell weld	Volumetric
C2.21	C-B	Nozzle-to-shell (or head) weld in vessels >½ in. nominal thickness without reinforcing plate	Surface & Volumetric
C2.22	C-B	Nozzle inside radius in vessels >½ in. nominal thickness without reinforcing plate	Volumetric
C7.10	C-H	Pressure retaining boundary	Visual, VT-2
C7.20	C-H	Pressure retaining boundary	Visual, VT-2
		All Piping	
C3.10	C-C	Integrally welded attachments (Pressure Vessels)	Surface
C3.20	C-C	Integrally welded attachments (Piping)	Surface
C7.30	C-H	Pressure retaining boundary	Visual, VT-2
C7.40	C-H	Pressure retaining boundary	Visual, VT-2
		Austenitic Stainless Steel or High Alloy Piping	
C5.10	C-F-1	Circumferential & longitudinal welds ≥⅜ in. nominal wall thickness for piping > NPS 4	Surface & Volumetric
C5.20	C-F-1	Circumferential & longitudinal welds >1/5 in. nominal wall thickness for piping ≥ NPS 2 and ≤ NPS 4	Surface & Volumetric
C5.30	C-F-1	Socket welds	Surface
C5.40	C-F-1	Circumferential & longitudinal welds in pipe branch connections of branch piping ≥ NPS 2	Surface
C5.50	C-F-2	Circumferential & longitudinal welds ≥⅜ in. nominal wall thickness for piping > NPS 4	Surface & Volumetric

TABLE 1.2 (Continued)

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWC-2500-1

ITEM NO.	EXAMINATION CATEGORY TABLE IWC-2500-1	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Austenitic Stainless Steel or High Alloy Piping (Continued)	
C5.60	C-F-2	Circumferential & longitudinal welds >1/5 in. nominal wall thickness for piping ≥ NPS 2 and ≤ NPS 4	Surface & Volumetric
C5.70	C-F-2	Socket welds	Surface
C5.80*	C-F-2	Circumferential and longitudinal welds in pipe branch connections of branch piping ≥ NPS 2	Surface
		Pumps	
C6.10	C-G	Pump casing welds	Surface
C7.50	C-H	Pressure retaining components	Visual, VT-2
C7.60	C-H	Pressure retaining components	Visual, VT-2
		Valves	
C6.20	C-G	Valve body welds	Surface
C7.70	C-H	Pressure retaining components	Visual, VT-2
C7.80	C-H	Pressure retaining components	Visual, VT-2

* See Appendix 1C

TABLE 1.3

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWD-2500-1

ITEM NO.	EXAMINATION CATEGORY TABLE IWD-2500-1	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
D1.10	D-A	Pressure retaining components	Visual, VT-2
D1.20	D-A	Integral attachment, component supports and restraints	Visual, VT-3
D1.30	D-A	Integral attachment, mechanical and hydraulic snubbers	Visual, VT-3
D1.40	D-A	Integral attachment, spring type supports	Visual, VT-3
D1.50	D-A	Integral attachment, constant load type supports	Visual, VT-3
D1.60	D-A	Integral attachment, shock absorbers	Visual, VT-3

TABLE 1.4

COMPONENTS, PARTS, AND METHODS OF EXAMINATION IWF-2500-1

CODE CASE N-491 ALTERNATIVE RULES FOR EXAMINATION OF CLASS 1, 2, 3 AND METAL CONTAINMENT COMPONENT SUPPORTS OF LIGHT-WATER COOLED POWER PLANTS

ITEM NO.	EXAMINATION CATEGORY TABLE IWF-2500	SUPPORT TYPE EXAMINED	METHOD
F1.10	F-A	Class 1 piping supports	Visual, VT-3
F1.20	F-A	Class 2 piping supports	Visual, VT-3
F1.30	F-A	Class 3 piping supports	Visual, VT-3
F1.40	F-A	Supports other than piping supports (Class 1, 2, 3 and MC)	Visual, VT-3

PART 1

APPENDICES

APPENDIX 1A

EXCEPTIONS TO COMPLIANCE WITH SUBSECTION IWA

Section	Exception
IWA-2600	Weld identifications will be marked at the time the weld is examined per Station Engineering Instruction SEI-27.

APPENDIX 1B

EXCEPTIONS TO COMPLIANCE WITH TABLE IWB-2500-1 (CLASS 1 COMPONENTS) IN ASME BOILER AND PRESSURE VESSEL CODE, SECTION XI, 1989 EDITION

Item No.	Exception
B1.10	The Reactor Pressure Vessel (RPV) Shell Welds are limited to automated examinations from the RPV interior due to dose and accessibility of the exterior surface. The beltline circumferential weld (RPV-SC-C-11) and the three lower shell longitudinal welds' (RPV-SL-A-3, RPV-SL-B-3, RPV-SL-C-3) interior scanning surfaces are limited by the proximity on the six RPV surveillance capsule holders located at 45°, 85°, 95°, 225°, 265, and 275°. The Code required exam volume cannot be met on these welds and a relief request has been submitted.
B1.30	The RPV upper shell-to-flange weld (RPV-A-11) is limited to a manual examination from the flange surface and an automated examination from the RPV interior, due to dose and accessibility of the exterior surface and to the geometry of the RPV. The Code required exam volume cannot be met on this weld and relief is included in the above mentioned relief request.

APPENDIX 1C

EXCEPTIONS TO COMPLIANCE WITH TABLE IWC-2500-1

Item No.	Exception
	None

Substitute Examinations for Table IWC-2500-1

C5.81 The following are inaccessible branch connection welds due to cable wrapping which holds a system of heavy metal slats in place over the main steam piping in Room 81.

ISO #	Component
B-04	28-MS-2001/12-BC-1 28-MS-2001/12-BC-2 28-MS-2001/15-BC-1 28-MS-2001/15-BC-2
B-06	28-MS-2002/12-BC-1 28-MS-2002/12-BC-2 28-MS-2002/15-BC-1 28-MS-2002/15-BC-3

The Fort Calhoun Updated Safety Analysis Report (USAR), Appendix M, Section 3.5.8 states:

> "A protective enclosure (has been) provided around the main steam and feedwater lines between the penetration sleeves and the first isolation valves, where a large rupture is postulated.
>
> This enclosure, although designed primarily to limit the effects of jet impingement, also serves to minimize the reaction effects of a longitudinal rupture by containing the jet and preventing the formation of an unbalanced external force."

In the past, the NRC has conducted a review of the piping exam areas (Docket 50-285, November 10, 1986) and determined that the required examinations were impractical to perform.

Since one of the eight branch connection welds listed above is required by ASME Section XI, OPPD will substitute a similar branch connection weld on the non-class portion of the main steam line shown on isometric B-86.

The Code required IWA-5000 system leakage test monitors all the cable wrapped welds.

APPENDIX 1D

EXCEPTIONS TO COMPLIANCE WITH TABLE IWD-2500-1

Item No.	Exception
None	

SUMMARY

TABLES

TABLE 1A

THIS PAGE

INTENTIONALLY

LEFT BLANK

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
B-A PRESSURE RETAINING WELDS IN RPV										
B-A	B1.10	RPV SHELL WELDS								
B-A	B1.11	CIRCUMFERENTIAL	VOL	ALL WELDS	YES	3	3	-	-	3
B-A	B1.12	LONGITUDINAL	VOL	ALL WELDS	YES	9	9	-	-	9
B-A	B1.20	RPV HEAD WELDS								
B-A	B1.21	CIRCUMFERENTIAL	VOL	ACCES LENGTH ALL WELDS	YES	2	2	-	-	2
B-A	B1.22	MERIDIONAL	VOL	ACCES LENGTH ALL WELDS	YES	12	12	-	-	12
B-A	B1.30	RPV SHELL-FLANGE WELD	VOL	FLANGE FACE 1ST PERIOD	PART	1	1	1 PARTIAL	-	1
B-A	B1.40	RPV HEAD-FLANGE WELD	SUR/VOL	FLANGE FACE 1ST PERIOD	PART	1	1	1 PARTIAL	-	1
TOTAL NUMBER OF EXAMS PER COLUMN						28	28	2 PARTIAL	-	28
TOTAL NUMBER OF EXAMS ACCUMULATED										
REQUIRED ACCUMULATED NUMBER PER PERIOD								2 PARTIAL	-	28
B-B PRESSURE RETAINING WELDS IN VESSELS OTHER RPV										
B-B	B2.10	PZR SHELL-HEAD WELDS								
B-B	B2.11	CIRCUMFERENTIAL	VOL	ALL WELDS	NO	2	2	1 (LOWER)	-	1 (UPPER)
B-B	B2.12	LONGITUDINAL	VOL	1' OF WELD INTERSECTING B2.11 WELD	NO	4	2	1 (LOWER)	-	1 (UPPER)

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
B-B	B2.20	HEAD WELDS	N/A	ONE PIECE HEADS				-	-	-
B-B	B2.30	SG HEAD WELDS								
B-B	B2.31	CIRCUMFERENTIAL	VOL	1 WELD PER HEAD	NO	4	1	-	1	-
B-B	B2.32	MERIDIONAL	VOL	1 WELD PER HEAD	NO	8	1	-	1	-
B-B	B2.40	TUBESHEET-HEAD WELD	VOL	WELD	NO	2	1	1	-	-
B-B	B2.50	HX SHELL (OR HEAD) WELDS								
B-B	B2.51	CIRCUMFERENTIAL (RGHE)	VOL	1 WELD PER HEAD	NO	2	1	-	-	1
B-B	B2.70	LONGITUDINAL (RGHE)	VOL	ENTIRE WELD	NO	2	1	-	-	1
B-B	B2.80	TUBESHEET-SHELL WELD (RGHE)	VOL	WELD	NO	2	1	-	-	1
TOTAL NUMBER OF EXAMS PER COLUMN						26	10	3	2	5
TOTAL NUMBER OF EXAMS ACCUMULATED								3	5	10
REQUIRED ACCUMULATED NUMBER PER PERIOD								2 - 3	5 - 6	10
B-D FULL PENETRATION WELD OF NOZZLES IN VESSELS										
B-D	B3.90	RPV NOZZLE-VESSEL WELDS	VOL	ALL NOZZLES	PART	6	6	-	-	6
B-D	B3.100	RPV NOZZLE INNER RADIUS	VOL	ALL NOZZLES	NO	6	6	-	-	6
B-D	B3.110	PRZ NOZZLE-VESSEL WELDS	VOL	ALL NOZZLES	NO	5	5	2 (AUTO)	3 (AUTO)	-
B-D	B3.120	PRZ NOZZLE-INNER RADIUS	VOL	ALL NOZZLES	NO	5	5	2 (AUTO)	3 (AUTO)	-

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
B-D	B3.130	SG NOZZLE-VESSEL WELDS	VOL	ALL NOZZLES	NO	6	6	3 (LOOP A) (AUTO)	3 (LOOP B) (AUTO)	-
B-D	B3.140	SG NOZZLE-INNER RADIUS	VOL	ALL NOZZLES	NO	6	6	3 (LOOP A) (AUTO)	3 (LOOP B) (AUTO)	-
B-D	B3.150	HX NOZZLE-VESSEL WELDS (RGHE)	VOL	ALL NOZZLES	NO	4	4	2	-	2
B-D	B3.160	HX NOZZLE-INNER RADIUS (RGHE)	VOL	ALL NOZZLES	NO	4	4	2	-	2
TOTAL NUMBER OF EXAMS PER COLUMN						42	42	14	12	16
TOTAL NUMBER OF EXAMS ACCUMULATED								14	[illegible]	42
REQUIRED ACCUMULATION PER PERIOD								*11 - 21	21 - 28	42
*NOTE: SECTION XI CAT. B-D NOTE 2 REQUIRES 25% - 50% IN FIRST PERIOD										
B-E PRESSURE RETAINING PARTIAL PENETRATION WELDS IN VESSELS ALL EXAMS PERFORMED UNDER PROCEDURE OP-ST-RC-3007								-	-	-
B-F PRESSURE RETAINING DISSIMILAR METAL WELDS										
B-F	B5.10	RPV NOZ-SAFE END ≥4"	SUR/VOL	ALL WELDS	NO	6	6*	-	-	6
B-F	B5.40	PRZ NOZ-SAFE END ≥4" (SURGE, SPRAY)	SUR/VOL	ALL WELDS	NO	2	2*	2	-	-
B-F	B5.50	PRZ NOZ-SAFE END <4"	SUR (PRL^)	ALL WELDS	NO	3	3	^1 (PRL)	2 (SAFETY)	-
B-F	B5.70	SG NOZ-SAFE END ≥4"	SUR/VOL	ALL WELDS	NO	6	6*	3 (LOOP A)	3 (LOOP B)	-
B-F	B5.130	BUTT WELD ≥4" (PRZ A-15/07B)	SUR/VOL	ALL WELDS	NO	1	1	-	-	1
B-F	B5.140	BUTT WELD <4" (PRZ A-19/01)	SUR	ALL WELDS	NO	1	1	-	-	1
TOTAL NUMBER OF EXAMS PER COLUMN						19	19	6	5	8

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
TOTAL NUMBER OF EXAMS ACCUMULATED								6	11	19
REQUIRED ACCUMULATED NUMBER PER PERIOD								4 - 6	10 - 12	19
*NOTE: AUTOMATED EXAMS NOTE: *SPRAY NOZZLE WILL RECEIVE AN ADDITIONAL UT EXAM										
B-G-1 PRESSURE RETAINING BOLTING >2" DIAMETER										
B-G-1	B6.10	RPV CLOSURE HEAD NUTS	SUR	ALL NUTS >2"	NO	48	48	24	-	24
B-G-1	B6.30	RPV CLOSURE STUDS REM.	SUR/VOL	ALL STUDS >2"	NO	48	48	-	24	24
B-G-1	B6.40	RPV THREADS IN FLANGE*	VOL	ALL STUD HOLES >2"	NO	48	48	48	-	-
B-G-1	B6.50	RPV CLOSURE WASHERS	VT1	ALL WASHERS >2"	NO	48	48	-	-	48
B-G-1	B6.180	PUMP BOLTS/STUDS (RC-3B)	VOL	ALL BOLTS/STUDS >2"	NO	64	16	-	16	-
B-G-1	B6.190	PUMP FLANGE/SURF	VT1	WHEN DISASSEMBLED	NO	4	0	-	-	-
B-G-1	B6.200	PUMP NUTS/BUSHINGS/WASHERS (RC-3B)	VT1	ALL >2"	NO	64	16	-	16	-
TOTAL NUMBER OF EXAMS PER COLUMN						324	224	72	56	96
TOTAL NUMBER OF EXAMS ACCUMULATED								72	128	224
REQUIRED ACCUMULATED NUMBER PER PERIOD								36 - 76	112 - 150	224
*NOTE: DUE TO EXCESSIVE DOSE & STAGING, THREADS IN FLANGE WILL BE PERFORMED AT THE SAME TIME AS SHELL-TO-FLANGE WELD (ITEM #B1.30)										
B-G-2 PRESSURE RETAINING BOLTING 2" AND LESS IN DIAMETER										
B-G-2	B7.20	PRZ BOLTS/STUDS/NUTS	VT1	ALL <2"	NO	1	1	1	-	-

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
B-G-2	B7.30	SG BOLTS/STUDS/NUTS	VT1	ALL <2"	NO	4	4	2 (LOOP A)	2 (LOOP B)	-
B-G-2	B7.50	PIPING BOLTS/STUDS/NUTS	VT1	ALL <2"	NO	6	6	2	2	2
B-G-2	B7.60	PUMPS BOLTS/STUDS/NUTS	VT1	ALL <2"	NO	4	4	2 (LOOP A)	2 (LOOP B)	-
B-G-2	B7.70	VALVES BOLTS/STUDS/NUTS	VT1	ALL <2"	NO	15	15	1	5	9
B-G-2	B7.80	CRD BOLTS/STUDS/NUTS	VT1	ALL <2" IF DISASSEMBLED	NO	41	-	-	-	-
TOTAL NUMBER OF EXAMS PER COLUMN						71	30	8	11	11
TOTAL NUMBER OF EXAMS ACCUMULATED								8	19	30
REQUIRED ACCUMULATED NUMBER PER PERIOD								5 - 10	15 - 20	30
B-H INTEGRAL ATTACHMENTS FOR VESSELS										
B-H	B8.20	PRESSURIZER	VOL OR SUR	ALL	NO	1	1	1	-	-
B-H	B8.30	STEAM GENERATOR	VOL OR SUR	1 LOOP	NO	8	4	-	4	-
TOTAL NUMBER OF EXAMS PER COLUMN						9	5	1	4	-
TOTAL NUMBER OF EXAMS ACCUMULATED								1	*5	5
REQUIRED ACCUMULATED NUMBER PER PERIOD								1	3	5
*NOTE: LOW NUMBER OF EXAM LOCATIONS (2) PRECLUDE TYPICAL SAMPLING PER PERIOD										
B-J PRESSURE RETAINING WELDS IN PIPING										
B-J	B9.10	PIPE ≥ 4"								

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
B-J	B9.11	CIRCUMFERENTIAL	SUR/VOL	25% ALL WELDS	NO	185	*84	15	14	16
B-J	B9.12	LONGITUDINAL	SUR/VOL	INTERSECT CIRC	NO	SEAMLESS	-	-	-	-
B-J	B9.20	PIPE <4"								
B-J	B9.21	CIRCUMFERENTIAL	SUR	25% ALL WELDS	NO	150	*	9	12	18
B-J	B9.22	LONGITUDINAL	SUR	INTERSECT CIRC	NO	SEAMLESS	-	-	-	-
B-J	B9.30	BRANCH CONNECTIONS		25% ALL WELDS						
B-J	B9.31	PIPE SIZE ≥4"	SUR/VOL		NO	6	*5	2	-	-
B-J	B9.32	PIPE SIZE <4"	SUR		NO	13	*	1	1	1
B-J	B9.40	SOCKET WELDS	SUR	25% ALL WELDS	NO	275	69	26	25	18
TOTAL NUMBER OF EXAMS PER COLUMN						629	158	53	52	53
TOTAL NUMBER OF EXAMS ACCUMULATED								53	105	158
REQUIRED ACCUMULATED NUMBER PER PERIOD								26 - 53	79 - 105	158
*NOTE: REQUIRED NUMBER OF EXAMS IS FOR THE TOTALS OF BOTH CIRCUMFERENTIAL WELDS (334 x 25%) AND BOTH BRANCH CONNECTIONS (19 x 25%)										
B-K-1 INTEGRAL ATTACHMENTS FOR CLASS 1 VESSELS, PIPING, PUMPS & VALVES										
B-K-1	B10.10	PIPING WELDED ATTACH. (A-42)	SUR	ALL	NO	4	4	1	2	1
B-K-1	B10.20	PUMP WELDED ATTACH. (RC-3B)	SUR	1 LOOP	NO	12	3	1	-	2
TOTAL NUMBER OF EXAMS PER COLUMN						16	7	2	2	3

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
TOTAL NUMBER OF EXAMS ACCUMULATED								2	4	7
REQUIRED ACCUMULATED NUMBER PER PERIOD								1 - 2	4	7
B-L-1 PRESSURE RETAINING WELDS IN PUMPS										
B-L-1	B12.10	PUMP CASING WELDS	VT1	ALL (CODE CASE 481)	YES	4	1	1	-	-
B-L-2 PUMP CASINGS										
B-L-2	B12.20	PUMP INTERNALS (& BAFFLE WELDS)	VT3	INTERNAL SURFACES (ONLY IF DISASSEMBLED)	YES	4	-	-	-	-
B-M-1 PRESSURE RETAINING WELDS IN VALVE BODIES										
B-M-1	B12.30	PIPE SIZE <4"	SUR	1 OF EACH SIMILAR IN GROUP	YES	24	7	2	3	2
B-M-1	B12.40	PIPE SIZE ≥ 4"	VOL	1 OF EACH SIMILAR IN GROUP	YES	1	1	-	-	1
TOTAL NUMBER OF EXAMS PER COLUMN						25	8	2	3	3
TOTAL NUMBER OF EXAMS ACCUMULATED								2	5	8
REQUIRED ACCUMULATED NUMBER PER PERIOD								2	4 - 5	8
B-M-2 VALVE BODIES										
B-M-2	B12.50	VALVE BODIES >4"	VT3	INTERNAL SURFACES	YES	14	3	*	*	*

* THESE EXAMS WILL BE SCHEDULED AROUND VALVE DISASSEMBLY MAINTENANCE (ONE OF EACH SIMILAR IN GROUP)

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
B-N-1 RPV INTERIOR										
B-N-1	B13.10	VESSEL INTERIOR	VT3	EACH INSPECTION PERIOD	NO	1	3	1	1	1
B-N-2	d13.50	INTERIOR ATTACHMENTS WITHIN BELTLINE (SURVEILLANCE CAPSULES)	VT1	ACCESSIBLE WELDS	YES	6	6	-	-	6
B-N-2	B13.60	INTERIOR ATTACHMENTS BEYOND BELTLINE (6 CORE SUPPORT LUGS, 9 CORE STOP LUGS)	VT3	ACCESSIBLE WELDS	YES	15	15	-	-	15
B-N-3 REMOVABLE CORE SUPPORT STRUCTURES										
B-N-3	B13.70	RE SUPPORT STRUCTURE	VT3	ACCESSIBLE WELDS/SURFACES	YES	1	1	-	-	1
B-O PRESSURE RETAINING WELDS IN CONTROL ROD HOUSINGS										
B-O	B14.10	WELDS IN CRD HOUSING	SUR	10% PERIPHERAL HOUSINGS (20 WITH 4 WELDS EACH)	YES	80	8	2	3	3
B-P ALL PRESSURE RETAINING COMPONENTS										
B-P	ALL	ALL CATEGORY B-P VT2 EXAMS PERFORMED UNDER 3000 SERIES SURVEILLANCE TESTS								
F-A SUPPORTS										
F-A	F1.10A	CLASS 1 PIPING SUPPORTS (ONE DIRECTION SUPPORT)	VT3	*25% (OF F1.10A, B & C)	NO	30	7	3	-	4
F-A	F1.10B	CLASS 1 PIPING SUPPORTS (MULTI DIRECTIONAL SUPPORTS)	VT3	*25% (OF F1.10A, B & C)	NO	52	13	5	4	4
F-A	F1.10C	CLASS 1 PIPING SUPPORTS (SPRING CANS)	VT3	*25% (OF F1.10A, B & C)	NO	14	4	-	1	3
F-A	F1.40B	SUPPORTS OTHER THAN PIPING (MULTI DIRECTIONAL, PRZ & SG)	VT3	100% (ONE OF MULTIPLE)		9	4	1 (PRZ)	4 (SG)	-
F-A	F1.40C	SUPPORTS OTHER THAN PIPING (SPRING CANS, RCP)	VT3	100% (ONE OF MULTIPLE)		12	3	-	3	-

TABLE 1B
INTERVAL 3 CLASS 1 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	DEFERRAL TO END	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
TOTAL NUMBER OF EXAMS PER COLUMN						**117	32	9	12	11
TOTAL NUMBER OF EXAMS ACCUMULATED								9	21	32
REQUIRED ACCUMULATED NUMBER PER PERIOD (SEE DETAILED SYSTEM CHART AT END OF TABLE)								6 - 10	16 - 21	32
NOTE: * EXAMS SELECTED PER CODE CASE N-491										
** THERE ARE ALSO 48 SNUBBERS WHICH ARE INSPECTED UNDER TECHNICAL SPECIFICATIONS 3.14										

TABLE 1B

CLASS 1 SUPPORT EXAM DISTRIBUTION PER CODE CASE N-491

	TYPE A SUPPORTS				TYPE B SUPPORTS				TYPE C SUPPORTS			
SYSTEM	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE
DL, LL, CL	0	-	-	-	16	30.8	4	4	0	-	-	-
PSG, PSS, PRL	10	33.3	2.3	2	7	13.4	1.7	2	12	85.7	3.4	3
AS, SI, HPH, SDC	20	66.7	4.7	5	29	55.8	7.3	7	2	14.3	0.6	1
TOTAL OF TYPE A, B, OR C	30				52				14			
TOTAL REQUIRED PER TYPE/INTERVAL	7				13				4			
* TOTAL OF TYPE PER SYSTEM DIVIDED BY TOTAL OF TYPE (A, B, OR C) EQUALS PERCENT REQUIRED PER SYSTEM PER TYPE.												
** PERCENT REQUIRED PER SYSTEM TIMES TOTAL REQUIRED OF TYPE PER INTERVAL EQUALS NUMBER REQUIRED PER SYSTEM PER TYPE.												
*** DUE TO THE LOW NUMBER OF SUPPORTS ON SDC AND AS (6 TOTAL) THEY WERE ADDED IN WITH HPSI (SI AND HPH)												

TABLE 1C
INTERVAL 3 CLASS 2 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
C-A PRESSURE RETAINING WELDS IN PRESSURE VESSELS									
C-A	C1.10	SHELL CIRC. WELDS (SG)	VOL	AT GROSS STRUCTURAL DISCONTINUITY	6	3	-	2 (TRANS) 1 (EXT. RING)	-
C-A	C1.20	HEAD CIRC. WELDS (SG, SDHX, RGHE)	VOL	HEAD-TO-SHELL WELD	8	3	1 RG	1 (SG)	1 SD
C-A	C1.30	TUBESHEET-TO-SHELL WELD (SG, SDHX, RGHE)	VOL	TUBE-TO-SHELL WELD	6	3	1 RG	1 SG	1 SD
TOTAL NUMBER OF EXAMS PER COLUMN					20	9	2	5	2
TOTAL NUMBER OF EXAMS ACCUMULATED							2	7*	9
REQUIRED ACCUMULATED NUMBER PER PERIOD							2-3	5-6	9
* SEE NOTE UNDER CATEGORY C-B									
C-B PRESSURE RETAINING NOZZLE WELDS IN VESSELS									
C-B	C2.20	NOZZLES WITHOUT REINFORCING PLATE IN VESSELS >0.5" NOMINAL THICKNESS							
C-B	C2.21	NOZZLE-TO-SHELL (OR HEAD) (MS, FW, SDHX, RGHE)	SUR/VOL	ALL NOZZLES UNDER C-F	12	6	2 RGHE	1 MS/1 FW	2 SDHX
C-B	C2.22	NOZZLE INNER RADIUS (MS, FW)	VOL	ALL NOZZLES UNDER C-F	4	2	-	1 MS/1 FW	-
TOTAL NUMBER OF EXAMS PER COLUMN					16	8	2	4	2
TOTAL NUMBER OF ACCUMULATED EXAMS							2	6*	8
REQUIRED ACCUMULATED NUMBER PER PERIOD							2	4-5	8

TABLE 1C
INTERVAL 3 CLASS 2 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
*NOTE: DUE TO THE COST OF SETTING UP AND PERFORMING AUTOMATED EXAMS ON INNER RADIUS AREAS (ITEMS C2.21 & B3.140) & SAFE END WELDS (ITEM C5.51) AS WELL AS RADIOLOGICAL CONCERNS & STAGING FOR COMMON EXAM AREAS (SCAFFOLD & INSULATION R/R), ALL WORK ON SG-B WILL BE PERFORMED IN THE 2ND PERIOD									
C-C INTEGRAL ATTACHMENTS FOR VESSELS, PIPING, PUMPS AND VALVES									
C-C	C3.10	PRESSURE VESSEL ATTACH. (4 RGHE - 1") (4 SG TRUNNIONS)	SUR	≥0.75"	8	4	1 (RGHE)	2 (SG)	1 (RGHE)
C-C	C3.20	PIPING ATTACHMENTS	SUR	≥0.75"	21	13	4	4	5
C-C	C3.30	PUMP ATTACHMENTS	SUR	≥0.75"	0	-	-	-	-
C-C	C3.40	VALVE ATTACHMENTS	SUR	≥0.75"	0	-	-	-	-
TOTAL NUMBER OF EXAMS PER COLUMN					29	17	5	6	6
TOTAL NUMBER OF EXAMS ACCUMULATED							5	11	17
REQUIRED ACCUMULATED NUMBER PER PERIOD							3 - 5	9 - 11	17
C-D PRESSURE RETAINING BOLTING >2" DIAMETER				NONE IN PROGRAM					
C-F-1 PRESSURE RETAINING WELDS IN AUSTENITIC STAINLESS STEEL OR HIGH ALLOY PIPING									
C-F-1	C5.10	PIPING WELDS ≥3/8" WALL THICKNESS FOR PIPING > NPS 4							
C-F-1	C5.11	CIRCUMFERENTIAL	SUR/VOL	^SEE NOTE BELOW	365	47	16	11	20
C-F-1	C5.12	LONGITUDINAL (303 LONGSEAMS)	SUR/VOL	2 ST AT INTER. CIRC.	*	*	-	-	-
C-F-1	C5.20	PIPING WELDS >1/5" NOMINAL WALL THICKNESS FOR PIPING ≥NPS 2 ≤NPS 4							

TABLE 1C
INTERVAL 3 CLASS 2 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
C-F-1	C5.21	CIRCUMFERENTIAL	SUR/VOL	^SEE NOTE BELOW	158	12	-	4	8
C-F-1	C5.22	LONGITUDINAL	SUR/VOL	2.5T AT INTER. CIRC	0	-	-	-	-
C-F-1	C5.30	SOCKET WELDS	SUR		480	36	13	15	8
C-F-1	C5.40	PIPE BRANCH CONN. OF BRANCH PIPING ≥NPS 2							
C-F-1	C5.41	CIRCUMFERENTIAL	SUR	^SEE NOTE BELOW	9	2	-	-	2
C-F-1	C5.42	LONGITUDINAL	SUR	2.5T AT INTER. CIRC	0	-	-	-	-
C-F-1	N/A	PIPING WELDS > NPS 4 AND < 3/8" WALL THICKNESS (PLUS 252 LONGSEAMS)			272	0	-	-	-
*NOTE: LONGSEAMS ARE EXAMINED WITH SELECTED INTERSECTING CIRCUMFERENTIAL WELDS									
^NOTE: 7.5% BUT NOT LESS THAN 28 WELDS									
TOTAL NUMBER OF EXAMS PER COLUMN					1284	97	29	30	38
TOTAL NUMBER OF EXAMS ACCUMULATED							29	59	97
REQUIRED ACCUMULATED NUMBER PER PERIOD (SEE DETAILED SYSTEM CHART AT END OF TABLE)							16 - 32	49 - 64	97
C-F-2 PRESSURE RETAINING WELDS IN CARBON OR LOW ALLOY STEEL PIPING									
C-F-2	C5.50	PIPING WELDS ≥3/8" WALL THICKNESS FOR PIPING > NPS 4							
C-F-2	C5.51	CIRCUMFERENTIAL	SUR/VOL	^SEE NOTE BELOW	78	24	7	11	6
C-F-2	C5.52	LONGITUDINAL	SUR/VOL	2.5T AT INTER.	0	-	-	-	-

TABLE 1C
INTERVAL 3 CLASS 2 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
C-F-2	C5.60	PIPING WELDS > 1/5" NOMINAL WALL THICKNESS FOR PIPING ≥ 2 NPS ≤4 NPS							
C-F-2	C5.61	CIRCUMFERENTIAL	SUR/VOL	^SEE NOTE BELOW	0	-	-	-	-
C-F-2	C5.62	LONGITUDINAL	SUR/VOL	2.5T AT INTER.	0	-	-	-	-
C-F-2	C5.70	SOCKET WELDS	SUR		0	-	-	-	-
C-F-2	C5.80	PIPE BRANCH CONNECTIONS OF BRANCH PIPING ≥ NPS 2							
C-F-2	C5.81	CIRCUMFERENTIAL	SUR		8	1	1		
C-F-2	C5.82	LONGITUDINAL	SUR	2.5T AT INTER.	0	-	-	-	-
C-F-2	N/A	PIPING WELDS > NPS 4 AND < 3/8" WALL THICKNESS			359	9	-	2	7
^(NOTE 7.5% BUT NOT LESS THAN 28 WELDS)									
TOTAL NUMBER OF EXAMS PER COLUMN					445	34	8	13	13
TOTAL NUMBER OF EXAMS ACCUMULATED							8	21	34
REQUIRED ACCUMULATED NUMBER PER PERIOD (SEE DETAILED SYSTEM CHART AT END OF TABLE)							6 - 11	17 - 22	34
C-G PRESSURE RETAINING WELDS IN PUMPS AND VALVES									
C-G	C6.10	PUMP CASING WELDS	SUR	ALL UNDER C-F	0		-	-	-
C-G	C6.20	VALVE BODY WELDS	SUR	ALL UNDER C-F	1	1	-	-	1

TABLE 1C
INTERVAL 3 CLASS 2 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
C-H	C7.10 THROUGH C7.80	ALL OF THESE EXAMS ARE PERFORMED UNDER DPPD TECHNICAL SPECIFICATION 3.3(1)a							
F-A	F1.20A	PIPING SUPPORT (ONE DIRECTION SUPPORTS)	VT3	*15% (OF TYPE A, B, & C)	210	32	11	11	10
F-A	F1.20B	PIPING SUPPORTS (MULTI DIRECTIONAL RESTRAINTS)	VT3	*15% OF (TYPE A, B, & C)	215	32	12	8	12
F-A	F1.20C	PIPING SUPPORTS (SPRING CANS)	VT3	*15% OF (TYPE A, B, & C)	58	9	1	5	3
F-A	F1.40B	SUPPORTS OTHER THAN PIPING (3 CSS PUMPS, 2 LPSI PUMPS)	VT3	100% (ONE OF MULTIPLE)	10	4	-	-	4
TOTAL NUMBER OF EXAMS PER COLUMN					493	77	24	24	29
TOTAL NUMBER OF EXAMS ACCUMULATED							24	48	77
REQUIRED ACCUMULATED NUMBER PER PERIOD							13 - 26	39 - 51	77

NOTE: * EXAMS SELECTED PER CODE CASE N-491

** THERE ARE ALSO 162 SNUBBERS WHICH ARE INSPECTED UNDER TECHNICAL SPECIFICATIONS 3.14

TABLE 1C
INTERVAL 3 CLASS 2 C-F-1 EXAMS

SYSTEM	SIZE	ITEM #	THICKNESS	TOTAL WELDS	TERMINAL ENDS	STRUCTURAL DISCONTINUITIES	% REQUIRED	REQ. TOTAL PER SYSTEM/SIZE
LPSI	14	N/A	0.250"	23	4	21	0	0
LPSI	12	C5.11	0.375"	67	2	65	73.63	14 (1 TERMINAL END)
LPSI	10	N/A	0.365"	47	3	44	0	0
LPSI	8	N/A	0.322"	33	2	34	0	0
LPH	10	N/A	0.365"	13	0	13	0	0
LPH	6	N/A	0.280"	42	0	42	0	0
LPH	12	C5.11	0.375"	24	0	21	26.37	5
LPSI SUB-TOTAL				249 (91)	11	240	19.39	19 (1 TERMINAL END)
CSS	12	N/A	0.180"	19	3	14	0	0
CSS	12	C5.11	0.375"	91	4	88	96.81	12 (1 TERMINAL END)
CSS	12	C5.41	0.375"	3	0	3	3.19	1
CSS	8	N/A	0.322"	45	6	39	0	0
CSS	6	N/A	0.280"	16	0	16	0	0
CSS SUB-TOTAL				174 (94)	13	160	13.55	13 (1 TERMINAL END)
SDC	12	C5.11	0.375"	100	2	96	100.00	7
SDC SUB-TOTAL				100 (100)	2	96	7.79	7
SI	24	C5.11	0.375"	41	0	41	49.40	4
SI	20	C5.11	0.375"	13	0	13	15.66	1
SI	6	C5.11	0.719"	14	0	14	16.87	2
SI	6	C5.11	0.432"	15	0	15	18.07	2
HPSI (ADD TO 6"SI)	8	N/A	0.322"	8	1	7	0	0
HPSI (ADD TO 6" SI)	6	N/A	0.280"	26	4	22	0	0
HPSI SUB-TOTAL				117 (83)	5	112	9.11	9

TABLE 1C
INTERVAL 3 CLASS 2 C-F-1 EXAMS

SYSTEM	SIZE	ITEM #	THICKNESS	TOTAL WELDS	TERMINAL ENDS	STRUCTURAL DISCONTINUITIES	% REQUIRED	REQ. TOTAL PER SYSTEM/SIZE
CH	4	C5.21	0.531"	152	7	148	23.60	11
CH	4	C5.41	0.531"	6	0	6	0.93	1
CH	2.5	C5.21	0.375"	6	1	5	0.93	1
CH	2	C5.30	0.344"	480	15	463	74.54	36 (2 TERMINAL ENDS)
CH SUB-TOTAL				644 (644)	23	622	50.16	49 (2 TERMINAL ENDS)
COLUMN TOTALS				1284	54	1230	4.21% TERMINAL ENDS 95.79% STRUCTURAL DISC.	4 TERMINAL ENDS 93 STRUCTURAL DISC.

STEP 1: TOTAL # OF WELDS (1284 TIMES 7.5% (CODE REQUIRED) EQUALS TOTAL NUMBER OF C-F-1 WELDS REQUIRED BY CODE (97)

STEP 2: THE SUB-TOTAL OF EACH SYSTEM (SHOWN UNDER "TOTAL WELDS") DIVIDED BY GRAND TOTAL OF WELDS (1284) EQUALS REQUIRED PERCENTAGE PER SYSTEM (SHOWN ON SYSTEM SUB-TOTAL LINE UNDER % REQUIRED.)

STEP 3: TOTAL # OF WELDS (97) TIMES % REQUIRED PER SYSTEM (SHOWN ON SYSTEM SUB-TOTAL LINE UNDER "% REQ") EQUALS REQ. TOTAL PER SYSTEM (SHOWN ON SYSTEM SUB-TOTAL LINE UNDER "REQ. TOTAL PER SYSTEM/SIZE).

STEP 4: WITHIN A SYSTEM, THE TOTAL WELDS PER SIZE DIVIDED BY SYSTEM SUB-TOTAL OF WELDS REQUIRED. (SHOWN WITH PARENTHESIS UNDER TOTAL WELDS AT SYSTEM SUBTOTAL) EQUALS REQUIRED PERCENTAGE PER SYSTEM PER SIZE (SHOWN UNDER "% REQUIRED")

NOTE: THESE NUMBERS ADD UP TO 100% PER SYSTEM

STEP 5: % REQ PER SIZE (SHOWN UNDER "% REQ.") TIMES TOTAL REQ PER SUB-SYSTEM (SHOWN ON SYSTEM SUB-TOTAL LINE UNDER "REQ. TOTAL PER SYSTEM/SIZE") EQUALS THE NUMBER OF WELDS REQ BY THE CODE FOR EACH LINE SHOWN ON THE TABLE WITH AN ITEM #

TABLE 1C
INTERVAL 3 CLASS 2 C-F-2 EXAMS

			WELD SELECTION PER ASME SECTION XI 1989 EDITION						
SYSTEM	SIZE	THICKNESS	TOTAL WELDS	NOT ACCESSIBLE	ACCESSIBLE	TERMINAL ENDS	STRUCTURAL DISCONTINUITIES	% REQUIRED	TOTAL PER SYSTEM/SIZE
MAIN STEAM	6"	0.432"	16	0	16	0	16	18.6	6
MAIN STEAM (INCLUDES 8 BRANCH)	28"	1.000"	42	18	24	2	40	48.8	17 (1 TERMINAL END)
FEED WATER	16"	0.844"	28	6	22	2	26	32.6	11 (1 TERMIMAL END)
COLUMN TOTALS	-	-	86	24	62	4	82	100	34 (2 TERMINAL ENDS)

TABLE 1C
INTERVAL 3 CLASS 2 C-F-2 EXAMS

				OPPD PROPOSED WELD SELECTION					
SYSEM	SIZE	THICKNESS	TOTAL WELDS	NOT ACCESSIBLE	ACCESSIBLE	TERMINAL ENDS	STRUCTURAL DISCONTINUITIES	% PROPOSED	TOTAL PER SYSTEM/SIZE PROPOSED
MAIN STEAM	6"	0.432"	16	0	16	0	16	11.7	4
MAIN STEAM (INCLUDES 8 BRANCH)	28"	1.000"	42	18	24	2	40	35.3	12 (1 TERMINAL END)
FEEDWATER	16"	0.844"	28	6	22	2	26	26.5	9 (1 TERMINAL END)
AUXILIARY COOLING	10"	0.365"	118	-	118	12	106	26.5	9
COLUMN TOTALS	-	-	204	24	180	16	188	100	34 (2 TERMINAL ENDS)

TABLE 1C

CLASS 2 SUPPORT EXAM DISTRIBUTION PER CODE CASE N-491

	TYPE A SUPPORTS				TYPE B SUPPORTS				TYPE C SUPPORTS			
SYSTEM	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE
MS	2	1	0.3	0	4	1.9	0.6	1	9	15.5	1.4	1
FW	2	1	0.3	0	1	0.5	0.2	0	7	12.1	1.1	1
LPH/LPSI	39	18.6	6	6	10	4.7	1.5	2	8	13.8	1.2	1
SDC	15	7.1	2.3	2	6	2.8	0.9	1	0	-	-	-
CSS	21	10	3.2	3	3	1.4	0.4	0	13	22.4	2	2
SI/HPSI	17	8.1	2.6	3	2	0.9	0.3	0	6	10.3	0.9	1
AC	43	20.5	6.6	7	70	32.6	10.4	10	10	17.2	1.5	2
CH	71	33.8	10.8	11	119	55.3	17.7	18	5	8.6	0.8	1
TOTAL OF TYPE A, B, C	210				215				58			
TOTAL REQUIRED PER TYPE/INTERVAL	32				32				9			

* TOTAL OF TYPE PER SYSTEM DIVIDED BY TOTAL OF TYPE (A, B, OR C) EQUALS PERCENT REQUIRED PER SYSTEM PER TYPE.

** PERCENT REQUIRED PER SYSTEM TIMES TOTAL REQUIRED OF TYPE PER INTERVAL EQUALS NUMBER REQUIRED PER SYSTEM PER TYPE.

TABLE 1D
INTERVAL 3 CLASS 3 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
D-A SYSEMS IN SUPPORT OF REACTOR SHUTDOWN FUNCTION									
D-A	D1.20	SUPPORTS AND RESTRAINTS	VT3	INTEGRAL ATTACHMENT	5	5	2	2	1
D-A	D1.30	SNUBBERS	VT3	INTEGRAL ATTACHMENT	1	1	-	-	1
D-A	D1.40	SPRING CANS	VT3	INTEGRAL ATTACHMENT	2	2	-	-	2
TOTAL NUMBER OF EXAMS PER COLUMN					8	8	2	2	4
TOTAL NUMBER OF EXAMS ACCUMULATED							2	4	8
REQUIRED ACCUMULATED NUMBER PER PERIOD							2	4 - 5	8
D-B SYSTEMS IN SUPPORT OF EMERGENCY CORE COOLING, CONTAINMENT HEAT REMOVAL, ATMOSPHERE CLEANUP & REACTOR RESIDUAL HEAT REMOVAL									
D-B	D2.20	SUPPORTS AND RESTRAINTS	VT3	INTEGRAL ATTACHMENT	57	57	6	27	24
D-B	D2.30	SNUBBERS	VT3	INTEGRAL ATTACHMENT	2	2	2	-	-
D-B	D2.40	SPRING CANS	VT3	INTEGRAL ATTACHMENT	3	3	2		1
TOTAL NUMBER OF EXAMS PER COLUMN					62	62	10	27	25
TOTAL NUMBER OF EXAMS ACCUMULATED							10	37	62
REQUIRED ACCUMULATED NUMBER PER PERIOD							10 - 21	31 - 41	62

TABLE 1D
INTERVAL 3 CLASS 3 EXAMS

CATEGORY NUMBER	ITEM NUMBER	EXAMINATION AREA	EXAM METHOD	REQUIRED EXAMS	TOTAL NUMBER	NUMBER REQUIRED	NUMBER 1ST PERIOD	NUMBER 2ND PERIOD	NUMBER 3RD PERIOD
F-A SUPPORTS									
F-A	F1.30A	CLASS 3 PIPING SUPPORTS (ONE DIRECTION SUPPORTS)	VT3		272	27	10	[illegible]	12
F-A	F1.30B	CLASS 3 PIPING SUPPORTS (MULTI DIRECTIONAL RESTRAINTS)	VT3		222	23	7	9	7
F-A	F1.30C	CLASS 3 PIPING SUPPORTS (SPRING CANS)	VT3		21	2	-	-	2
F-A	F1.40	SUPPORTS OTHER THAN PIPING	VT3		0	0	-	-	-
TOTAL NUMBER OF EXAMS PER COLUMN					**515	52	17	14	21
TOTAL NUMBER OF ACCUMULATED EXAMS							17	31	52
REQUIRED ACCUMULATED NUMBER PER PERIOD (SEE DETAILED SYSTEM CHART AT END OF TABLE)							9 - 17	26 - 34	52

NOTE * EXAMS SELECTED PER CODE CASE N-491 ** THERE ARE ALSO 42 SNUBBERS WHICH ARE INSPECTED UNDER TECHNICAL SPECIFICATIONS 3.14

TABLE 1D

CLASS 3 SUPPORT EXAM DISTRIBUTION PER CODE CASE N-491

	TYPE A SUPPORTS				TYPE B SUPPORTS				TYPE C SUPPORTS			
SYSTEM	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE	TOTAL OF TYPE	* % REQ	** # REQ	TOTAL TO EXAMINE
AFW (MS & FW)	70	25.7	6.9	7	81	36.5	8.4	8	10	47.6	0.95	1
AC	115	42.3	11.4	11	72	32.4	7.5	8	2	9.5	0.2	0
RW	87	32	8.6	9	69	31.1	7.2	7	9	42.9	0.86	1
TOTAL OF TYPE A, B OR C	272				222				21			
TOTAL REQUIRED PER TYPE/INTERVAL	27				23				2			
* TOTAL OF TYPE PER SYSTEM DIVIDED BY TOTAL OF TYPE (A, B, OR C) EQUALS PERCENT REQUIRED PER SYSTEM PER TYPE.												
** PERCENT REQUIRED PER SYSTEM TIMES TOTAL REQUIRED OF TYPE PER INTERVAL EQUALS NUMBER REQUIRED PER SYSTEM PER TYPE.												

DETAILED

TEN YEAR

EXAM SCHEDULE

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-A	02	B1.11		RPV-SC-16-410	LOWER SHELL TO BOTTOM HEAD	A-01
B-A	02	B1.11		RPV-SC-B-11	UPPER SHELL TO MIDDLE SHELL	A-01
B-A	02	B1.11		RPV-SC-C-11	MIDDLE SHELL TO LOWER SHELL	A-01
B-A	02	B1.12		RPV-SL-A-1	UPPER SHELL (60)	A-01
B-A	02	B1.12		RPV-SL-A-2	MIDDLE SHELL (0)	A-01
B-A	02	B1.12		RPV-SL-A-3	LOWER SHELL (60)	A-01
B-A	02	B1.12		RPV-SL-B-1	UPPER SHELL (180)	A-01
B-A	02	B1.12		RPV-SL-B-2	MIDDLE SHELL (120)	A-01
B-A	02	B1.12		RPV-SL-B-3	LOWER SHELL (180)	A-01
B-A	02	B1.12		RPV-SL-C-1	UPPER SHELL (300)	A-01
B-A	02	B1.12		RPV-SL-C-2	MIDDLE SHELL (240)	A-01
B-A	02	B1.12		RPV-SL-C-3	LOWER SHELL (300)	A-01
B-A	01	B1.21		RPVCH-DW-1	DOME WELD	A-02A
B-A	02	B1.21		RPVLH-2-411	DOLLAR WELD	A-02
B-A	01	B1.22		RPVCH-HM-1	MERIDIONAL WELD AT 0	A-02A
B-A	01	B1.22		RPVCH-HM-2	MERIDIONAL WELD AT 60	A-02A
B-A	01	B1.22		RPVCH-HM-3	MERIDIONAL WELD AT 120	A-02A
B-A	01	B1.22		RPVCH-HM-4	MERIDIONAL WELD AT 180	A-02A
B-A	01	B1.22		RPVCH-HM-5	MERIDIONAL WELD AT 240	A-02A
B-A	01	B1.22		RPVCH-HM-6	MERIDIONAL WELD AT 300	A-02A
B-A	02	B1.22		RPVLH-1-411-A	MERIDIONAL WELD AT 30	A-02
B-A	02	B1.22		RPVLH-1-411-B	MERIDIONAL WELD AT 90	A-02
B-A	02	B1.22		RPVLH-1-411-C	MERIDIONAL WELD AT 150	A-02
B-A	02	B1.22		RPVLH-1-411-D	MERIDIONAL WELD AT 210	A-02
B-A	02	B1.22		RPVLH-1-411-E	MERIDIONAL WELD AT 270	A-02
B-A	02	B1.22		RPVLH-1-411-F	MERIDIONAL WELD AT 330	A-02
B-A	95/02	B1.30		RPV-A-11	SHELL TO FLANGE	A-01
B-A	96/01	B1.40		RPVCH-HF-1	HEAD TO FLANGE WELD	A-02A
B-B	96	B2.11		PRZ-SC-3-403	LOWER SHELL TO BOTTOM HEAD	A-03
B-B	01	B2.11		PRZ-SC-5-403	UPPER SHELL TO TOP HEAD	A-03
B-B	01	B2.12		PRZ-SL-2-403A	SHELL LONG. SEAM AT 270	A-03
B-B		B2.12		PRZ-SL-2-403B	SHELL LONG. SEAM AT 90	A-03
B-B		B2.12		PRZ-SL-2-403C	SHELL LONG. SEAM AT 180	A-03
B-B	96	B2.12		PRZ-SL-2-403D	SHELL LONG. SEAM AT 0	A-03
B-B		B2.31		SG-1-C-1	DOLLAR WELD	A-05
B-B		B2.31		SG-1-C-2	LOWER HEAD TO LOWER EXT. RING	A-05
B-B		B2.31		SG-2-C-1	DOLLAR WELD	A-06
B-B	99	B2.31		SG-2-C-2	LOWER HEAD TO LOWER EXT.RING	A-06
B-B		B2.32		SG-1-M-1	LOWER HEAD MERIDIONAL WELD	A-05
B-B		B2.32		SG-1-M-2	LOWER HEAD MERIDIONAL WELD	A-05
B-B		B2.32		SG-1-M-3	LOWER HEAD MERIDIONAL WELD	A-05
B-B		B2.32		SG-1-M-4	LOWER HEAD MERIDIONAL WELD	A-05
B-B		B2.32		SG-2-M-1	LOWER HEAD MERIDIONAL WELD	A-06
B-B		B2.32		SG-2-M-2	LOWER HEAD MERIDIONAL WELD	A-06
B-B	99	B2.32		SG-2-M-3	LOWER HEAD MERIDIONAL WELD	A-06
B-B		B2.32		SG-2-M-4	LOWER HEAD MERIDIONAL WELD	A-06
B-B	96	B2.40		SG-1-C-3	LOWER EXT. RING TO TUBESHEET	A-05
B-B		B2.40		SG-2-C-3	LOWER EXT. RING TO TUBESHEET	A-06
B-B		B2.51		RHE-CS-7	SHELL TO HEAD	A-07
B-B	01	B2.51		RHE-CS-9	SHELL TO HEAD	A-07

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-B		B2.70		RHE-LSD-18	LONGITUDINAL SHELL WELDS	A-07
B-B	01	B2.70		RHE-LSD-20	LONGITUDINAL SHELL WELDS	A-07
B-B	01	B2.80		RHE-TS-12	TUBE SHEET TO SHELL WELDS	A-07
B-B		B2.80		RHE-TS-5	TUBE SHEET TO SHELL WELDS	A-07
B-D	02	B3.100		RPV-N-1-A-IR	INSIDE RADIUS SECTION	A-01
B-D	02	B3.100		RPV-N-1-B-IR	INSIDE RADIUS SECTION	A-01
B-D	02	B3.100		RPV-N-2-A-IR	INSIDE RADIUS SECTION	A-01
B-D	02	B3.100		RPV-N-2-B-IR	INSIDE RADIUS SECTION	A-01
B-D	02	B3.100		RPV-N-2-C-IR	INSIDE RADIUS WELD	A-01
B-D	02	B3.100		RPV-N-2-D-IR	INSIDE RADIUS WELD	A-01
B-D	96	B3.110		PRL-1	RELIEF NOZZLE	A-04
B-D	99	B3.110		PSL-1	SAFETY NOZZLE	A-04
B-D	96	B3.110		PSL-10	SURGE NOZZLE (THERMAL SLEEVE)	A-04
B-D	99	B3.110		PSL-2	SAFETY NOZZLE	A-04
B-D	99	B3.110		PSS-1	SPRAY NOZZLE	A-04
B-D	96	B3.120		PRL-1-IR	INSIDE RADIUS SECTION	A-04
B-D	99	B3.120		PSL-1-IR	INSIDE RADIUS SECTION	A-04
B-D	96	B3.120		PSL-10-IR	INSIDE RADIUS SECTION	A-04
B-D	99	B3.120		PSL-2-IR	INSIDE RADIUS SECTION	A-04
B-D	99	B3.120		PSS-1-IR	INSIDE RADIUS SECTION	A-04
B-D	96	B3.130		SG-1-N-1	HEAD TO OUTLET NOZZLE	A-05
B-D	96	B3.130		SG-1-N-3	HEAD TO OUTLET NOZZLE	A-05
B-D	96	B3.130		SG-1-N-5	INLET NOZZLE TO HEAD	A-05
B-D	99	B3.130		SG-2-N-1	HEAD TO OUTLET NOZZLE	A-06
B-D	99	B3.130		SG-2-N-3	HEAD TO OUTLET NOZZLE	A-06
B-D	99	B3.130		SG-2-N-5	INLET NOZZLE TO HEAD	A-06
B-D	96	B3.140		SG-1-N-1-IR	INSIDE RADIUS SECTION	A-05
B-D	96	B3.140		SG-1-N-3-IR	INSIDE RADIUS SECTION	A-05
B-D	96	B3.140		SG-1-N-5-IR	INSIDE RADIUS SECTION	A-05
B-D	99	B3.140		SG-2-N-1-IR	INSIDE RADIUS SECTION	A-06
B-D	99	B3.140		SG-2-N-3-IR	INSIDE RADIUS SECTION	A-06
B-D	99	B3.140		SG-2-N-5-IR	INSIDE RADIUS SECTION	A-06
B-D	95	B3.150		RHE-BC-10	NOZZLE WELD	A-07
B-D	01	B3.150		RHE-BC-8	NOZZLE WELD	A-07
B-D	95	B3.150		RHE-N-11	NOZZLE WELD	A-07
B-D	01	B3.150		RHE-N-6	NOZZLE WELD	A-07
B-D	95	B3.1[illegible]		RHE-BC-10-IR	INSIDE RADIUS SECTION	A-07
B-D	01	B3.160		RHE-BC-8-IR	INSIDE RADIUS SECTION	A-07
B-D	95	B3.160		RHE-N-11-IR	INSIDE RADIUS SECTION	A-07
B-D	01	B3.160		RHE-N-6-IR	INSIDE RADIUS SECTION	A-07
B-D	02	B3.90		RPV-N-1-A	SG-RC-2A NOZZLE TO VESSEL WELD	A-01
B-D	02	B3.90		RPV-N-1-B	SG-RC-2B NOZZLE TO VESSEL WELD	A-01
B-D	02	B3.90		RPV-N-2-A	RCP-RC-3A NOZZLE TO VESSEL WELD	A-01
B-D	02	B3.90		RPV-N-2-B	RCP-RC-3C NOZZLE TO VESSEL WELD	A-01
B-D	02	B3.90		RPV-N-2-C	RCP-RC-3D NOZZLE TO VESSEL WELD	A-01
B-D	02	B3.90		RPV-N-2-D	RCP-RC-3B NOZZLE TO VESSEL WELD	A-01
B-F	02	B5.10		MRC-1/01	RPV NOZZLE TO SAFE END	A-08
B-F	02	B5.10		MRC-1/18	SAFE END TO RPV NOZZLE	A-08
B-F	02	B5.10		MRC-1/30	SAFE END TO RPV NOZZLE	A-08
B-F	02	B5.10		MRC-2/01	RPV NOZZLE TO SAFE END	A-09

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-F	02	B5.10		MRC-2/18	SAFE END TO RPV NOZZLE	A-09
B-F	02	B5.10		MRC-2/30	SAFE END TO RPV NOZZLE	A-09
B-F	01	B5.130		4-PSS-1/07B	SAFE END (316) TO SAFE END (600)	A-15
B-F	01	B5.140		3-PRL-1/01	RED(INCL 600) TO SAFE END(316)	A-19
B-F	96	B5.40	TERM END	10-PSG-10/01	NOZZLE (PSG-10) TO SAFE END	A-14
B-F	96	B5.40	TERM END	4-PSS-1/08	SAFE END (600) TO NOZZLE	A-15
B-F	96	B5.50	TERM END	3-PRL-1/01A	NOZZLE TO RED.(INCL 600)	A-19
B-F	99	B5.50		3-PSL-1A	NOZZLE (PSL-1) TO FLANGE	A-16
B-F	99	B5.50		3-PSL-2A	NOZZLE (PSL-2) TO FLANGE	A-16
B-F	96	B5.70		MRC-1/06	SAFE END TO SG NOZZLE	A-08
B-F	96	B5.70		MRC-1/07	SG NOZZLE TO SAFE END	A-08
B-F	96	B5.70		MRC-1/19	STEAM GEN. NOZZLE TO SAFE END	A-08
B-F	99	B5.70		MRC-2/03	SAFE END TO SG NOZZLE	A-09
B-F	99	B5.70		MRC-2/07	SG NOZZLE TO SAFE END	A-09
B-F	99	B5.70		MRC-2/19	SG NOZZLE TO SAFE END	A-09
B-G-1	02	B6.10		RPV-G1-N-01	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-02	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-03	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-04	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-05	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-06	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-07	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-08	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-09	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-10	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-11	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-12	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-13	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-14	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-15	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-16	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-17	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-18	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-19	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-20	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-21	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-22	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-23	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-24	RPV CLOSURE HEAD NUT	A-01A
B-G-1	95	B6.10		RPV-G1-N-25	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-26	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-27	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-28	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-29	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-30	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-31	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-32	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-33	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-34	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-35	RPV CLOSURE HEAD NUT	A-01A

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-G-1	02	B6.10		RPV-G1-N-36	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-37	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-38	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-39	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-40	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-41	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-42	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-43	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-44	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-45	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-46	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-47	RPV CLOSURE HEAD NUT	A-01A
B-G-1	02	B6.10		RPV-G1-N-48	RPV CLOSURE HEAD NUT	A-01A
B-G-1		B6.180		RCP-MF-RC3A-1-01	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-02	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-03	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-04	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-05	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-06	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-07	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-08	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-09	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-10	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-11	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-12	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-13	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-14	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-15	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3A-1-16	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-01	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-02	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-03	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-04	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-05	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-06	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-07	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-08	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-09	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-10	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-11	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-12	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-13	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-14	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-15	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3B-1-16	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-01	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-02	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-03	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-04	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-05	RCP STUDS	A-09B

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-G-1	99	B6.180		RCP-MF-RC3C-1-06	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-07	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-08	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-09	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-10	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-11	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-12	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-13	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-14	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-15	RCP STUDS	A-09B
B-G-1	99	B6.180		RCP-MF-RC3C-1-16	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-01	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-02	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-03	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-04	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-05	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-06	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-07	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-08	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-09	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-10	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-11	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-12	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-13	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-14	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-15	RCP STUDS	A-09B
B-G-1		B6.180		RCP-MF-RC3D-1-16	RCP STUDS	A-09B
B-G-1		B6.190		RCP-MF-RC3A-2	FLANGE SURFACE	A-09B
B-G-1		B6.190		RCP-MF-RC3B-2	FLANGE SURFACE	A-09B
B-G-1		B6.190		RCP-MF-RC3C-2	FLANGE SURFACE	A-09B
B-G-1		B6.190		RCP-MF-RC3D-2	FLANGE SURFACE	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-01	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-02	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-03	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-04	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-05	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-06	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-07	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-08	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-09	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-10	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-12	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-13	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-14	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-15	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3A-3-16	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-01	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-02	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-03	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-04	RCP NUTS AND WASHERS	A-09B

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-G-1		B6.200		RCP-MF-RC3B-3-04	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-05	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-06	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-07	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-08	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-09	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-10	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-11	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-12	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-13	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-14	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-15	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3B-3-16	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-01	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-02	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-03	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-04	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-05	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-06	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-07	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-08	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-09	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-10	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-11	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-12	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-13	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-14	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-15	RCP NUTS AND WASHERS	A-09B
B-G-1	99	B6.200		RCP-MF-RC3C-3-16	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-01	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-02	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-03	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-04	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-05	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-06	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-07	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-08	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-09	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-10	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-11	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-12	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-13	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-14	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-15	RCP NUTS AND WASHERS	A-09B
B-G-1		B6.200		RCP-MF-RC3D-3-16	RCP NUTS AND WASHERS	A-09B
B-G-1	98	B6.30		RPV-G1-S-01	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-02	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-03	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-04	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-05	RPV CLOSURE HEAD STUD	A-01A

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-G-1	98	B6.30		RPV-G1-S-06	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-07	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-08	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-09	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-10	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-11	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-12	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-13	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-14	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-15	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-16	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-17	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-18	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-19	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-20	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-21	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-22	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-23	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-24	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-25	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-26	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-27	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-28	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-29	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-30	RPV CLOSURE HEAD STUD	A-01A
B-G-1	01	B6.30		RPV-G1-S-31	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-32	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-33	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-34	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-35	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-36	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-37	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-38	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-39	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-40	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-41	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-42	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-43	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-44	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-45	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-46	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-47	RPV CLOSURE HEAD STUD	A-01A
B-G-1	98	B6.30		RPV-G1-S-48	RPV CLOSURE HEAD STUD	A-01A
B-G-1	95	B6.40		RPV-G1-FL-01	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-02	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-03	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-04	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-05	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-06	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-07	THREADS IN RPV FLANGE	A-01A

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-G-1	95	B6.40		RPV-G1-FL-08	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-09	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-10	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-11	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-12	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-13	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-14	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-15	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-16	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-17	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-18	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-19	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-20	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-21	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-22	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-23	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-24	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-25	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-26	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-27	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-28	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-29	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-30	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-31	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-32	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-33	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-34	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-35	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-36	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-37	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-38	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-39	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-40	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-41	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-42	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-43	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-44	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-45	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-46	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-47	THREADS IN RPV FLANGE	A-01A
B-G-1	95	B6.40		RPV-G1-FL-48	THREADS IN RPV FLANGE	A-01A
B-G-1	01	B6.50		RPV-G1-W-01	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-02	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-03	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-04	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-05	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-06	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-07	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-08	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-09	RPV CLOSURE HEAD WASHERS	A-01A

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-G-1	01	B6.50		RPV-G1-W-10	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-11	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-12	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-13	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-14	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-15	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-16	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-17	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-18	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-19	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-20	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-21	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-22	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-23	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-24	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-25	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-26	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-27	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-28	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-29	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-30	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-31	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-32	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-33	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-34	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-35	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-36	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-37	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-38	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-39	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-40	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-41	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-42	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-43	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-44	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-45	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-46	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-47	RPV CLOSURE HEAD WASHERS	A-01A
B-G-1	01	B6.50		RPV-G1-W-48	RPV CLOSURE HEAD WASHERS	A-01A
B-G-2	95	B7.20		PH-1	PRZ MANWAY BOLTING	A-04
B-G-2	96	B7.30		SG-1-1	INLET SIDE MANWAY BOLTING	A-05
B-G-2	96	B7.30		SG-1-2	OUTLET SIDE MANWAY BOLTING	A-05
B-G-2	99	B7.30		SG-2-1	INLET SIDE MANWAY BOLTING	A-06
B-G-2	99	B7.30		SG-2-2	OUTLET SIDE MANWAY BOLTING	A-06
B-G-2	95	B7.50		3-HPH-12/FE-316	FLANGE BOLTING	A-30
B-G-2	02	B7.50		3-HPH-14/FE-313	FLANGE BOLTING	A-31
B-G-2	02	B7.50		3-HPH-22/FE-319	FLANGE BOLTING	A-32
B-G-2	95	B7.50		3-HPH-24/FE-322	FLANGE BOLTING	A-33
B-G-2	99	B7.50		3-PSL-1B	FLANGE BOLTING	A-16
B-G-2	99	B7.50		3-PSL-2B	FLANGE BOLTING	A-16

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-G-2	96	B7.60		RCP-MF-RC3A-4	PUMP SEAL ASSEMBLY	A-09B
B-G-2	96	B7.60		RCP-MF-RC3B-4	PUMP SEAL ASSEMBLY	A-09B
B-G-2	99	B7.60		RCP-MF-RC3C-4	PUMP SEAL ASSEMBLY	A-09B
B-G-2	99	B7.60		RCP-MF-RC3D-4	PUMP SEAL ASSEMBLY	A-09B
B-G-2	02	B7.70		12-SDC-20/HCV-347	VALVE BOLTING (VELAN 10.0G)	A-42
B-G-2	99	B7.70		12-SDC-20/HCV-348	VALVE BOLTING (VELAN 12.0G)	A-42
B-G-2	01	B7.70		2-AS-1/CH-469	BOLTING,ANCHOR-DARLING 2.0C	A-21
B-G-2	01	B7.70		2-AS-1/HCV-240	VALVE BOLTING, FISHER 2.0T	A-21
B-G-2	96	B7.70		2-CL-12/HCV-238	VALVE BOLTING, FISHER 2.0T	A-43
B-G-2	99	B7.70		2-CL-22/HCV-239	VALVE BOLTING, FISHER 2.0T	A-44
B-G-2	99	B7.70		2-LL-2/LCV-101-1	VALVE BOLTING, YARWAY 2.0X	A-46
B-G-2	99	B7.70		2-LL-2/LCV-101-2	VALVE BOLTING, YARWAY 2.0X	A-46
B-G-2	99	B7.70		2-LL-2/TCV-202	VALVE BOLTING, FISHER 2.0T	A-47
B-G-2	01	B7.70		2.5-PRL-2/PCV-102-2	VALVE BOLTING,DRESSER 2.5S	A-20
B-G-2	01	B7.70		2.5-PRL-3/PCV-102-1	VALVE BOLTING,DRESSER 2.5S	A-20
B-G-2	01	B7.70		3-PSL-1/RC-141	VALVE BOLTING	A-16
B-G-2	01	B7.70		3-PSL-2/RC-142	VALVE BOLTING	A-16
B-G-2	01	B7.70		3-PSS-14/PCV-103-2	VALVE BOLTING	A-17
B-G-2	01	B7.70		3-PSS-22/PCV-103-1	VALVE BOLTING	A-18
B-G-2		B7.80		RPVCH-CRD-G2-1-01	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-02	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-03	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-04	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-05	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-06	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-07	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-08	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-09	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-10	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-11	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-12	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-13	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-14	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-15	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-16	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-17	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-18	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-19	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-20	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-21	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-22	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-23	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-24	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-25	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-26	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-27	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-28	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-29	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-30	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-31	CRD BOLTING (IF DISASSEMBLED)	A-02A

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISG#
B-G-2		B7.80		RPVCH-CRD-G2-1-32	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-33	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-34	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-35	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-36	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-37	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-38	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-39	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-40	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-G-2		B7.80		RPVCH-CRD-G2-1-41	CRD BOLTING (IF DISASSEMBLED)	A-02A
B-H	96	B8.20		PRZ-3-405	SUPPORT SKIRT WELD	A-03
B-H		B8.30		SG-1-SL-1	INTEGRAL ATTACHMENT	A-05
B-H		B8.30		SG-1-SL-2	INTEGRAL ATTACHMENT	A-05
B-H		B8.30		SG-1-SL-3	INTEGRAL ATTACHMENT	A-05
B-H		B8.30		SG-1-SL-4	INTEGRAL ATTACHMENT	A-05
B-H	99	B8.30		SG-2-SL-1	INTEGRAL ATTACHMENT	A-06
B-H	99	B8.30		SG-2-SL-2	INTEGRAL ATTACHMENT	A-06
B-H	99	B8.30		SG-2-SL-3	INTEGRAL ATTACHMENT	A-06
B-H	99	B8.30		SG-2-SL-4	INTEGRAL ATTACHMENT	A-06
B-J	96	B9.11		10-PSG-10/01A	SAFE END TO PIPE	A-14
B-J	96	B9.11		10-PSG-10/02	PIPE TO ELBOW	A-14
B-J	96	B9.11		10-PSG-10/03	ELBOW TO PIPE	A-14
B-J		B9.11		10-PSG-10/04	PIPE TO ELBOW	A-14
B-J		B9.11		10-PSG-10/05	ELBOW TO PIPE	A-14
B-J	01	B9.11		10-PSG-10/06	PIPE TO ELBOW	A-14
B-J	01	B9.11		10-PSG-10/07	ELBOW TO PIPE	A-14
B-J	01	B9.11		10-PSG-10/08	PIPE TO ELBOW	A-14
B-J	01	B9.11		10-PSG-10/09	ELBOW TO PIPE	A-14
B-J		B9.11		10-PSG-10/10	PIPE TO ELBOW	A-14
B-J		B9.11		10-PSG-10/11	ELBOW TO PIPE	A-14
B-J		B9.11		10-PSG-10/12	PIPE TO ELBOW	A-14
B-J		B9.11		10-PSG-10/13	ELBOW TO PIPE	A-14
B-J		B9.11		10-PSG-10/13A	PIPE TO PIPE	A-14
B-J		B9.11		10-PSG-10/14	PIPE TO ELBOW	A-14
B-J		B9.11		10-PSG-10/15	ELBOW TO PIPE	A-14
B-J	96	B9.11	TERM END	10-PSG-10/16	PIPE TO BRANCH (32-RC-10)*	A-14
B-J		B9.11	TERM END	12-SDC-20/01	NOZZLE TO ELBOW	A-42
B-J	99	B9.11		12-SDC-20/02	ELBOW TO PIPE	A-42
B-J		B9.11		12-SDC-20/03	PIPE TO VALVE (HCV-348)	A-42
B-J		B9.11		12-SDC-20/04	VALVE (HCV-348) TO PIPE	A-42
B-J	99	B9.11		12-SDC-20/05	PIPE TO ELBOW	A-42
B-J		B9.11		12-SDC-20/06	ELBOW TO PIPE	A-42
B-J		B9.11		12-SDC-20/06A	PIPE TO PIPE	A-42
B-J		B9.11		12-SDC-20/07	PIPE TO ELBOW	A-42
B-J		B9.11		12-SDC-20/08	ELBOW TO PIPE	A-42
B-J	01	B9.11		12-SDC-20/09	PIPE TO ELBOW	A-42
B-J	01	B9.11		12-SDC-20/10	ELBOW TO PIPE	A-42
B-J	01	B9.11		12-SDC-20/11	PIPE TO ELBOW	A-42
B-J	95	B9.11		12-SDC-20/12	ELBOW TO PIPE	A-42
B-J		B9.11		12-SDC-20/13	PIPE TO PIPE	A-42

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.11		12-SDC-20/14	PIPE TO PIPE	A-42
B-J		B9.11		12-SDC-20/15	PIPE TO PIPE BEND RADIUS	A-42
B-J	95	B9.11		12-SDC-20/16	PIPE BEND RADIUS TO ELBOW	A-42
B-J		B9.11		12-SDC-20/17	ELBOW TO ELBOW	A-42
B-J		B9.11		12-SDC-20/18	ELBOW TO PIPE	A-42
B-J	95	B9.11		12-SDC-20/18A	PIPE TO REDUCER	A-42
B-J		B9.11		12-SDC-20/19	REDUCER TO VALVE (HCV-347)	A-42
B-J		B9.11		12-SI-12/10	VALVE (SI-215) TO PIPE	A-22
B-J		B9.11		12-SI-12/11	PIPE TO TEE	A-22
B-J		B9.11		12-SI-12/12	TEE TO PIPE	A-22
B-J		B9.11		12-SI-12/13	PIPE TO VALVE (SI-216)	A-22
B-J		B9.11		12-SI-12/14	VALVE (SI-216) TO ELBOW	A-22
B-J		B9.11		12-SI-12/15	ELBOW TO PIPE	A-22
B-J		B9.11		12-SI-12/16	PIPE TO ELBOW	A-22
B-J		B9.11		12-SI-12/17	ELBOW TO PIPE	A-22
B-J	96	B9.11		12-SI-12/18	PIPE TO ELBOW	A-22
B-J	96	B9.11	TERM END	12-SI-12/19	ELBOW TO NOZZLE (24-RC-12)	A-22
B-J		B9.11		12-SI-14/13	VALVE (SI-219) TO PIPE	A-23
B-J		B9.11		12-SI-14/14	PIPE TO TEE	A-23
B-J		B9.11		12-SI-14/15	TEE TO PIPE	A-23
B-J	01	B9.11		12-SI-14/16	PIPE TO ELBOW	A-23
B-J	01	B9.11		12-SI-14/17	ELBOW TO PIPE	A-23
B-J		B9.11		12-SI-14/18	PIPE TO VALVE (SI-220)	A-23
B-J		B9.11		12-SI-14/19	VALVE (SI-220) TO PIPE	A-23
B-J		B9.11	TERM END	12-SI-14/20	PIPE TO NOZZLE (24-RC-14)	A-23
B-J		B9.11		12-SI-22/13	VALVE (SI-207) TO PIPE	A-24
B-J	99	B9.11		12-SI-22/14	PIPE TO ELBOW	A-24
B-J	99	B9.11		12-SI-22/15	ELBOW TO PIPE	A-24
B-J		B9.11		12-SI-22/16	PIPE TO TEE	A-24
B-J		B9.11		12-SI-22/17	TEE TO PIPE	A-24
B-J		B9.11		12-SI-22/18	PIPE TO VALVE (SI-208)	A-24
B-J		B9.11		12-SI-22/19	VALVE (SI-208) TO ELBOW	A-24
B-J		B9.11		12-SI-22/20	ELBOW TO PIPE	A-24
B-J		B9.11		12-SI-22/21	PIPE TO ELBOW	A-24
B-J		B9.11	TERM END	12-SI-22/22	ELBOW TO NOZZLE (24-RC-22)	A-24
B-J		B9.11		12-SI-24/09	VALVE (SI-211) TO PIPE	A-25
B-J	95	B9.11		12-SI-24/10	PIPE TO TEE	A-25
B-J		B9.11		12-SI-24/11	TEE TO PIPE	A-25
B-J		B9.11		12-SI-24/12	PIPE TO VALVE (SI-212)	A-25
B-J		B9.11		12-SI-24/13	VALVE (SI-212) TO PIPE	A-25
B-J		B9.11		12-SI-24/14	PIPE TO ELBOW	A-25
B-J		B9.11		12-SI-24/15	ELBOW TO PIPE	A-25
B-J		B9.11		12-SI-24/16	PIPE TO ELBOW	A-25
B-J		B9.11		12-SI-24/17	ELBOW TO PIPE	A-25
B-J		B9.11		12-SI-24/18	PIPE TO ELBOW	A-25
B-J		B9.11	TERM END	12-SI-24/19	ELBOW TO NOZZLE	A-25
B-J		B9.11		4-PSL-1/02	REDUCING ELBOW TO 45 ELBOW	A-16
B-J	01	B9.11		4-PSL-1/03	45 ELBOW TO PIPE	A-16
B-J	01	B9.11		4-PSL-1/04	PIPE TO 45 ELBOW	A-16
B-J		B9.11		4-PSL-1/05	45 ELBOW TO REDUCING ELBOW	A-16

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.11		4-PSL-2/02	REDUCING ELBOW TO 45 ELBOW	A-16
B-J		B9.11		4-PSL-2/03	45 ELBOW TO PIPE	A-16
B-J		B9.11		4-PSL-2/04	PIPE TO 45 ELBOW	A-16
B-J		B9.11		4-PSL-2/05	45 ELBOW TO REDUCING ELBOW	A-16
B-J		B9.11		4-PSS-1/01	TEE TO ELBOW	A-15
B-J		B9.11		4-PSS-1/01B	REDUCER TO TEE	A-15
B-J		B9.11		4-PSS-1/02A1	ELBOW TO PIPE	A-15
B-J		B9.11		4-PSS-1/02B1	PIPE TO VALVE (RC-374)	A-15
B-J		B9.11		4-PSS-1/02C2	VALVE (RC-374) TO PIPE	A-15
B-J		B9.11		4-PSS-1/03B	REDUCER TO TEE	A-15
B-J		B9.11		4-PSS-1/03C	PIPE TO TEE	A-15
B-J	99	B9.11		4-PSS-1/04A	TEE TO PIPE	A-15
B-J	99	B9.11		4-PSS-1/05A1	PIPE TO ELBOW	A-15
B-J	99	B9.11		4-PSS-1/05B1	ELBOW TO ELBOW	A-15
B-J		B9.11		4-PSS-1/05C	ELBOW TO ELBOW	A-15
B-J		B9.11		4-PSS-1/06A	ELBOW TO PIPE	A-15
B-J	99	B9.11		4-PSS-1/07A	PUP TO SAFE END (316)	A-15
B-J		B9.11		4-PSS-1/07A1	PIPE (316) TO PUP (316)	A-15
B-J		B9.11		6-SI-12/04	VALVE (SI-200) TO ELBOW	A-26
B-J		B9.11		6-SI-12/05	ELBOW TO PIPE	A-26
B-J	95	B9.11		6-SI-12/06	PIPE TO ELBOW	A-26
B-J		B9.11		6-SI-12/07	ELBOW TO PIPE	A-26
B-J		B9.11		6-SI-12/08	PIPE TO ELBOW	A-26
B-J	95	B9.11		6-SI-12/09	ELBOW TO PIPE	A-26
B-J	95	B9.11	TERM END	6-SI-12/10	PIPE TO TEE	A-26
B-J		B9.11		6-SI-14/04	VALVE (SI-203) TO ELBOW	A-27
B-J		B9.11		6-SI-14/05	ELBOW TO PIPE	A-27
B-J		B9.11		6-SI-14/06	PIPE TO ELBOW	A-27
B-J		B9.11		6-SI-14/07	ELBOW TO PIPE	A-27
B-J		B9.11		6-SI-14/08	PIPE TO ELBOW	A-27
B-J		B9.11		6-SI-14/09	ELBOW TO PIPE	A-27
B-J		B9.11		6-SI-14/10	PIPE TO ELBOW	A-27
B-J		B9.11		6-SI-14/11	ELBOW TO PIPE	A-27
B-J	01	B9.11		6-SI-14/12	PIPE TO ELBOW	A-27
B-J	01	B9.11		6-SI-14/13	ELBOW TO PIPE	A-27
B-J	01	B9.11	TERM END	6-SI-14/14	PIPE TO TEE	A-27
B-J	01	B9.11		6-SI-22/03	VALVE (SI-194) TO ELBOW	A-28
B-J	01	B9.11		6-SI-22/04	ELBOW TO PIPE	A-28
B-J		B9.11		6-SI-22/05	PIPE TO ELBOW	A-28
B-J		B9.11		6-SI-22/06	ELBOW TO PIPE	A-28
B-J	99	B9.11		6-SI-22/07	PIPE TO ELBOW	A-28
B-J		B9.11		6-SI-22/08	ELBOW TO PIPE	A-28
B-J		B9.11		6-SI-22/09	PIPE TO ELBOW	A-28
B-J		B9.11		6-SI-22/10	ELBOW TO PIPE	A-28
B-J	99	B9.11		6-SI-22/11	PIPE TO ELBOW	A-28
B-J		B9.11		6-SI-22/12	ELBOW TO PIPE	A-28
B-J		B9.11		6-SI-22/13	PIPE TO ELBOW	A-28
B-J	99	B9.11		6-SI-22/14	ELBOW TO PIPE	A-28
B-J	99	B9.11	TERM END	6-SI-22/15	PIPE TO TEE	A-28
B-J		B9.11		6-SI-24/04	VALVE (SI-197) TO ELBOW	A-29

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.11		6-SI-24/05	ELBOW TO PIPE	A-29
B-J		B9.11		6-SI-24/06	PIPE TO ELBOW	A-29
B-J		B9.11		6-SI-24/07	ELBOW TO PIPE	A-29
B-J	95	B9.11		6-SI-24/08	PIPE TO ELBOW	A-29
B-J		B9.11		6-SI-24/09	ELBOW TO PIPE	A-29
B-J	95	B9.11	TERM END	6-SI-24/10	PIPE TO TEE	A-29
B-J		B9.11		MRC-1/02	SAFE END TO PIPE	A-08
B-J		B9.11		MRC-1/03	PIPE TO PIPE	A-08
B-J		B9.11		MRC-1/04	PIPE TO ELBOW	A-08
B-J		B9.11		MRC-1/05	ELBOW TO SAFE END	A-08
B-J		B9.11		MRC-1/08	SAFE END TO ELBOW	A-08
B-J		B9.11		MRC-1/09	ELBOW TO PIPE	A-08
B-J		B9.11		MRC-1/10	PIPE TO ELBOW	A-08
B-J		B9.11		MRC-1/11	ELBOW TO PIPE	A-08
B-J		B9.11		MRC-1/12	PIPE TO ELBOW	A-08
B-J		B9.11		MRC-1/13	ELBOW TO PUMP (RC3B)	A-08
B-J		B9.11		MRC-1/14	PUMP (RC3B) TO PIPE	A-08
B-J		B9.11		MRC-1/15	PIPE TO ELBOW	A-08
B-J		B9.11		MRC-1/16	ELBOW TO PIPE	A-08
B-J		B9.11		MRC-1/17	PIPE TO SAFE END	A-08
B-J		B9.11		MRC-1/20	SAFE END TO ELBOW	A-08
B-J		B9.11		MRC-1/21	ELBOW TO PIPE	A-08
B-J		B9.11		MRC-1/22	PIPE TO ELBOW	A-08
B-J		B9.11		MRC-1/23	ELBOW TO PIPE	A-08
B-J		B9.11		MRC-1/24	PIPE TO ELBOW	A-08
B-J		B9.11		MRC-1/25	ELBOW TO PUMP (RC3A)	A-08
B-J		B9.11		MRC-1/26	PUMP (RC3A) TO PIPE	A-08
B-J		B9.11		MRC-1/27	PIPE TO ELBOW	A-08
B-J		B9.11		MRC-1/28	ELBOW TO PIPE	A-08
B-J		B9.11		MRC-1/29	PIPE TO SAFE END	A-08
B-J		B9.11		MRC-2/02	SAFE END TO PIPE	A-09
B-J		B9.11		MRC-2/03	PIPE TO PIPE	A-09
B-J		B9.11		MRC-2/04	PIPE TO ELBOW	A-09
B-J		B9.11		MRC-2/05	ELBOW TO SAFE END	A-09
B-J	99	B9.11		MRC-2/08	SAFE END TO ELBOW	A-09
B-J		B9.11		MRC-2/09	ELBOW TO PIPE	A-09
B-J		B9.11		MRC-2/10	PIPE TO ELBOW	A-09
B-J		B9.11		MRC-2/11	ELBOW TO PIPE	A-09
B-J		B9.11		MRC-2/12	PIPE TO ELBOW	A-09
B-J		B9.11		MRC-2/13	ELBOW TO PUMP (RC3C)	A-09
B-J		B9.11		MRC-2/14	PUMP (RC3C) TO PIPE	A-09
B-J		B9.11		MRC-2/15	PIPE TO ELBOW	A-09
B-J		B9.11		MRC-2/16	ELBOW TO PIPE	A-09
B-J		B9.11		MRC-2/17	PIPE TO SAFE END	A-09
B-J	99	B9.11		MRC-2/20	SAFE END TO ELBOW	A-09
B-J		B9.11		MRC-2/21	ELBOW TO PIPE	A-09
B-J		B9.11		MRC-2/22	PIPE TO ELBOW	A-09
B-J		B9.11		MRC-2/23	ELBOW TO PIPE	A-09
B-J		B9.11		MRC-2/24	PIPE TO ELBOW	A-09
B-J		B9.11		MRC-2/25	ELBOW TO PUMP (RC3D)	A-09

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.11		MRC-2/26	PUMP (RC3D) TO PIPE	A-09
B-J		B9.11		MRC-2/27	PIPE TO ELBOW	A-09
B-J		B9.11		MRC-2/28	ELBOW TO PIPE	A-09
B-J		B9.11		MRC-2/29	PIPE TO SAFE END	A-09
B-J		B9.21	TERM END	2-LL-2/01	PIPE TO ELBOW (2 1/2")	A-46
B-J		B9.21		2-LL-2/02	ELBOW TO REDUCER (2 1/2")	A-46
B-J	99	B9.21		2.5-PRL-2/01	REDUCER TO PIPE	A-20
B-J		B9.21		2.5-PRL-2/02	PIPE TO ELBOW	A-20
B-J		B9.21		2.5-PRL-2/03	ELBOW TO PIPE	A-20
B-J		B9.21		2.5-PRL-2/04	PIPE TO ELBOW	A-20
B-J	99	B9.21		2.5-PRL-2/05	ELBOW TO PIPE	A-20
B-J	99	B9.21		2.5-PRL-2/06	PIPE TO ELBOW	A-20
B-J		B9.21		2.5-PRL-2/07	ELBOW TO PIPE	A-20
B-J		B9.21		2.5-PRL-2/08	PIPE TO VALVE (HCV-150)	A-20
B-J		B9.21		2.5-PRL-2/09	VALVE (HCV-150) TO PIPE	A-20
B-J	01	B9.21		2.5-PRL-2/10	PIPE TO ELBOW	A-20
B-J	01	B9.21		2.5-PRL-2/11	ELBOW TO VALVE (PCV-102-2)	A-20
B-J		B9.21		2.5-PRL-3/12	REDUCER TO PIPE	A-20
B-J		B9.21		2.5-PRL-3/13	PIPE TO ELBOW	A-20
B-J		B9.21		2.5-PRL-3/14	ELBOW TO PIPE	A-20
B-J		B9.21		2.5-PRL-3/15	PIPE TO ELBOW	A-20
B-J		B9.21		2.5-PRL-3/16	ELBOW TO PIPE	A-20
B-J	99	B9.21		2.5-PRL-3/17	PIPE TO ELBOW	A-20
B-J	99	B9.21		2.5-PRL-3/18	ELBOW TO PIPE	A-20
B-J		B9.21		2.5-PRL-3/19	PIPE TO VALVE (HCV-151)	A-20
B-J		B9.21		2.5-PRL-3/20	VALVE (HCV-151) TO PIPE	A-20
B-J	01	B9.21		2.5-PRL-3/21	PIPE TO ELBOW	A-20
B-J	01	B9.21		2.5-PRL-3/22	ELBOW TO VALVE (PCV-102-1)	A-20
B-J	01	B9.21		3-HPH-12/01	REDUCER TO TEE	A-30
B-J		B9.21		3-HPH-12/03	TEE TO PIPE	A-30
B-J	96	B9.21		3-HPH-12/04	PIPE TO FLANGE (FE-316)	A-30
B-J	96	B9.21		3-HPH-12/05	FLANGE TO PIPE (FE-316)	A-30
B-J		B9.21		3-HPH-12/06	PIPE TO ELBOW	A-30
B-J		B9.21		3-HPH-12/07	ELBOW TO PIPE	A-30
B-J		B9.21		3-HPH-12/08	PIPE TO ELBOW	A-30
B-J		B9.21		3-HPH-12/09	ELBOW TO PIPE	A-30
B-J		B9.21		3-HPH-12/10	PIPE TO PIPE	A-30
B-J	95	B9.21	TERM END	3-HPH-12/11	PIPE TO NOZZLE (12-SI-12)	A-30
B-J		B9.21		3-HPH-14/01	REDUCER TO TEE	A-31
B-J		B9.21		3-HPH-14/02	REDUCER TO TEE	A-31
B-J	95	B9.21		3-HPH-14/03	TEE TO PIPE	A-31
B-J		B9.21		3-HPH-14/04	PIPE TO FLANGE	A-31
B-J		B9.21		3-HPH-14/05	FLANGE TO PIPE	A-31
B-J	01	B9.21		3-HPH-14/06	PIPE TO ELBOW	A-31
B-J		B9.21		3-HPH-14/07	ELBOW TO ELBOW	A-31
B-J	01	B9.21		3-HPH-14/08	ELBOW TO PIPE	A-31
B-J	01	B9.21		3-HPH-14/09	PIPE TO ELBOW	A-31
B-J		B9.21		3-HPH-14/10	ELBOW TO PIPE	A-31
B-J	01	B9.21		3-HPH-14/11	PIPE TO ELBOW	A-31
B-J		B9.21		3-HPH-14/12	ELBOW TO PIPE	A-31

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.21		3-HPH-14/13	PIPE TO ELBOW	A-31
B-J		B9.21		3-HPH-14/14	ELBOW TO PIPE	A-31
B-J		B9.21		3-HPH-14/15	PIPE TO ELBOW	A-31
B-J		B9.21	TERM END	3-HPH-14/16	ELBOW TO NOZZLE (12-SI-14)	A-31
B-J		B9.21		3-HPH-22/01	REDUCER TO TEE	A-32
B-J		B9.21		3-HPH-22/03	TEE TO PIPE	A-32
B-J		B9.21		3-HPH-22/04	PIPE TO FLANGE	A-32
B-J		B9.21		3-HPH-22/05	FLANGE TO PIPE	A-32
B-J		B9.21		3-HPH-22/06	PIPE TO ELBOW	A-32
B-J		B9.21		3-HPH-22/07	ELBOW TO PIPE	A-32
B-J		B9.21		3-HPH-22/08	PIPE TO ELBOW	A-32
B-J		B9.21		3-HPH-22/09	ELBOW TO PIPE	A-32
B-J		B9.21	TERM END	3-HPH-22/10	PIPE TO NOZZLE (12-SI-22)	A-32
B-J	95	B9.21		3-HPH-24/01	REDUCER TO TEE	A-33
B-J		B9.21		3-HPH-24/03	TEE TO PIPE	A-33
B-J		B9.21		3-HPH-24/04	PIPE TO FLANGE	A-33
B-J		B9.21		3-HPH-24/05	FLANGE TO PIPE	A-33
B-J		B9.21		3-HPH-24/06	PIPE TO ELBOW	A-33
B-J	95	B9.21		3-HPH-24/07	ELBOW TO PIPE	A-33
B-J	95	B9.21		3-HPH-24/08	PIPE TO ELBOW	A-33
B-J		B9.21		3-HPH-24/09	ELBOW TO PIPE	A-33
B-J		B9.21		3-HPH-24/09A	PIPE TO PIPE	A-33
B-J		B9.21	TERM END	3-HPH-24/10	PIPE TO NOZZLE (12-SI-24)	A-33
B-J	99	B9.21		3-PRL-1/02	PIPE TO ELBOW	A-19
B-J	99	B9.21		3-PRL-1/02A	SAFE END (316) TO PIPE	A-19
B-J	99	B9.21		3-PRL-1/03	ELBOW TO PIPE	A-19
B-J		B9.21		3-PRL-1/04	PIPE TO ELBOW	A-19
B-J		B9.21		3-PRL-1/05	ELBOW TO PIPE	A-19
B-J	99	B9.21		3-PRL-1/06	PIPE TO ELBOW	A-19
B-J		B9.21		3-PRL-1/07	ELBOW TO PIPE	A-19
B-J		B9.21		3-PRL-1/08	PIPE TO TEE	A-19
B-J		B9.21		3-PRL-1/09	TEE TO REDUCER	A-19
B-J		B9.21		3-PRL-1/10	TEE TO REDUCER	A-19
B-J	99	B9.21	TERM END	3-PSL-1/01	FLANGE TO REDUCING ELBOW	A-16
B-J	99	B9.21		3-PSL-1/06	REDUCING ELBOW TO PIPE	A-16
B-J	99	B9.21	TERM END	3-PSL-1/07	REDUCING ELBOW TO VALVE RC-141	A-16
B-J		B9.21	TERM END	3-PSL-2/01	FLANGE TO REDUCING ELBOW	A-16
B-J		B9.21		3-PSL-2/06	REDUCING ELBOW TO PIPE	A-16
B-J		B9.21	TERM END	3-PSL-2/07	REDUCING ELBOW TO VALVE RC-142	A-16
B-J		B9.21	TERM END	3-PSS-14/01	NOZZLE (24-RC-14) TO ELBOW	A-17
B-J	96	B9.21		3-PSS-14/02	ELBOW TO PIPE	A-17
B-J	96	B9.21		3-PSS-14/03	PIPE TO ELBOW	A-17
B-J		B9.21		3-PSS-14/04	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/05	PIPE TO ELBOW	A-17
B-J		B9.21		3-PSS-14/06	ELBOW TO PIPE	A-17
B-J	01	B9.21		3-PSS-14/07	PIPE TO ELBOW	A-17
B-J	01	B9.21		3-PSS-14/08	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/09	PIPE TO ELBOW	A-17
B-J		B9.21		3-PSS-14/10	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/11	PIPE TO ELBOW	A-17

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.21		3-PSS-14/12	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/13	PIPE TO ELBOW	A-17
B-J		[illegible]		3-PSS-14/14	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/15	PIPE TO PIPE	A-17
B-J		B9.21		3-PSS-14/16	PIPE TO ELBOW	A-17
B-J		B9.21		3-PSS-14/17	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/18	PIPE TO ELBOW	A-17
B-J		B9.21		3-PSS-14/19	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/20	PIPE TO TEE	A-17
B-J		B9.21		3-PSS-14/21	TEE TO PIPE	A-17
B-J		B9.21		3-PSS-14/21A	PIPE TO PIPE	A-17
B-J		B9.21		3-PSS-14/21B	PIPE TO ELBOW	A-17
B-J		B9.21		3-PSS-14/21C	ELBOW TO PIPE	A-17
B-J	01	B9.21		3-PSS-14/22A	PIPE TO VALVE (PCV-103-2)	A-17
B-J		B9.21		3-PSS-14/23A	VALVE (PCV-103-2) TO PIPE	A-17
B-J	01	B9.21		3-PSS-14/24	PIPE TO ELBOW	A-17
B-J	01	B9.21		3-PSS-14/25	ELBOW TO PIPE	A-17
B-J		B9.21		3-PSS-14/26	PIPE TO ELBOW	A-17
B-J		B9.21		3-PSS-14/27	ELBOW TO REDUCER	A-17
B-J		B9.21	TERM END	3-PSS-22/01	NOZZLE (24-RC-22) TO ELBOW	A-18
B-J		B9.21		3-PSS-22/02	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/03	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/04	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/05	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/06	ELBOW TO ELBOW	A-18
B-J		B9.21		3-PSS-22/07	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/08	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/09	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/10	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/11	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/12	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/12A	PIPE TO PIPE	A-18
B-J		B9.21		3-PSS-22/13	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/14	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/15	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/16	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/17	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/18	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/19	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/20	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/21	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/22	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/23	PIPE TO TEE	A-18
B-J		B9.21		3-PSS-22/24	TEE TO PIPE	A-18
B-J		B9.21		3-PSS-22/24A	PIPE TO PIPE	A-18
B-J		B9.21		3-PSS-22/24B	PIPE TO ELBOW	A-18
B-J		B9.21		3-PSS-22/24C	ELBOW TO PIPE	A-18
B-J	01	B9.21		3-PSS-22/25A	PIPE TO VALVE (PCV-103-1)	A-18
B-J		B9.21		3-PSS-22/26A	VALVE (PCV-103-1) TO PIPE	A-18
B-J		B9.21		3-PSS-22/27	PIPE TO ELBOW	A-18

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J	01	B9.21		3-PSS-22/28	ELBOW TO PIPE	A-18
B-J	01	B9.21		3-PSS-22/29	PIPE TO ELBOW	A-18
B-J	01	B9.21		3-PSS-22/30	ELBOW TO PIPE	A-18
B-J		B9.21		3-PSS-22/31	PIPE TO TEE	A-18
B-J	96	B9.31		MRC-1/03B	BRANCH CONNECTION (10-PSG-10)	A-08
B-J	96	B9.31		MRC-1/14A	BRANCH CONNECTION (12-SI-12)	A-08
B-J		B9.31		MRC-1/26B	BRANCH CONNECTION (12-SI-14)	A-08
B-J		B9.31		MRC-2/03A	BRANCH CONNECTION (12-SDC-20)	A-09
B-J		B9.31		MRC-2/14C	BRANCH CONNECTION (12-SI-22)	A-09
B-J		B9.31		MRC-2/26A	BRANCH CONNECTION (12-SI-24)	A-09
B-J		B9.32		12-SI-12/12-BC	BRANCH CONNECTION (3-HPH-12)	A-22
B-J		B9.32		12-SI-14/17-BC	BRANCH CONNECTION (3-HPH-14)	A-23
B-J	99	B9.32		12-SI-22/15-BC	BRANCH CONNECTION (3-HPH-22)	A-24
B-J	01	B9.32		12-SI-24/11-BC	BRANCH CONNECTION (3-HPH-24)	A-25
B-J		B9.32		MRC-1/03A	BRANCH CONNECTION (2-DL-10)	A-08
B-J		B9.32		MRC-1/11A	BRANCH CONNECTION (2-DL-11)	A-08
B-J	96	B9.32		MRC-1/14B	BRANCH CONNECTION (2-CL-12)	A-08
B-J		B9.32		MRC-1/23A	BRANCH CONNECTION (2-DL-13)	A-08
B-J		B9.32		MRC-1/26A	BRANCH CONNECTION (3-PSS-14)	A-08
B-J		B9.32		MRC-2/11A	BRANCH CONNECTION (2-LL-21)	A-09
B-J		B9.32		MRC-2/14A	BRANCH CONNECTION (2-CL-22)	A-09
B-J		B9.32		MRC-2/14B	BRANCH CONNECTION (3-PSS-22)	A-09
B-J		B9.32		MRC-2/23A	BRANCH CONNECTION (2-DL-23)	A-09
B-J	01	B9.40	TERM END	2-AS-1/01	VALVE (HCV-240) TO PIPE	A-21
B-J		B9.40	TERM END	2-AS-1/01A	VALVE (HCV-249) TO PIPE	A-21
B-J	01	B9.40		2-AS-1/01B	PIPE TO ELBOW	A-21
B-J	01	B9.40		2-AS-1/01B1	VALVE TO PIPE (CH-469)	A-21
B-J	01	B9.40		2-AS-1/01B2	PIPE TO VALVE (CH-469)	A-21
B-J		B9.40		2-AS-1/01B3	TEE TO PIPE	A-21
B-J		B9.40		2-AS-1/01B4	TEE TO REDUCER	A-21
B-J		B9.40		2-AS-1/01B5	PIPE TO TEE	A-21
B-J	01	B9.40		2-AS-1/01C	ELBOW TO PIPE	A-21
B-J	01	B9.40		2-AS-1/01D	PIPE TO TEE	A-21
B-J	01	B9.40		2-AS-1/01E	PIPE TO TEE	A-21
B-J	01	B9.40		2-AS-1/02	PIPE TO VALVE (CH-205)	A-21
B-J	01	B9.40		2-AS-1/02A	TEE TO PIPE	A-21
B-J		B9.40		2-AS-1/03	VALVE (CH-205) TO PIPE	A-21
B-J		B9.40		2-AS-1/04	PIPE TO ELBOW	A-21
B-J		B9.40		2-AS-1/05	ELBOW TO PIPE	A-21
B-J	99	B9.40		2-AS-1/06	PIPE TO ELBOW	A-21
B-J	99	B9.40		2-AS-1/07	ELBOW TO PIPE	A-21
B-J		B9.40		2-AS-1/07A	PIPE TO COUPLING	A-21
B-J		B9.40		2-AS-1/07B	COUPLING TO PIPE	A-21
B-J	99	B9.40		2-AS-1/08	PIPE TO ELBOW	A-21
B-J	99	B9.40		2-AS-1/09	ELBOW TO PIPE	A-21
B-J		B9.40		2-AS-1/10A	PIPE TO REDUCER	A-21
B-J		B9.40		2-AS-1/5A	PIPE TO COUPLING	A-21
B-J		B9.40		2-AS-1/5B	COUPLING TO PIPE	A-21
B-J		B9.40		2-CL-1/77	VALVE (CH-202) TO PIPE	A-43
B-J		B9.40		2-CL-1/78	PIPE TO ELBOW	A-43

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.40		2-CL-1/79	ELBOW TO PIPE	A-43
B-J		B9.40		2-CL-1/80	PIPE TO VALVE (CH-345)	A-43
B-J		B9.40		2-CL-12/01	VALVE (HCV-238) TO PIPE	A-43
B-J		B9.40		2-CL-12/02	PIPE TO TEE	A-43
B-J		B9.40		2-CL-12/02A	PIPE TO TEE	A-43
B-J		B9.40		2-CL-12/02B	VALVE (CH-345) TO PIPE	A-43
B-J		B9.40		2-CL-12/03	TEE TO PIPE	A-43
B-J		B9.40		2-CL-12/04	PIPE TO VALVE (CH-203)	A-43
B-J		B9.40		2-CL-12/05	VALVE (CH-203) TO PIPE	A-43
B-J		B9.40		2-CL-12/06	PIPE TO ELBOW	A-43
B-J		B9.40		2-CL-12/07	ELBOW TO PIPE	A-43
B-J		B9.40		2-CL-12/08	PIPE TO ELBOW	A-43
B-J		B9.40		2-CL-12/09	ELBOW TO PIPE	A-43
B-J		B9.40		2-CL-12/10	PIPE TO ELBOW	A-43
B-J		B9.40		2-CL-12/11	ELBOW TO PIPE	A-43
B-J		B9.40		2-CL-12/12	PIPE TO ELBOW	A-43
B-J		B9.40		2-CL-12/13	ELBOW TO PIPE	A-43
B-J	96	B9.40		2-CL-12/14	PIPE TO ELBOW	A-43
B-J	96	B9.40		2-CL-12/15	ELBOW TO PIPE	A-43
B-J	96	B9.40		2-CL-12/16	PIPE TO ELBOW	A-43
B-J	96	B9.40		2-CL-12/17	ELBOW TO PIPE	A-43
B-J	96	B9.40	TERM END	2-CL-12/18	PIPE TO NOZZLE (24-RC-12)	A-43
B-J		B9.40		2-CL-22/01	VALVE (HCV-239) TO PIPE	A-44
B-J		B9.40		2-CL-22/02	PIPE TO ELBOW	A-44
B-J		B9.40		2-CL-22/03	ELBOW TO PIPE	A-44
B-J		B9.40		2-CL-22/04	PIPE TO -VALVE (CH-204)	A-44
B-J	99	B9.40		2-CL-22/05	VALVE (CH-204) TO PIPE	A-44
B-J	99	B9.40		2-CL-22/06	PIPE TO TEE	A-44
B-J	99	B9.40		2-CL-22/06A	TEE TO REDUCER	A-44
B-J	99	B9.40		2-CL-22/07	TEE TO PIPE	A-44
B-J		B9.40		2-CL-22/08	PIPE TO ELBOW	A-44
B-J		B9.40		2-CL-22/09	ELBOW TO PIPE	A-44
B-J		B9.40		2-CL-22/10	PIPE TO ELBOW	A-44
B-J		B9.40		2-CL-22/11	ELBOW TO PIPE	A-44
B-J		B9.40	TERM END	2-CL-22/12	PIPE TO NOZZLE (24-RC-22)	A-44
B-J		B9.40	TERM END	2-DL-10/01	NOZZLE TO PIPE (32-RC-10)	A-10
B-J		B9.40		2-DL-10/02	PIPE TO ELBOW	A-10
B-J		B9.40		2-DL-10/03	ELBOW TO PIPE	A-10
B-J		B9.40		2-DL-10/04	PIPE TO TEE	A-10
B-J		B9.40		2-DL-10/04A	TEE TO REDUCER	A-10
B-J		B9.40		2-DL-10/05	TEE TO PIPE	A-10
B-J		B9.40		2-DL-10/06	PIPE TO VALVE (RC-128)	A-10
B-J		B9.40		2-DL-10/07	VALVE TO PIPE	A-10
B-J		B9.40		2-DL-10/08	PIPE TO TEE	A-10
B-J		B9.40		2-DL-10/09	TEE TO REDUCER	A-10
B-J		B9.40		2-DL-10/10	TEE TO PIPE	A-10
B-J		B9.40		2-DL-10/11	PIPE TO VALVE (RC-122)	A-10
B-J		B9.40	TERM END	2-DL-11/01	NOZZLE (32-RC-11) TO PIPE	A-11
B-J		B9.40		2-DL-11/02	PIPE TO ELBOW	A-11
B-J		B9.40		2-DL-11/03	ELBOW TO PIPE	A-11

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.40		2-DL-11/04	PIPE TO VALVE (RC-124)	A-11
B-J		B9.40		2-DL-11/05	VALVE (RC-124) TO PIPE	A-11
B-J		B9.40		2-DL-11/06	PIPE TO VALVE (RC-132)	A-11
B-J		B9.40	TERM END	2-DL-13/01	NOZZLE (24-RC-13) TO PIPE	A-12
B-J		B9.40		2-DL-13/02	PIPE TO ELBOW	A-12
B-J		B9.40		2-DL-13/03	ELBOW TO PIPE	A-12
B-J		B9.40		2-DL-13/04	PIPE TO VALVE (RC-123)	A-12
B-J		B9.40		2-DL-13/05	VALVE (RC-123) TO PIPE	A-12
B-J		B9.40		2-DL-13/06	PIPE TO ELBOW	A-12
B-J		B9.40		2-DL-13/07	ELBOW TO PIPE	A-12
B-J		B9.40		2-DL-13/08	PIPE TO VALVE (RC-130)	A-12
B-J		B9.40	TERM END	2-DL-23/01	NOZZLE (24-RC-23) TO PIPE	A-13
B-J		B9.40		2-DL-23/02	PIPE TO ELBOW	A-13
B-J		B9.40		2-DL-23/03	ELBOW TO PIPE	A-13
B-J		B9.40		2-DL-23/04	PIPE TO VALVE (RC-112)	A-13
B-J		B9.40		2-DL-23/05	VALVE (RC-112) TO PIPE	A-13
B-J		B9.40		2-DL-23/06	PIPE TO ELBOW	A-13
B-J		B9.40		2-DL-23/07	ELBOW TO PIPE	A-13
B-J		B9.40		2-DL-23/08	PIPE TO VALVE (RC-135)	A-13
B-J	01	B9.40		2-HPH-1.12/13	VALVE (SI-102) TO PIPE	A-35
B-J	01	B9.40		2-HPH-1.12/14	PIPE TO ELBOW	A-35
B-J	01	B9.40		2-HPH-1.12/15	ELBOW TO PIPE	A-35
B-J	01	B9.40		2-HPH-1.12/16	PIPE TO ELBOW	A-35
B-J	01	B9.40		2-HPH-1.12/17	ELBOW TO PIPE	A-35
B-J	01	B9.40		2-HPH-1.12/18	PIPE TO TEE	A-35
B-J	95	B9.40		2-HPH-1.14/25	VALVE (SI-205) TO PIPE	A-34
B-J	95	B9.40		2-HPH-1.14/26	PIPE TO ELBOW	A-34
B-J		B9.40		2-HPH-1.14/27	ELBOW TO PIPE	A-34
B-J	95	B9.40		2-HPH-1.14/28	PIPE TO ELBOW	A-34
B-J	95	B9.40		2-HPH-1.14/29	ELBOW TO PIPE	A-34
B-J		B9.40		2-HPH-1.14/30	PIPE TO ELBOW	A-34
B-J		B9.40		2-HPH-1.14/31	ELBOW TO PIPE	A-34
B-J	01	B9.40		2-HPH-1.14/32	PIPE TO ELBOW	A-34
B-J	01	B9.40		2-HPH-1.14/33	ELBOW TO PIPE	A-34
B-J	01	B9.40		2-HPH-1.14/34	PIPE TO REDUCER	A-34
B-J		B9.40		2-HPH-1.22/12	VALVE (SI-196) TO PIPE	A-36
B-J		B9.40		2-HPH-1.22/13	PIPE TO ELBOW	A-36
B-J		B9.40		2-HPH-1.22/14	ELBOW TO PIPE	A-36
B-J		B9.40		2-HPH-1.22/15	PIPE TO ELBOW	A-36
B-J		B9.40		2-HPH-1.22/16	ELBOW TO PIPE	A-36
B-J	95	B9.40		2-HPH-1.22/17	PIPE TO ELBOW	A-36
B-J		B9.40		2-HPH-1.22/18	ELBOW TO PIPE	A-36
B-J	95	B9.40		2-HPH-1.22/19	PIPE TO ELBOW	A-36
B-J	95	B9.40		2-HPH-1.22/20	ELBOW TO PIPE	A-36
B-J		B9.40		2-HPH-1.22/21	PIPE TO ELBOW	A-36
B-J		B9.40		2-HPH-1.22/22	ELBOW TO PIPE	A-36
B-J		B9.40		2-HPH-1.22/23	PIPE TO ELBOW	A-36
B-J		B9.40		2-HPH-1.22/24	ELBOW TO PIPE	A-36
B-J		B9.40		2-HPH-1.22/25	PIPE TO ELBOW	A-36
B-J		B9.40		2-HPH-1.22/26	ELBOW TO PIPE	A-36

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.40		2-HPH-1.22/27	PIPE TO TEE	A-36
B-J		B9.40		2-HPH-1.24/11	VALVE (SI-199) TO PIPE	A-37
B-J	95	B9.40		2-HPH-1.24/12	PIPE TO ELBOW	A-37
B-J	95	B9.40		2-HPH-1.24/13	ELBOW TO PIPE	A-37
B-J	95	B9.40		2-HPH-1.24/14	PIPE TO ELBOW	A-37
B-J	95	B9.40		2-HPH-1.24/15	ELBOW TO PIPE	A-37
B-J	95	B9.40		2-HPH-1.24/16	PIPE TO TEE	A-37
B-J		B9.40		2-HPH-2.12/11	VALVE (SI-201) TO PIPE	A-38
B-J		B9.40		2-HPH-2.12/12	PIPE TO ELBOW	A-38
B-J		B9.40		2-HPH-2.12/13	ELBOW TO PIPE	A-38
B-J		B9.40		2-HPH-2.12/14	PIPE TO ELBOW	A-38
B-J		B9.40		2-HPH-2.12/15	ELBOW TO PIPE	A-38
B-J	95	B9.40		2-HPH-2.12/16	PIPE TO ELBOW	A-38
B-J	95	B9.40		2-HPH-2.12/17	ELBOW TO PIPE	A-38
B-J	99	B9.40		2-HPH-2.12/18	PIPE TO ELBOW	A-38
B-J	99	B9.40		2-HPH-2.12/19	ELBOW TO PIPE	A-38
B-J		B9.40		2-HPH-2.12/20	PIPE TO COUPLING	A-38
B-J		B9.40		2-HPH-2.12/21	COUPLING TO PIPE BEND RADIUS	A-38
B-J	99	B9.40		2-HPH-2.12/22	PIPE BEND RADIUS TO ELBOW	A-38
B-J	99	B9.40		2-HPH-2.12/23	ELBOW TO PIPE	A-38
B-J		B9.40		2-HPH-2.12/24	PIPE TO ELBOW	A-38
B-J	95	B9.40		2-HPH-2.12/25	ELBOW TO PIPE	A-38
B-J		B9.40		2-HPH-2.12/26	PIPE TO REDUCER	A-38
B-J	99	B9.40		2-HPH-2.14/23	VALVE (SI-204) TO PIPE	A-39
B-J	99	B9.40		2-HPH-2.14/24	PIPE TO ELBOW	A-39
B-J	99	B9.40		2-HPH-2.14/25	ELBOW TO PIPE	A-39
B-J		B9.40		2-HPH-2.14/26	PIPE TO ELBOW	A-39
B-J		B9.40		2-HPH-2.14/27	ELBOW TO PIPE	A-39
B-J	99	B9.40		2-HPH-2.14/28	PIPE TO ELBOW	A-39
B-J	99	B9.40		2-HPH-2.14/29	ELBOW TO PIPE	A-39
B-J		B9.40		2-HPH-2.14/30	PIPE TO REDUCER	A-39
B-J		B9.40		2-HPH-2.14/31	PIPE TO COUPLING	A-39
B-J		B9.40		2-HPH-2.14/32	COUPLING TO PIPE	A-39
B-J		B9.40		2-HPH-2.22/18	VALVES (SI-195) TO PIPE	A-40
B-J		B9.40		2-HPH-2.22/19	PIPE TO ELBOW	A-40
B-J	95	B9.40		2-HPH-2.22/20	ELBOW TO PIPE	A-40
B-J		B9.40		2-HPH-2.22/21	PIPE TO ELBOW	A-40
B-J		B9.40		2-HPH-2.22/22	ELBOW TO PIPE	A-40
B-J		B9.40		2-HPH-2.22/23	PIPE TO ELBOW	A-40
B-J		B9.40		2-HPH-2.22/24	ELBOW TO PIPE	A-40
B-J		B9.40		2-HPH-2.22/25	PIPE TO ELBOW	A-40
B-J		B9.40		2-HPH-2.22/26	ELBOW TO PIPE	A-40
B-J	95	B9.40		2-HPH-2.22/27	PIPE TO ELBOW	A-40
B-J	95	B9.40		2-HPH-2.22/28	ELBOW TO PIPE	A-40
B-J		B9.40		2-HPH-2.22/29	PIPE TO REDUCER	A-40
B-J		B9.40		2-HPH-2.24/11	VALVE (SI-198) TO PIPE	A-41
B-J		B9.40		2-HPH-2.24/12	PIPE TO ELBOW	A-41
B-J	95	B9.40		2-HPH-2.24/13	ELBOW TO PIPE	A-41
B-J		B9.40		2-HPH-2.24/14	PIPE TO ELBOW	A-41
B-J		B9.40		2-HPH-2.24/15	ELBOW TO PIPE	A-41

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.40		2-HPH-2.24/16	PIPE TO ELBOW	A-41
B-J		B9.40		2-HPH-2.24/17	ELBOW TO PIPE	A-41
B-J		B9.40		2-HPH-2.24/18	PIPE TO ELBOW	A-41
B-J	95	B9.40		2-HPH-2.24/19	ELBOW TO PIPE	A-41
B-J		B9.40		2-HPH-2.24/20	PIPE TO COUPLING	A-41
B-J		B9.40		2-HPH-2.24/21	COUPLING TO PIPE	A-41
B-J	95	B9.40		2-HPH-2.24/22	PIPE TO REDUCER	A-41
B-J		B9.40	TERM END	2-LL-1/01	VALVE (TCV-202) TO PIPE	A-45
B-J		B9.40		2-LL-1/02	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/03	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/04	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/05	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/06	PIPE TO COUPLING	A-45
B-J		B9.40		2-LL-1/07	COUPLING TO PIPE	A-45
B-J		B9.40		2-LL-1/08	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/09	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/10	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/11	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/12	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/13	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/14	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/15	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/16	PIPE TO ELBOW	A-45
B-J	99	B9.40		2-LL-1/17	ELBOW TO PIPE	A-45
B-J	99	B9.40		2-LL-1/18	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/19	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/20	PIPE TO COUPLING	A-45
B-J		B9.40		2-LL-1/21	COUPLING TO PIPE	A-45
B-J		B9.40		2-LL-1/22	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/23	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/24	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/25	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/26	PIPE TO COUPLING	A-45
B-J		B9.40		2-LL-1/27	COUPLING TO PIPE	A-45
B-J		B9.40		2-LL-1/28	PIPE TO TEE	A-45
B-J		B9.40		2-LL-1/29	TEE TO PIPE	A-45
B-J		B9.40		2-LL-1/29A	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/31	TEE TO REDUCER	A-45
B-J		B9.40		2-LL-1/39	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/40	PIPE TO ELBOW	A-45
B-J		B9.40		2-LL-1/41	ELBOW TO PIPE	A-45
B-J		B9.40		2-LL-1/42	PIPE TO COUPLING	A-45
B-J		B9.40	TERM END	2-LL-1/43	COUPLING TO PIPE	A-45
B-J		B9.40		2-LL-2/03	REDUCER TO PIPE (2")	A-46
B-J		B9.40		2-LL-2/04	PIPE TO TEE	A-46
B-J		B9.40		2-LL-2/04A	TEE TO REDUCER	A-46
B-J		B9.40		2-LL-2/05	TEE TO PIPE	A-46
B-J		B9.40		2-LL-2/06	PIPE TO ELBOW	A-46
B-J		B9.40		2-LL-2/07	ELBOW TO PIPE	A-46
B-J		B9.40		2-LL-2/08	PIPE TO TEE	A-46

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-J		B9.40		2-LL-2/09	TEE TO REDUCER	A-46
B-J		B9.40		2-LL-2/10	TEE TO PIPE	A-46
B-J		B9.40		2-LL-2/11	PIPE TO ELBOW	A-46
B-J		B9.40		2-LL-2/12	ELBOW TO PIPE	A-46
B-J		B9.40		2-LL-2/13	PIPE TO ELBOW (45 DEGREE)	A-46
B-J		B9.40		2-LL-2/14	ELBOW TO PIPE (45 DEGREE)	A-46
B-J		B9.40		2-LL-2/15	PIPE TO ELBOW (45 DEGREE)	A-46
B-J		B9.40		2-LL-2/16	ELBOW TO PIPE (45 DEGREE)	A-46
B-J		B9.40		2-LL-2/17	PIPE TO ELBOW	A-46
B-J		B9.40		2-LL-2/18	ELBOW TO PIPE	A-46
B-J		B9.40		2-LL-2/19	PIPE TO TEE	A-46
B-J		B9.40		2-LL-2/20	TEE TO PIPE	A-46
B-J		B9.40		2-LL-2/21	PIPE TO VALVE (CH-260)	A-46
B-J		B9.40		2-LL-2/22	VALVE (CH-260) TO PIPE	A-46
B-J		B9.40		2-LL-2/23	PIPE TO ELBOW	A-46
B-J		B9.40		2-LL-2/24	ELBOW TO PIPE	A-46
B-J		B9.40		2-LL-2/25	PIPE TO VALVE (LCV-101-1)	A-46
B-J		B9.40		2-LL-2/26	TEE TO PIPE	A-46
B-J		B9.40		2-LL-2/27	PIPE TO ELBOW	A-46
B-J		B9.40		2-LL-2/28	ELBOW TO PIPE	A-46
B-J		B9.40		2-LL-2/29	PIPE TO VALVE (CH-340)	A-46
B-J		B9.40		2-LL-2/30	VALVE (CH-340) TO PIPE	A-46
B-J		B9.40		2-LL-2/31	PIPE TO ELBOW	A-46
B-J		B9.40		2-LL-2/32	ELBOW TO PIPE	A-46
B-J		B9.40		2-LL-2/33	PIPE TO VALVE (LCV-101-2)	A-46
B-J		B9.40	TERM END	2-LL-21/01	NOZZLE (24-RC-21) TO ELBOW	A-47
B-J		B9.40		2-LL-21/02	ELBOW TO PIPE	A-47
B-J		B9.40		2-LL-21/03	PIPE TO TEE	A-47
B-J	99	B9.40		2-LL-21/04	TEE TO PIPE	A-47
B-J	99	B9.40		2-LL-21/04A	TEE TO PIPE	A-47
B-J		B9.40		2-LL-21/05	PIPE TO VALVE (RC-113)	A-47
B-J	99	B9.40		2-LL-21/06	VALVE (RC-113) TO PIPE	A-47
B-J	99	B9.40		2-LL-21/07	PIPE TO VALVE (RC-134)	A-47
B-J		B9.40		2-LL-21/08	PIPE TO ELBOW	A-47
B-J		B9.40		2-LL-21/09	ELBOW TO PIPE	A-47
B-J		B9.40		2-LL-21/10	PIPE TO ELBOW	A-47
B-J		B9.40		2-LL-21/11	ELBOW TO PIPE	A-47
B-J		B9.40		2-LL-21/12	PIPE TO ELBOW	A-47
B-J		B9.40		2-LL-21/13	ELBOW TO PIPE	A-47
B-J		B9.40		2-LL-21/13A	PIPE TO VALVE (RC-375)	A-47
B-J	99	B9.40		2-LL-21/13B	VALVE TO PIPE	A-47
B-J	99	B9.40	TERM END	2-LL-21/14	PIPE TO VALVE (TCV-202)	A-47
B-J		B9.40		2-PSS-15/51	TEE TO PIPE	A-17
B-J		B9.40		2-PSS-15/52	PIPE TO ELBOW	A-17
B-J		B9.40		2-PSS-15/53	ELBOW TO REDUCER	A-17
B-J		B9.40		2-PSS-23/51	TEE TO PIPE	A-18
B-J		B9.40		2-PSS-23/52	PIPE TO ELBOW	A-18
B-J		B9.40		2-PSS-23/53	ELBOW TO REDUCER	A-18
B-K-1	99	B10.10		12-SDC-20/13-PL-1	INTEGRAL ATTACHMENT	A-42
B-K-1	99	B10.10		12-SDC-20/13-PL-2	INTEGRAL ATTACHMENT	A-42

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-K-1	01	B10.10		12-SDC-20/13-PL-3	INTEGRAL ATTACHMENT	A-42
B-K-1	96	B10.10		12-SDC-20/13-PL-4	INTEGRAL ATTACHMENT	A-42
B-K-1		B10.20		RCP-RC3A-SL-1	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3A-SL-2	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3A-SL-3	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3B-SL-1	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3B-SL-2	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3B-SL-3	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1	01	B10.20		RCP-RC3C-SL-1	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1	01	B10.20		RCP-RC3C-SL-2	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1	95	B10.20		RCP-RC3C-SL-3	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3D-SL-1	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3D-SL-2	PUMP INTEGRAL ATTACHMENT	A-09A
B-K-1		B10.20		RCP-RC3D-SL-3	PUMP INTEGRAL ATTACHMENT	A-09A
B-L-1		B12.10		RCP-PC-RC3A-1	PRESSURE RETAINING WELD	A-09A
B-L-1		B12.10		RCP-PC-RC3B-1	PRESSURE RETAINING WELD	A-09A
B-L-1	95	B12.10		RCP-PC-RC3C-1	PRESSURE RETAINING WELD	A-09A
B-L-1		B12.10		RCP-PC-RC3D-1	PRESSURE RETAINING WELD	A-09A
B-L-2		B12.20		RCP-PC-RC3A-2	INTERNAL SURFACES	A-09A
B-L-2		B12.20		RCP-PC-RC3B-2	INTERNAL SURFACES	A-09A
B-L-2		B12.20		RCP-PC-RC3C-2	INTERNAL SURFACES	A-09A
B-L-2		B12.20		RCP-PC-RC3D-2	INTERNAL SURFACES	A-09A
B-M-1		B12.30		2-AS-1/CH-205	VALVE BODY WELD, DRESSER 2.0C	A-21
B-M-1	01	B12.30		2-CL-1/CH-202	VALVE BODY WELD, VELAN 2.0C	A-43
B-M-1	96	B12.30		2-CL-1/CH-345	VALVE BODY WELD, DRESSER 2.0G	A-43
B-M-1		B12.30		2-CL-12/CH-203	VALVE BODY WELD, DRESSER 2.0C	A-43
B-M-1	99	B12.30		2-CL-22/CH-204	VALVE BODY WELD, DRESSER 2.0C	A-44
B-M-1	01	B12.30		2-DL-10/RC-122	VALVE BODY WELD, DRESSER 2.0T	A-10
B-M-1		B12.30		2-DL-10/RC-128	VALVE BODY WELD, DRESSER 2.0T	A-10
B-M-1		B12.30		2-DL-11/RC-124	VALVE BODY WELD, DRESSER 2.0T	A-11
B-M-1		B12.30		2-DL-13/RC-123	VALVE BODY WELD, DRESSER 2.0T	A-12
B-M-1		B12.30		2-DL-13/RC-130	VALVE BODY WELD, DRESSER 2.0T	A-12
B-M-1		B12.30		2-DL-23/RC-112	VALVE BODY WELD, DRESSER 2.0T	A-13
B-M-1		B12.30		2-HPH-1.12/SI-202	VALVE BODY WELD, DRESSER 2.0C	A-35
B-M-1		B12.30		2-HPH-1.14/SI-205	VALVE BODY WELD, DRESSER 2.0C	A-34
B-M-1		B12.30		2-HPH-1.22/SI-196	VALVE BODY WELD, DRESSER 2.0C	A-36
B-M-1		B12.30		2-HPH-1.24/SI-199	VALVE BODY WELD, DRESSER 2.0C	A-37
B-M-1		B12.30		2-HPH-2.12/SI-201	VALVE BODY WELD, DRESSER 2.0C	A-38
B-M-1		B12.30		2-HPH-2.14/SI-204	VALVE BODY WELD, DRESSER 2.0C	A-39
B-M-1		B12.30		2-HPH-2.22/SI-195	VALVE BODY WELD, DRESSER 2.0C	A-40
B-M-1	95	B12.30		2-HPH-2.24/SI-198	VALVE BODY WELD, DRESSER 2.0C	A-41
B-M-1		B12.30		2-LL-2/CH-260	VALVE BODY WELD, DRESSER 2.0G	A-46
B-M-1	99	B12.30		2-LL-2/CH-340	VALVE BODY WELD, DRESSER 2.0G	A-46
B-M-1	99	B12.30		2-LL-21/RC-134	VALVE BODY WELD, DRESSER 2.0T	A-47
B-M-1		B12.30		2.5-PRL-2/PCV-102-1-M1	VALVE BODY WELD, DRESSER 2.5S	A-20
B-M-1		B12.30		2.5-PRL-2/PCV-102-2-M1	VALVE BODY WELD, DRESSER 2.5S	A-20
B-M-1	01	B12.40		12-SDC-20/HCV-347-M1	VALVE BODY WELD (INLET SIDE)	A-42
B-M-2	*	B12.50		12-SDC-20/HCV-347-M2	VALVE INTERNALS, VELAN 10.0G	A-42
B-M-2	*	B12.50		12-SDC-20/HCV-348-M2	VALVE INTERNALS, VELAN 12.0G	A-42
B-M-2	*	B12.50		12-SI-12/SI-215-M2	VALVE INTERNALS, MISSION 12.0C	A-22

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-M-2	*	B12.50		12-SI-12/SI-216-M2	VALVE INTERNALS, MISSION 12.0C	A-22
B-M-2	*	B12.50		12-SI-14/SI-219-M2	VALVE INTERNALS, MISSION 12.0C	A-23
B-M-2	*	B12.50		12-SI-14/SI-220-M2	VALVE INTERNALS, MISSION 12.0C	A-23
B-M-2	*	B12.50		12-SI-22/SI-207-M2	VALVE INTERNALS, MISSION 12.0C	A-24
B-M-2	*	B12.50		12-SI-22/SI-208-M2	VALVE INTERNALS, MISSION 12.0C	A-24
B-M-2	*	B12.50		12-SI-24/SI-211-M2	VALVE INTERNALS, MISSION 12.0C	A-25
B-M-2	*	B12.50		12-SI-24/SI-212-M2	VALVE INTERNALS, MISSION 12.0C	A-25
B-M-2	*	B12.50		6-SI-12/SI-200-M2	VALVE INTERVALS, MISSION 6.0C	A-26
B-M-2	*	B12.50		6-SI-14/S-203-M2	VALVE INTERVALS, MISSION 6.0C	A-27
B-M-2	*	B12.50		6-SI-22/SI-194-M2	VALVE INTERVALS, MISSION 6.0C	A-28
B-M-2	*	B12.50		6-SI-24/SI-197-M2	VALVE INTERVALS, MISSION 6.0C	A-29
B-N-1	96/99/02	B13.10		RPV-N1-1	VESSEL INTERIOR	A-01
B-N-2	02	B13.50		RPV-SC-A	SURVEILLANCE CAPSULE	A-01B
B-N-2	02	B13.50		RPV-SC-B	SURVEILLANCE CAPSULE	A-01B
B-N-2	02	B13.50		RPV-SC-C	SURVEILLANCE CAPSULE	A-01B
B-N-2	02	B13.50		RPV-SC-D	SURVEILLANCE CAPSULE	A-01B
B-N-2	02	B13.50		RPV-SC-E	SURVEILLANCE CAPSULE	A-01B
B-N-2	02	B13.50		RPV-SC-F	SURVEILLANCE CAPSULE	A-01B
B-N-2	02	B13.60		RPV-CS-A	CORE SUPPORT LUGS	A-01B
B-N-2	02	B13.60		RPV-CS-B	CORE SUPPORT LUGS	A-01B
B-N-2	02	B13.60		RPV-CS-C	CORE SUPPORT LUGS	A-01B
B-N-2	02	B13.60		RPV-CS-D	CORE SUPPORT LUGS	A-01B
B-N-2	02	B13.60		RPV-CS-E	CORE SUPPORT LUGS	A-01B
B-N-2	02	B13.60		RPV-CS-F	CORE SUPPORT LUGS	A-01B
B-N-2	02	B13.60		RPV-SL-A	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-B	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-C	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-D	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-E	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-F	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-C	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-H	CORE STOP LUG	A-01B
B-N-2	02	B13.60		RPV-SL-J	CORE STOP LUG	A-01B
B-N-3	02	B13.70		RPV-N3-CSS-1	CORE SUPPORT STRUCTURE	A-01
B-O		B14.10		RPVCH-CRD-BO-01	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-01-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-01-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-01-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-02	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-02-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-02-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-02-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-03	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-03-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-03-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-03-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-04	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-04-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-04-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-04-3	CEDM HOUSING WELD	A-02A

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-O		B14.10		RPVCH-CRD-BO-05	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-05-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-05-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-05-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-06	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-06-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-06-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-06-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-07	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-07-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-07-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-07-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-08	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-08-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-08-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-08-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-09	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-09-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-09-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-09-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-10	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-10-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-10-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-10-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-11	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-11-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-11-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-11-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-12	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-12-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-12-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-12-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-13	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-13-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-13-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-13-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-14	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-14-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-14-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-14-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-15	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-15-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-15-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-15-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-16	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-16-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-16-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-16-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-17	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-17-1	CEDM HOUSING WELD	A-02A

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-O		B14.10		RPVCH-CRD-BO-17-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-17-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-18	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-18-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-18-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-18-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-19	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-19-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-19-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-19-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-20	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-20-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-20-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-20-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-21	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-21-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-21-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-21-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-22	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-22-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-22-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-22-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-23	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-23-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-23-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-23-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-24	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-24-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-24-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-24-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-25	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-25-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-25-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-25-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-26	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-26-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-26-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-26-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-27	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-27-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-27-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-27-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-28	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-28-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-28-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-28-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-29	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-29-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-29-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-29-3	CEDM HOUSING WELD	A-02A

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
B-O		B14.10		RPVCH-CRD-BO-30	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-30-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-30-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-30-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-31	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-31-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-31-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-31-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-32	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-32-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-32-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-32-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-33	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-33-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-33-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-33-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-34	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-34-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-34-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-34-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-35	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-35-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-35-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-35-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-36	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-36-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-36-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-36-3	CEDM HOUSING WELD	A-02A
B-O	01	B14.10		RPVCH-CRD-BO-37	CEDM HOUSING WELD	A-02A
B-O	01	B14.10		RPVCH-CRD-BO-37-1	CEDM HOUSING WELD	A-02A
B-O	01	B14.10		RPVCH-CRD-BO-37-2	CEDM HOUSING WELD	A-02A
B-O	99	B14.10		RPVCH-CRD-BO-37-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-38	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-38-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-38-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-38-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-39	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-39-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-39-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-39-3	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-40	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-40-1	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-40-2	CEDM HOUSING WELD	A-02A
B-O		B14.10		RPVCH-CRD-BO-40-3	CEDM HOUSING WELD	A-02A
B-O	95	B14.10		RPVCH-CRD-BO-41	CEDM HOUSING WELD	A-02A
B-O	95	B14.10		RPVCH-CRD-BO-41-1	CEDM HOUSING WELD	A-02A
B-O	99	B14.10		RPVCH-CRD-BO-41-2	CEDM HOUSING WELD	A-02A
B-O	99	B14.10		RPVCH-CRD-BO-41-3	CEDM HOUSING WELD	A-02A
F-A	01	F1.10	A	10-PSG-10/07-PR-1	STRUT, U-BOLT	A-14
F-A		F1.10	A	10-PSG-10/09-PR-1	STRUT, 3-BOLT	A-14

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.10	A	10-PSG-10/09-PR-2	STRUT, 3-BOLT	A-14
F-A	95	F1.10	A	12-SDC-20/08-PR-3	STRUT, 3-BOLT	A-42
F-A	01	F1.10	A	12-SI-12/14-PR	TRAPEZE, SADDLE, U-BOLT	A-22
F-A		F1.10	A	12-SI-12/14-PS	WHIP RESTRAINT	A-22
F-A		F1.10	A	12-SI-14/15-PR	ROD, 3-BOLT	A-23
F-A		F1.10	A	12-SI-22/13-PR	ROD, 3-BOLT	A-24
F-A		F1.10	A	12-SI-24/14-PS-1	WHIP RESTRAINT	A-25
F-A		F1.10	A	12-SI-24/15-PR-1	TRAPEZE, SADDLE, U-BOLT	A-25
F-A		F1.10	A	2-HPH-1.22/18-PR-1	ROD AND CLEVIS	A-36
F-A	01	F1.10	A	2-HPH-2.12/19-PR-1	ROD AND CLEVIS	A-38
F-A		F1.10	A	2-HPH-2.12/19-PR-2	ROD AND CLEVIS	A-38
F-A		F1.10	A	2-HPH-2.12/21-PR	ROD AND CLEVIS	A-38
F-A		F1.10	A	2-HPH-2.14/29-PR	PIPE RESTRAINT	A-39
F-A		F1.10	A	2.5-PRL-2/150-PR	PED, I-BEAM	A-20
F-A		F1.10	A	2.5-PRL-3/18-PR	STRUT, 3-BOLT	A-20
F-A		F1.10	A	3-HPH-12/03-PR-2	ROD, 3-BOLT, TURNBUCKLE	A-30
F-A		F1.10	A	3-HPH-14/03-PR-1	ROD, 3-BOLT	A-31
F-A	01	F1.10	A	3-HPH-14/10-PR-1	STRUT, 3-BOLT	A-31
F-A		F1.10	A	3-HPH-22/07-PR	STRUT, 3-BOLT	A-32
F-A		F1.10	A	3-HPH-24/03-PR-1	ROD, 3-BOLT, TURNBUCKLE	A-33
F-A		F1.10	A	3-HPH-24/09-PR	ANGLE, 3-BOLT	A-33
F-A	96	F1.10	A	3-PSS-14/02-PR-2	STRUT, 3-BOLT	A-17
F-A		F1.10	A	3-PSS-22/02-PR-2	PLATE, 3-BOLT	A-18
F-A		F1.10	A	3-PSS-22/02-PR-4	ROD, 3-BOLT	A-18
F-A		F1.10	A	3-PSS-22/14-PR-1	PLATE, 3-BOLT	A-18
F-A		F1.10	A	3-PSS-22/16-PR-2	STRUT, 3-BOLT, T/B	A-18
F-A		F1.10	A	6-SI-14/11-PR-1	STRUT, 3-BOLT	A-27
F-A	95	F1.10	A	6-SI-24/07-PR-2	ROD, 3-BOLT, TURNBUCKLE	A-29
F-A	99	F1.10	B	12-SDC-20/04-PR-3	PEDESTAL, U-BOLT	A-42
F-A		F1.10	B	12-SDC-20/08-PR-1	PEDESTAL, U-BOLT	A-42
F-A	99	F1.10	B	12-SI-22/17-PR	PED, U-BOLT	A-24
F-A		F1.10	B	2-AS-1/240-PR-2	PED, DUAL U-BOLT	A-21
F-A		F1.10	B	2-AS-1/249-PR-2	PED, SADDLE, DUAL U-BOLT	A-21
F-A		F1.10	B	2-CL-12/07-PR	ANGLE	A-43
F-A		F1.10	B	2-CL-12/11-PR	ANGLE, U-BOLT	A-43
F-A		F1.10	B	2-CL-12/238-PR-2	DUAL PED, U-BOLTS	A-43
F-A		F1.10	B	2-CL-22/01-PR	DUAL PED, U-BOLTS	A-44
F-A	99	F1.10	B	2-CL-22/07-PR	PIPE RESTRAINT	A-44
F-A		F1.10	B	2-DL-10/07-PR	PED. SUPPORT, DUAL U-BOLT	A-10
F-A		F1.10	B	2-HPH-1.14/25-PR	PEDESTAL, U-BOLT	A-34
F-A		F1.10	B	2-HPH-1.22/12-PR	PEDESTAL, U-BOLT	A-36
F-A		F1.10	B	2-HPH-1.22/18-PR-2	ANGLE, U-BOLT	A-36
F-A		F1.10	B	2-HPH-1.22/22-PR-1	ANGLE, U-BOLT	A-36
F-A		F1.10	B	2-HPH-1.22/22-PR-2	ANGLE, U-BOLT	A-36
F-A	95	F1.10	B	2-HPH-1.24/11-PR	PEDESTAL, U-BOLT	A-37
F-A	95	F1.10	B	2-HPH-2.12/11-PR	PEDESTAL, U-BOLT	A-38
F-A		F1.10	B	2-HPH-2.12/17-PR	ANGLE, U-BOLT	A-38
F-A		F1.10	B	2-HPH-2.14/23-PR	PEDESTAL, U-BOLT	A-39
F-A		F1.10	B	2-HPH-2.22/18-PR	PEDESTAL, U-BOLT	A-40
F-A		F1.10	B	2-HPH-2.24/13-PR	ANGLE, U-BOLT	A-41

CLASS 1

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A	95	F1.10	B	2-HPH-2.24/15-PR	UNISTRUT	A-41
F-A	95	F1.10	B	2-HPH-2.24/19-PR-2	UNISTRUT	A-41
F-A	95	F1.10	B	2-HPH-2.24/19-PR-3	UNISTRUT	A-41
F-A		F1.10	B	2-LL-1/03-PR	BOX RESTRAINT	A-45
F-A		F1.10	B	2-LL-1/05-PR	ANGLE, U-BOLT	A-45
F-A	99	F1.10	B	2-LL-1/15-PR-1	ANGLE, U-BOLT	A-45
F-A		F1.10	B	2-LL-1/15-PR-2	ANGLE, U-BOLT	A-45
F-A		F1.10	B	2-LL-1/19-PR	ANGLE, U-BOLT	A-45
F-A		F1.10	B	2-LL-1/26-PR-1	ANGLE, U-BOLT	A-46
F-A	01	F1.10	B	2-LL-1/26-PR-2	ANGLE U-BOLT	A-46
F-A	01	F1.10	B	2-LL-1/27-PR	ANGLE, U-BOLT	A-45
F-A		F1.10	B	2-LL-1/29-PR	ANGLE, U-BOLT	A-45
F-A		F1.10	B	2-LL-21/02-PR-2	PEDESTAL, U-BOLT	A-47
F-A		F1.10	B	3-HPH-12/03-PR-1	3/4 BOX	A-30
F-A		F1.10	B	3-HPH-12/09-PR	ANGLE, 3-BOLT	A-30
F-A		F1.10	B	3-HPH-14/05-PR-1	FULL BOX	A-31
F-A		F1.10	B	3-HPH-14/10-PR-2	FULL BOX	A-31
F-A		F1.10	B	3-HPH-22/01-PR	BOX	A-32
F-A		F1.10	B	3-HPH-22/05-PR	BOX	A-32
F-A		F1.10	B	3-HPH-24/03-PR	ANGLE, U-BOLT	A-33
F-A		F1.10	B	3-PSS-14/10-PR	FULL BOX	A-17
F-A		F1.10	B	3-PSS-14/10-PR-1	3/4 BOX	A-17
F-A	01	F1.10	B	3-PSS-14/22-PR	DUAL BOX	A-17
F-A		F1.10	B	3-PSS-14/23-PR-2	PED, DUAL 3-BOLT	A-17
F-A		F1.10	B	3-PSS-22/09-PR-5	PEDASTAL, SADDLE	A-18
F-A		F1.10	B	3-PSS-22/24-PR-1	FULL BOX, DUAL	A-18
F-A	01	F1.10	B	3-PSS-22/26-PR-3	PED, I-BEAM, 3-BOLT	A-18
F-A		F1.10	B	6-SI-12/[illegible]-PR-1	FULL BOX	A-26
F-A		F1.10	B	6-SI-22/06-PR-2	SADDLE, U-BOLT	A-28
F-A		F1.10	B	6-SI-22/06-PR-4	SADDLE, U-BOLT	A-28
F-A	01	F1.10	C	10-PSG-10/05-PR-2	SPRING CAN	A-14
F-A		F1.10	C	10-PSG-10/13-PR-1	SPRING CAN	A-14
F-A		F1.10	C	12-SDC-20/19-PR	DUAL SPRING CAN, COMPLEX	A-42
F-A	01	F1.10	C	2.5-PRL-2/01-PR-1	SPRING CAN, ROD, 3-BOLT	A-20
F-A		F1.10	C	2.5-PRL-3/12-PR	SPRING CAN, ROD, 3-BOLT	A-20
F-A		F1.10	C	3-PRL-1/07-PR	SPRING CAN, ROD, 3-BOLT	A-19
F-A		F1.10	C	3-PSS-14/12-PR	SPRING CAN	A-17
F-A		F1.10	C	3-PSS-22/09-PR-1	DUAL S/C, TRAP, U/B	A-18
F-A		F1.10	C	3-PSS-22/12-PR-2	PED, SPRING CAN	A-18
F-A		F1.10	C	3-PSS-22/12-PR-5	PED, S/C, SADDLE U/B	A-18
F-A		F1.10	C	3-PSS-22/13-PR-1	SPRING CAN, ROD	A-18
F-A		F1.10	C	4-PSS-1/02A-PR	SPRING CAN	A-15
F-A	99	F1.10	C	4-PSS-1/04-PR-1	SPRING CAN	A-15
F-A	01	F1.10	C	6-SI-14/09-PR-2	SPRING CAN, 3-BOLT, ROD	A-27
F-A	96	F1.40	B	PR2-FA-1	SUPPORT BOLTING	A-03
F-A		F1.40	B	SG-1-FB-1	VERTICAL LINEAR SUPPORT	A-05A
F-A		F1.40	B	SG-1-FB-2	VERTICAL LINEAR SUPPORT	A-05A
F-A		F1.40	B	SG-1-FB-3	VERTICAL LINEAR SUPPORT	A-05A
F-A		F1.40	B	SG-1-FB-4	VERTICAL LINEAR SUPPORT	A-05A
F-A	99	F1.40	B	SG-2-FB-1	VERTICAL LINEAR SUPPORT	A-05A

CLASS 1 COMPONENTS & SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV. 1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A	99	F1.40	B	SG-2-FB-2	VERTICAL LINEAR SUPPORT	A-05A
F-A	99	F1.40	B	SG-2-FB-3	VERTICAL LINEAR SUPPORT	A-05A
F-A	99	F1.40	B	SG-2-FB-4	VERTICAL LINEAR SUPPORT	A-05A
F-A		F1.40	C	RCP-RC3A-FC-1	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3A-FC-2	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3A-FC-3	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3B-FC-1	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3B-FC-2	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3B-FC-3	PUMP SUPPORT	A-09A
F-A	99	F1.40	C	RCP-RC3C-FC-1	PUMP SUPPORT	A-09A
F-A	99	F1.40	C	RCP-RC3C-FC-2	PUMP SUPPORT	A-09A
F-A	99	F1.40	C	RCP-RC3C-FC-3	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3D-FC-1	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3D-FC-2	PUMP SUPPORT	A-09A
F-A		F1.40	C	RCP-RC3D-FC-3	PUMP SUPPORT	A-09A

* THERE ARE 3 TYPES/SIZES OF VALVES UNDER ITEM NUMBER B12.50. THE REQUIRED INTERNAL INSPECTION OF ONE OF EACH WILL BE SCHEDULED FOR WHEN THE VALVE IS OPENED FOR MAINTENANCE OR IN 2002.

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-A		C1.10		SG-1-3	CONE TO UPPER SHELL	B-01
C-A		C1.10		SG-1-4	LOWER SHELL TO CONE	B-01
C-A		C1.10		SG-1-4B	EXT. RING TO LOWER SHELL	B-01
C-A	99	C1.10		SG-2-3	CONE TO UPPER SHELL	B-02
C-A	99	C1.10		SG-2-4	LOWER SHELL TO CONE	B-02
C-A	99	C1.10		SG-2-4B	EXT. RING TO LOWER SHELL	B-02
C-A		C1.20		RHE-C-01	HEAD TO SHELL	B-43
C-A	95	C1.20		RHE-C-16	HEAD TO SHELL	B-43
C-A	01	C1.20		SDHE-AC-4A-C-1	HEAD TO SHELL	B-44
C-A		C1.20		SDHE-AC-4B-C-1	HEAD TO SHELL	B-44
C-A		C1.20		SG-1-5	HEAD TO UPPER SHELL	B-01
C-A		C1.20		SG-1-5A	DOME WELD	B-01
C-A	99	C1.20		SG-2-5	HEAD TO UPPER SHELL	B-02
C-A		C1.20		SG-2-5A	DOME WELD	B-02
C-A		C1.30		RHE-C-04	TUBE SHEET TO SHELL	B-43
C-A	95	C1.30		RHE-C-13	TUBE SHEET TO SHELL	B-43
C-A	01	C1.30		SDHE-AC-4A-C-2	TUBE SHEET TO SHELL	B-44
C-A		C1.30		SDHE-AC-4B-C-2	TUBE SHEET TO SHELL	B-44
C-A		C1.30		SG-1-6	TUBE SHEET TO EXT. RING	B-01
C-A	99	C1.30		SG-2-6	TUBE SHEET TO EXT. RING	B-02
C-B	95	C2.21		RHE-N-14	NOZZLE TO SHELL	B-43
C-B	95	C2.21		RHE-N-15	SHELL TO NOZZLE	B-43
C-B		C2.21		RHE-N-2	NOZZLE TO SHELL	B-43
C-B		C2.21		RHE-N-3	SHELL TO NOZZLE	B-43
C-B	01	C2.21		SDHE-AC-4A-N-3	SHELL TO NOZZLE	B-44
C-B	01	C2.21		SDHE-AC-4A-N-4	NOZZLE TO SHELL	B-44
C-B		C2.21		SDHE-AC-4B-N-3	SHELL TO NOZZLE	B-44
C-B		C2.21		SDHE-AC-4B-N-4	NOZZLE TO SHELL	B-44
C-B		C2.21		SG-1-7	NOZZLE TO SHELL (MS)	B-01
C-B		C2.21		SG-1-8	NOZZLE TO SHELL (FW)	B-01
C-B	99	C2.21		SG-2-7	NOZZLE TO SHELL (MS)	B-02
C-B	99	C2.21		SG-2-8	NOZZLE TO SHELL (FW)	B-02
C-B		C2.22		SG-1-7-IR	INNER RADIUS (MS)	B-01
C-B		C2.22		SG-1-8-IR	INNER RADIUS (FW)	B-01
C-B	99	C2.22		SG-2-7-IR	INNER RADIUS (MS)	B-02
C-B	99	C2.22		SG-2-8-IR	INNER RADIUS (FW)	B-02
C-C		C3.10		RHE-1-PL-1	HEAT EXCH INTEGRAL ATTACH.	B-43
C-C		C3.10		RHE-1-PL-2	HEAT EXCH INTEGRAL ATTACH.	B-43
C-C	01	C3.10		RHE-1-PL-3	HEAT EXCH INTEGRAL ATTACH.	B-43
C-C	95	C3.10		RHE-1-PL-4	HEAT EXCH INTEGRAL ATTACH.	B-43
C-C		C3.10		SG-1-FB-5-1	MANWAY TRUNNION AT 0	A-05A
C-C		C3.10		SG-1-FB-5-2	MANWAY TRUNNION AT 180	A-05A
C-C	99	C3.10		SG-2-FB-5-1	MANWAY TRUNNION AT 0	A-05A
C-C	99	C3.10		SG-2-FB-5-2	MANWAY TRUNNION AT 180	A-05A
C-C	96	C3.20		12-LPH-2001/19-PL-1	INTEGRAL ATTACHMENT	B-16
C-C	96	C3.20		12-LPH-2001/19-PL-2	INTEGRAL ATTACHMENT	B-16
C-C	96	C3.20		12-LPH-2001/19-PL-3	INTEGRAL ATTACHMENT	B-16
C-C	96	C3.20		12-LPH-2001/19-PL-4	INTEGRAL ATTACHMENT	B-16
C-C	98	C3.20		16-FW-2001/02-PL-1	INTEGRAL ATTACHMENT	B-07
C-C	98	C3.20		16-FW-2001/02-PL-2	INTEGRAL ATTACHMENT	B-07

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-C	98	C3.20		16-FW-2001/02-PL-3	INTEGRAL ATTACHMENT	B-07
C-C	98	C3.20		16-FW-2001/02-PL-4	INTEGRAL ATTACHMENT	B-07
C-C		C3.20		16-FW-2002/04-PL-1	INTEGRAL ATTACHMENT	B-08
C-C		C3.20		16-FW-2002/04-PL-2	INTEGRAL ATTACHMENT	B-08
C-C		C3.20		16-FW-2002/04-PL-3	INTEGRAL ATTACHMENT	B-08
C-C		C3.20		16-FW-2002/04-PL-4	INTEGRAL ATTACHMENT	B-08
C-C	01	C3.20		28-MS-2001/11-PL-1	INTEGRAL ATTACHMENT	B-03
C-C	01	C3.20		28-MS-2001/11-PL-2	INTEGRAL ATTACHMENT	B-03
C-C	01	C3.20		28-MS-2001/11-PL-3	INTEGRAL ATTACHMENT	B-03
C-C	01	C3.20		28-MS-2001/11-PL-4	INTEGRAL ATTACHMENT	B-03
C-C		C3.20		28-MS-2002/11-PL-1	INTEGRAL ATTACHMENT	B-05
C-C		C3.20		28-MS-2002/11-PL-2	INTEGRAL ATTACHMENT	B-05
C-C		C3.20		28-MS-2002/11-PL-3	INTEGRAL ATTACHMENT	B-05
C-C		C3.20		28-MS-2002/11-PL-4	INTEGRAL ATTACHMENT	B-05
C-C	01	C3.20		8-LPSI-2002/10-PR-3A	INTEGRAL ATTACHMENT	B-30
C-F-1	01	C5.11		12-CSS-2001/01	CAP TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/02	PIPE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/03	PIPE TO 45 ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/04	45 ELBOW TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/05	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/06	PIPE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/07	PIPE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/08	PIPE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/09	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/10	PIPE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/11	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/12	PIPE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/13	PIPE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/13A	PIPE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/14	PIPE TO PIPE	B-19
C-F-1	95	C5.11		12-CSS-2001/15	PIPE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/16	ELBOW TO ELBOW	B-19
C-F-1	95	C5.11		12-CSS-2001/17	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/18	PIPE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/19	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/20	PIPE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/21	PIPE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/22	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/23	PIPE TO TEE	B-19
C-F-1		C5.11		12-CSS-2001/24	TEE TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/25	PIPE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/26	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/27	PIPE TO VALVE	B-19
C-F-1		C5.11		12-CSS-2001/28	VALVE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/29	ELBOW TO PIPE	B-19
C-F-1		C5.11		12-CSS-2001/30	PIPE TO ELBOW	B-19
C-F-1		C5.11		12-CSS-2001/31	ELBOW TO ELBOW	B-19
C-F-1		C5.11	TERM END	12-CSS-2001/32	ELBOW TO NOZZLE	B-19
C-F-1		C5.11		12-CSS-2002/01	TEE TO ELBOW	B-20
C-F-1		C5.11		12-CSS-2002/02	ELBOW TO VALVE	B-20

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.11		12-CSS-2002/03	VALVE TO PIPE	B-20
C-F-1		C5.11		12-CSS-2002/04	PIPE TO VALVE	B-20
C-F-1		C5.11		12-CSS-2002/05	VALVE TO ELBOW	B-20
C-F-1		C5.11		12-CSS-2002/06	ELBOW TO PIPE	B-20
C-F-1		C5.11		12-CSS-2002/07	PIPE TO ELBOW	B-20
C-F-1		C5.11		12-CSS-2002/08	ELBOW TO PIPE	B-20
C-F-1		C5.11		12-CSS-2002/09	PIPE TO TEE	B-20
C-F-1		C5.11		12-CSS-2004/01	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/01B	FLANGE TO ELBOW	B-38
C-F-1	95	C5.11		12-CSS-2004/02	PIPE TO ELBOW	B-38
C-F-1	95	C5.11		12-CSS-2004/03	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/04	PIPE TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/05	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2004/06	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/06A	PIPE TO ELBOW	B-38
C-F-1	96	C5.11		12-CSS-2004/07	ELBOW TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2004/08	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/09	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2004/10	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/11	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2004/12	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/13	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2004/14	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/15	PIPE TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/16	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2004/17	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/18	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2004/19	ELBOW TO FLANGE	B-38
C-F-1		C5.11		12-CSS-2004/20	FLANGE TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/22	PIPE TO PIPE	B-38
C-F-1		C5.11		12-CSS-2004/23	PIPE TO VALVE	B-38
C-F-1		C5.11		12-CSS-2005/01	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2005/01A	FLANGE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2005/02	PIPE TO ELBOW	B-38
C-F-1	01	C5.11		12-CSS-2005/03	ELBOW TO PIPE	B-38
C-F-1	01	C5.11		12-CSS-2005/04	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2005/05	ELBOW TO PIPE	B-38
C-F-1		C5.11		12-CSS-2005/06	PIPE TO PIPE	B-38
C-F-1		C5.11		12-CSS-2005/07	PIPE TO ELBOW	B-38
C-F-1		C5.11		12-CSS-2005/08	ELBOW TO FLANGE	B-38
C-F-1		C5.11		12-CSS-2005/09	FLANGE TO PIPE	B-38
C-F-1		C5.11		12-CSS-2005/10	PIPE TO PIPE	B-38
C-F-1		C5.11		12-CSS-2005/11	PIPE TO VALVE	B-38
C-F-1		C5.11		12-CSS-2011/07	VALVE TO PIPE	B-39
C-F-1	01	C5.11		12-CSS-2011/08	PIPE TO REDUCER	B-39
C-F-1	01	C5.11	TERM END	12-CSS-2011/09	REDUCER TO FLANGE (10")	B-39
C-F-1		C5.11		12-CSS-2012/05	VALVE TO PIPE	B-39
C-F-1	01	C5.11		12-CSS-2012/06	PIPE TO ELBOW	B-39
C-F-1	01	C5.11		12-CSS-2012/07	ELBOW TO PIPE	B-39
C-F-1		C5.11		12-CSS-2012/08	PIPE TO REDUCER	B-39

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.11	TERM END	12-CSS-2012/09	REDUCER TO FLANGE (10")	B-39
C-F-1		C5.11		12-CSS-2013/06	VALVE TO ELBOW	B-39
C-F-1		C5.11		12-CSS-2013/07	ELBOW TO ELBOW	B-39
C-F-1		C5.11		12-CSS-2013/08	ELBOW TO PIPE	B-39
C-F-1		C5.11		12-CSS-2013/09	PIPE TO REDUCER	B-39
C-F-1		C5.11	TERM END	12-CSS-2013/10	REDUCER TO FLANGE (10")	B-39
C-F-1		C5.11		12-LPH-2001/03	REDUCER TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/04	PIPE TO ELBOW	B-16
C-F-1		C5.11		12-LPH-2001/05	ELBOW TO TEE	B-16
C-F-1		C5.11		12-LPH-2001/09A	FLANGE TO TEE	B-16
C-F-1		C5.11		12-LPH-2001/10	TEE TO PIPE	B-16
C-F-1	95	C5.11		12-LPH-2001/11	PIPE TO TEE	B-16
C-F-1		C5.11		12-LPH-2001/13	PIPE TO VALVE (8")	B-16
C-F-1	01	C5.11		12-LPH-2001/14	TEE TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/15	PIPE TO ELBOW	B-16
C-F-1	01	C5.11		12-LPH-2001/16	ELBOW TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/17	PIPE TO FLANGE	B-16
C-F-1		C5.11		12-LPH-2001/18	FLANGE TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/19	PIPE TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/20	PIPE TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/21	PIPE TO ELBOW	B-16
C-F-1		C5.11		12-LPH-2001/22	ELBOW TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/23	PIPE TO TEE	B-16
C-F-1		C5.11		12-LPH-2001/24	TEE TO REDUCER	B-16
C-F-1	98	C5.11		12-LPH-2001/25	TEE TO PIPE BEND	B-16
C-F-1		C5.11		12-LPH-2001/26	PIPE BEND TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/27	PIPE TO TEE	B-16
C-F-1		C5.11		12-LPH-2001/29	TEE TO PIPE	B-16
C-F-1		C5.11		12-LPH-2001/29A	PIPE TO 45 ELBOW	B-16
C-F-1	98	C5.11		12-LPH-2001/30	45 ELBOW TO REDUCER	B-16
C-F-1		C5.11		12-LPSI-2002/01	TEE TO PIPE	B-17
C-F-1	95	C5.11		12-LPSI-2002/02	PIPE TO ELBOW	B-17
C-F-1	01	C5.11		12-LPSI-2002/03	ELBOW TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/04	PIPE TO TEE	B-17
C-F-1	95	C5.11		12-LPSI-2002/05	TEE TO REDUCER	B-17
C-F-1		C5.11		12-LPSI-2002/06	TEE TO PIPE	B-17
C-F-1		C5.11	TERM END	12-LPSI-2002/06A	ELBOW TO FLANGE	B-17
C-F-1	01	C5.11		12-LPSI-2002/07	PIPE TO ELBOW	B-17
C-F-1		C5.11		12-LPSI-2002/08	ELBOW TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/09	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/10	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/10A	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/11	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/12	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/13	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/14	PIPE TO ELBOW	B-17
C-F-1	98	C5.11		12-LPSI-2002/15	ELBOW TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/16	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/17	PIPE TO ELBOW	B-17
C-F-1	95	C5.11		12-LPSI-2002/18	ELBOW TO PIPE	B-17

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1	95	C5.11		12-LPSI-2002/19	PIPE TO ELBOW	B-17
C-F-1		C5.11		12-LPSI-2002/20	ELBOW TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/21	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/22	PIPE TO PIPE	B-17
C-F-1		C5.11		12-LPSI-2002/23A	FLANGE TO ELBOW	B-17
C-F-1		C5.11		12-LPSI-2003/01	REDUCER TO TEE	B-18
C-F-1		C5.11		12-LPSI-2003/02	TEE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/03	PIPE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/04	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/05	PIPE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/06	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/07	PIPE TO PIPE	B-18
C-F-1	98	C5.11		12-LPSI-2003/08	PIPE TO ELBOW	B-18
C-F-1	98	C5.11		12-LPSI-2003/09	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/10	PIPE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/11	PIPE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/12	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/13	PIPE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/14	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/15	PIPE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/16	PIPE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/17	PIPE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/18	PIPE TO PIPE	B-18
C-F-1	01	C5.11		12-LPSI-2003/19	PIPE TO ELBOW	B-18
C-F-1	01	C5.11		12-LPSI-2003/20	ELBOW TO PIPE	B-18
C-F-1	01	C5.11		12-LPSI-2003/20A	PIPE TO ELBOW	B-18
C-F-1	95	C5.11		12-LPSI-2003/21	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/21A	PIPE TO FLANGE	B-18
C-F-1		C5.11		12-LPSI-2003/21B	FLANGE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/21C	PIPE TO FLANGE	B-18
C-F-1		C5.11		12-LPSI-2003/21D	FLANGE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/22	PIPE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/23	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/24	PIPE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/25	PIPE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/26	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/27	PIPE TO FLANGE	B-18
C-F-1		C5.11		12-LPSI-2003/28A	FLANGE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/28B	PIPE TO FLANGE	B-18
C-F-1		C5.11		12-LPSI-2003/28C	FLANGE TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/29	PIPE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/30	ELBOW TO TEE	B-18
C-F-1		C5.11		12-LPSI-2003/33	TEE TO VALVE	B-18
C-F-1		C5.11		12-LPSI-2003/34	VALVE TO ELBOW	B-18
C-F-1		C5.11		12-LPSI-2003/35	ELBOW TO PIPE	B-18
C-F-1		C5.11		12-LPSI-2003/36	PIPE TO ELBOW	B-18
C-F-1	96	C5.11	TERM END	12-LPSI-2003/37	ELBOW TO NOZZLE	B-18
C-F-1	95	C5.11	TERM END	12-SDC-2001/01	NOZZLE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/02	ELBOW TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/03	PIPE TO VALVE	B-21

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.11		12-SDC-2001/04	VALVE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/05	ELBOW TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/06	PIPE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/07	ELBOW TO TEE	B-21
C-F-1		C5.11		12-SDC-2001/08	TEE TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/09	PIPE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/10	ELBOW TO VALVE	B-21
C-F-1		C5.11		12-SDC-2001/11	TEE TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/12	PIPE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/13	ELBOW TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/14	PIPE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/15	ELBOW TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/16	PIPE TO TEE	B-21
C-F-1		C5.11		12-SDC-2001/17	TEE TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/18	PIPE TO FLANGE	B-21
C-F-1		C5.11		12-SDC-2001/19	FLANGE TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/20	PIPE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/21	ELBOW TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/22	PIPE TO ELBOW	B-21
C-F-1		C5.11		12-SDC-2001/23	ELBOW TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/24	PIPE TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/25	PIPE TO PIPE	B-21
C-F-1		C5.11		12-SDC-2001/26	PIPE TO REDUCER	B-21
C-F-1		C5.11		12-SDC-2001/27	REDUCER TO VALVE (8")	B-21
C-F-1		C5.11	TERM END	12-SDC-2002/01	NOZZLE TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/02	ELBOW TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/03	PIPE TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/04	ELBOW TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/05	PIPE TO VALVE	B-22
C-F-1		C5.11		12-SDC-2002/06	VALVE TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/07	PIPE TO TEE	B-22
C-F-1		C5.11		12-SDC-2002/08	TEE TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/09	PIPE TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/10	ELBOW TO VALVE	B-22
C-F-1		C5.11		12-SDC-2002/11	TEE TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/12	PIPE TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/13	ELBOW TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/14	ELBOW TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/15	PIPE TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/16	ELBOW TO PIPE	B-22
C-F-1	01	C5.11		12-SDC-2002/17	PIPE TO FLANGE	B-22
C-F-1		C5.11		12-SDC-2002/18	FLANGE TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/19	PIPE TO ELBOW	B-22
C-F-1	01	C5.11		12-SDC-2002/20	ELBOW TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/21	PIPE TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/22	PIPE TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/23	ELBOW TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/24	PIPE TO ELBOW	B-22
C-F-1		C5.11		12-SDC-2002/25	ELBOW TO PIPE	B-22
C-F-1		C5.11		12-SDC-2002/26	PIPE TO PIPE	B-22

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.11		12-SDC-2002/27	PIPE TO REDUCER	B-22
C-F-1		C5.11		12-SDC-2002/28	REDUCER TO FLANGE (8")	B-22
C-F-1		C5.11		12-SDC-2003/01	VALVE TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/02	PIPE TO TEE	B-22A
C-F-1		C5.11		12-SDC-2003/03	VALVE TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/04	PIPE TO TEE	B-22A
C-F-1		C5.11		12-SDC-2003/05	TEE TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/06	PIPE TO ELBOW	B-22A
C-F-1		C5.11		12-SDC-2003/07	ELBOW TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/08	PIPE TO 45 ELBOW	B-22A
C-F-1		C5.11		12-SDC-2003/09	45 ELBOW TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/09A	PIPE TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/09B	PIPE TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/10	PIPE TO ELBOW	B-22A
C-F-1		C5.11		12-SDC-2003/11	ELBOW TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/12	PIPE TO ELBOW	B-22A
C-F-1	01	C5.11		12-SDC-2003/13	ELBOW TO ELBOW	B-22A
C-F-1		C5.11		12-SDC-2003/14	ELBOW TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/14A	PIPE TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/15	PIPE TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/16	PIPE TO PIPE	B-22A
C-F-1	95	C5.11		12-SDC-2003/17	ELBOW TO PIPE	B-22A
C-F-1		C5.11		12-SDC-2003/18	PIPE TO ELBOW	B-22A
C-F-1		C5.11		12-SDC-2003/19	ELBOW TO VALVE (8")	B-22A
C-F-1		C5.11		12-SDC-2020/01	VALVE TO REDUCER	B-11
C-F-1		C5.11		12-SDC-2020/02	REDUCER TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/03	PIPE TO TEE	B-11
C-F-1		C5.11		12-SDC-2020/04	TEE TO FLANGE (8")	B-11
C-F-1		C5.11		12-SDC-2020/05	TEE TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/06	PIPE TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/07	PIPE TO ELBOW	B-11
C-F-1		C5.11		12-SDC-2020/08	ELBOW TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/09	PIPE TO ELBOW	B-11
C-F-1		C5.11		12-SDC-2020/10	ELBOW TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/11	PIPE TO ELBOW	B-11
C-F-1	98	C5.11		12-SDC-2020/12	ELBOW TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/13	PIPE TO ELBOW	B-11
C-F-1		C5.11		12-SDC-2020/14	ELBOW TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/15	PIPE TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/16	PIPE TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/17	PIPE TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/18	PIPE TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/19	PIPE TO PIPE	B-11
C-F-1		C5.11		12-SDC-2020/19D	LONG SEAM WELD	B-11
C-F-1		C5.11		12-SDC-2020/19U	LONG SEAM WELD	B-11
C-F-1	01	C5.11		12-SDC-2020/20	PIPE TO TEE	B-11
C-F-1		C5.11		12-SDC-2020/21	TEE TO REDUCER	B-11
C-F-1		C5.11		20-SI-2001/01	REDUCER TO PIPE	B-36
C-F-1		C5.11		20-SI-2001/01A	PIPE TO PIPE	B-36
C-F-1		C5.11		20-SI-2001/01B	PIPE TO PIPE	B-36

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.11		20-SI-2001/01D	PIPE TO TEE	B-36
C-F-1		C5.11		20-SI-2001/01E	TEE TO PIPE	B-36
C-F-1		C5.11		20-SI-2001/02	PIPE TO TEE	B-36
C-F-1	95	C5.11		20-SI-2001/03	TEE TO PIPE	B-36
C-F-1		C5.11		20-SI-2001/04	PIPE TO ELBOW	B-36
C-F-1		C5.11		20-SI-2001/05	ELBOW TO PIPE	B-36
C-F-1		C5.11		20-SI-2001/07	PIPE TO VALVE	B-36
C-F-1		C5.11		20-SI-2002/01	PIPE TO TEE	B-37
C-F-1		C5.11		20-SI-2002/02	ELBOW TO PIPE	B-37
C-F-1		C5.11		20-SI-2002/03	VALVE TO ELBOW	B-37
C-F-1		C5.11		24-SI-2001/01	FLANGE TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/02	PIPE TO ELBOW	B-36
C-F-1		C5.11		24-SI-2001/03	ELBOW TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/04	PIPE TO ELBOW	B-36
C-F-1		C5.11		24-SI-2001/05	ELBOW TO FLANGE	B-36
C-F-1		C5.11		24-SI-2001/06	FLANGE TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/07	PIPE TO ELBOW	B-36
C-F-1		C5.11		24-SI-2001/08	ELBOW TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/09	PIPE TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/09A	PIPE TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/10	PIPE TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/11	PIPE TO TEE	B-36
C-F-1		C5.11		24-SI-2001/12	TEE TO PIPE	B-36
C-F-1	95	C5.11		24-SI-2001/13	PIPE TO ELBOW	B-36
C-F-1		C5.11		24-SI-2001/14	ELBOW TO PIPE	B-36
C-F-1		C5.11		24-SI-2001/15	PIPE TO TEE	B-36
C-F-1		C5.11		24-SI-2001/16	TEE TO REDUCER	B-36
C-F-1		C5.11		24-SI-2002/01	FLANGE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/01A	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/02	PIPE TO ELBOW	B-37
C-F-1		C5.11		24-SI-2002/03	ELBOW TO VALVE	B-37
C-F-1		C5.11		24-SI-2002/04	VALVE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/04A	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/05	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/06	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/07	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/10	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/10A	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/11	PIPE TO TEE	B-37
C-F-1		C5.11		24-SI-2002/12	TEE TO PIPE	B-37
C-F-1	98	C5.11		24-SI-2002/13	PIPE TO ELBOW	B-37
C-F-1		C5.11		24-SI-2002/14	ELBOW TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/15	PIPE TO ELBOW	B-37
C-F-1	98	C5.11		24-SI-2002/16	ELBOW TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/17	PIPE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/18	PIPE TO TEE	B-37
C-F-1		C5.11		24-SI-2002/19	TEE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/19A	PIPE TO TEE	B-37
C-F-1		C5.11		24-SI-2002/20	TEE TO PIPE	B-37
C-F-1		C5.11		24-SI-2002/21	PIPE TO TEE	B-37

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1	98	C5.11		24-SI-2002/22	TEE TO CAP	B-37
C-F-1		C5.11		6-SI-2002/01	REDUCER TO ELBOW	B-42
C-F-1		C5.11		6-SI-2002/02	ELBOW TO PIPE	B-42
C-F-1	98	C5.11		6-SI-2002/03	PIPE TO ELBOW	B-42
C-F-1		C5.11		6-SI-2002/04	ELBOW TO PIPE	B-42
C-F-1		C5.11		6-SI-2002/05	PIPE TO ELBOW	B-42
C-F-1	98	C5.11		6-SI-2002/06	ELBOW TO PIPE	B-42
C-F-1		C5.11		6-SI-2002/07	PIPE TO ELBOW	B-42
C-F-1		C5.11		6-SI-2002/08	ELBOW TO PIPE	B-42
C-F-1		C5.11		6-SI-2002/09	PIPE TO ELBOW	B-42
C-F-1		C5.11		6-SI-2002/10	ELBOW TO PIPE	B-42
C-F-1		C5.11		6-SI-2002/11	PIPE TO ELBOW	B-42
C-F-1		C5.11		6-SI-2002/12	ELBOW TO PIPE	B-42
C-F-1		C5.11		6-SI-2002/13	PIPE TO ELBOW	B-42
C-F-1		C5.11		6-SI-2002/14	ELBOW TO ELBOW	B-42
C-F-1		C5.11		6-SI-2002/15	ELBOW TO FLANGE	B-42
C-F-1	01	C5.11		6-SI-2002/16	ELBOW TO FLANGE	B-42
C-F-1		C5.11		6-SI-2002/17	ELBOW TO FLANGE	B-42
C-F-1		C5.11		6-SI-2002/18	ELBOW TO FLANGE	B-42
C-F-1		C5.11		6-SI-2002/19	ELBOW TO FLANGE	B-42
C-F-1		C5.11		6-SI-2012/10	REDUCER TO PIPE	B-33
C-F-1		C5.11		6-SI-2012/11	PIPE TO VALVE	B-33
C-F-1	01	C5.11		6-SI-2014/20	REDUCER TO PIPE	B-34
C-F-1		C5.11		6-SI-2014/21	PIPE TO PIPE	B-34
C-F-1		C5.11		6-SI-2014/22	PIPE TO VALVE	B-34
C-F-1		C5.11		6-SI-2022/10	REDUCER TO PIPE	B-31
C-F-1		C5.11		6-SI-2022/11	PIPE TO VALVE	B-31
C-F-1		C5.11		6-SI-2024/10	REDUCER TO PIPE	B-32
C-F-1		C5.11		6-SI-2024/11	PIPE TO PIPE	B-32
C-F-1		C5.11		6-SI-2024/12	PIPE TO VALVE	B-32
C-F-1	01	C5.12		12-CSS-2001/01D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/02D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/02U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/03D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/03U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/04D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/04U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/05D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/05U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/06D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/06U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/07D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/07U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/08U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/09D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/10U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/11D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/12D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/12U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/13AD	LONG SEAM WELD	B-19

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.12		12-CSS-2001/13U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/14D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/14U	LONG SEAM WELD	B-19
C-F-1	95	C5.12		12-CSS-2001/15U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/16D	LONG SEAM WELD	B-19
C-F-1	95	C5.12		12-CSS-2001/17D	LONG SEAM WELD	B-19
C-F-1	95	C5.12		12-CSS-2001/17U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/18U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/19D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/20D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/20U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/21D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/21U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/22D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/22U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/23D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/23U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/24D	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/24U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2001/25U	LONG SEAM WELD	B-19
C-F-1		C5.12		12-CSS-2002/06D	LONG SEAM WELD	B-20
C-F-1		C5.12		12-CSS-2002/07U	LONG SEAM WELD	B-20
C-F-1		C5.12		12-CSS-2002/08D	LONG SEAM WELD	B-20
C-F-1		C5.12		12-CSS-2002/09U	LONG SEAM WELD	B-20
C-F-1		C5.12		12-CSS-2004/01D	LONG SEAM WELD	B-38
C-F-1	95	C5.12		12-CSS-2004/02U	LONG SEAM WELD	B-38
C-F-1	95	C5.12		12-CSS-2004/03D	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2004/04D	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2004/04U	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2004/05U	LONG SEAM WELD	B-38
C-F-1	96	C5.12		12-CSS-2004/07D	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2004/08D	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2004/08U	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2004/09U	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2005/01D	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2005/02D	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2005/02U	LONG SEAM WELD	B-38
C-F-1	01	C5.12		12-CSS-2005/03D	LONG SEAM WELD	B-38
C-F-1	01	C5.12		12-CSS-2005/03U	LONG SEAM WELD	B-38
C-F-1	01	C5.12		12-CSS-2005/04D	LONG SEAM WELD	B-38
C-F-1	01	C5.12		12-CSS-2005/04U	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2005/05D	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2005/05U	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2005/06U	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2011/04U	LONG SEAM WELD	B-38
C-F-1		C5.12		12-CSS-2011/07D	LONG SEAM WELD	B-39
C-F-1	01	C5.12		12-CSS-2011/08U	LONG SEAM WELD	B-39
C-F-1		C5.12		12-CSS-2012/05D	LONG SEAM WELD	B-39
C-F-1	01	C5.12		12-CSS-2012/06U	LONG SEAM WELD	B-39
C-F-1	01	C5.12		12-CSS-2012/07D	LONG SEAM WELD	B-39

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.12		12-CSS-2012/08U	LONG SEAM WELD	B-39
C-F-1		C5.12		12-LPH-2001/10D	LONG SEAM WELD	B-16
C-F-1	95	C5.12		12-LPH-2001/11U	LONG SEAM WELD	B-16
C-F-1	01	C5.12		12-LPH-2001/14D	LONG SEAM WELD	B-16
C-F-1		C5.12		12-LPH-2001/15D	LONG SEAM WELD	B-16
C-F-1		C5.12		12-LPH-2001/15U	LONG SEAM WELD	B-16
C-F-1	01	C5.12		12-LPH-2001/16D	LONG SEAM WELD	B-16
C-F-1	01	C5.12		12-LPH-2001/16U	LONG SEAM WELD	B-16
C-F-1		C5.12		12-LPH-2001/17U	LONG SEAM WELD	B-16
C-F-1		C5.12		12-LPH-2001/18D	LONG SEAM WELD	B-16
C-F-1		C5.12		12-LPH-2001/19U	LONG SEAM WELD	B-16
C-F-1		C5.12		12-LPSI-2002/01D	LONG SEAM WELD	B-17
C-F-1	95	C5.12		12-LPSI-2002/02U	LONG SEAM WELD	B-17
C-F-1	01	C5.12		12-LPSI-2002/03D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/04U	LONG SEAM WELD	B-17
C-F-1	95	C5.12		12-LPSI-2002/05D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/06AE	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/06AI	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/06AU	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/06U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/08D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/09D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/09U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/10AD	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/10AU	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/10D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/10U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/11D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/11U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/12D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/12U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/13D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/13U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/14U	LONG SEAM WELD	B-17
C-F-1	98	C5.12		12-LPSI-2002/15D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/16D	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/16U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/17U	LONG SEAM WELD	B-17
C-F-1	95	C5.12		12-LPSI-2002/18D	LONG SEAM WELD	B-17
C-F-1	95	C5.12		12-LPSI-2002/19U	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/23AE	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2002/23AI	LONG SEAM WELD	B-17
C-F-1		C5.12		12-LPSI-2003/01U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/02D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/12D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/13U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/14D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/15D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/15U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/16U	LONG SEAM WELD	B-18

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.12		12-LPSI-2003/18D	LONG SEAM WELD	B-18
C-F-1	01	C5.12		12-LPSI-2003/19U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/23D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/24D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/24U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/25D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/25U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/26D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/26U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/27U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/28CD	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/29U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/35D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/36D	LONG SEAM WELD	B-18
C-F-1		C5.12		12-LPSI-2003/36U	LONG SEAM WELD	B-18
C-F-1	96	C5.12		12-LPSI-2003/37U	LONG SEAM WELD	B-18
C-F-1		C5.12		12-SDC-2001/16D	LONG SEAM WELD	B-21
C-F-1		C5.12		12-SDC-2001/17U	LONG SEAM WELD	B-21
C-F-1		C5.12		12-SDC-2002/02D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/03D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/03U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/04D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/04U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/05U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/06D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/07U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/08U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/11D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/11U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/12D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/12U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/13D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/13U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/14D	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/14U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/15U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2002/16D	LONG SEAM WELD	B-22
C-F-1	01	C5.12		12-SDC-2002/17U	LONG SEAM WELD	B-22
C-F-1		C5.12		12-SDC-2003/05D	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/06U	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/07D	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/08U	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/09AD	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/09AU	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/09BD	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/09BU	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/09D	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/10U	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/14AD	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/14AU	LONG SEAM WELD	B-22A

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.12		12-SDC-2003/14D	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2003/15U	LONG SEAM WELD	B-22A
C-F-1		C5.12		12-SDC-2020/05D	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/06U	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/08D	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/09U	LONG SEAM WELD	B-11
C-F-1	98	C5.12		12-SDC-2020/12D	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/13D	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/13U	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/14D	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/14U	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/15D	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/15U	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/16U	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/18D	LONG SEAM WELD	B-11
C-F-1	01	C5.12		12-SDC-2020/20D	LONG SEAM WELD	B-11
C-F-1	01	C5.12		12-SDC-2020/20U	LONG SEAM WELD	B-11
C-F-1		C5.12		12-SDC-2020/21U	LONG SEAM WELD	B-11
C-F-1		C5.12		20-SI-2001/01AD	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/01AU	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/01BU	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/01DD	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/01DS	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/01ED	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/01EU	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/02D	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/02U	LONG SEAM WELD	B-36
C-F-1	95	C5.12		20-SI-2001/03D	LONG SEAM WELD	B-36
C-F-1	95	C5.12		20-SI-2001/03U	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/04E	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/04I	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/04U	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/05E	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2001/05I	LONG SEAM WELD	B-36
C-F-1		C5.12		20-SI-2002/01U	LONG SEAM WELD	B-37
C-F-1		C5.12		20-SI-2002/02D	LONG SEAM WELD	B-37
C-F-1		C5.12		20-SI-2002/02E	LONG SEAM WELD	B-37
C-F-1		C5.12		20-SI-2002/02I	LONG SEAM WELD	B-37
C-F-1		C5.12		20-SI-2002/03E	LONG SEAM WELD	B-37
C-F-1		C5.12		20-SI-2002/03I	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2001/01D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/02E	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/02I	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/02U	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/03E	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/03I	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/04E	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/04I	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/05E	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/05I	LONG SEAM WELD	B-36

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.12		24-SI-2001/06D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/07E	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/07I	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/07U	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/08D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/08E	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/08I	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/09AD	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/09AU	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/09D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/09U	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/10D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/10U	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/11D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/11U	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/12D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/12U	LONG SEAM WELD	B-36
C-F-1	95	C5.12		24-SI-2001/13E	LONG SEAM WELD	B-36
C-F-1	95	C5.12		24-SI-2001/13I	LONG SEAM WELD	B-36
C-F-1	95	C5.12		24-SI-2001/13U	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/14D	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/14E	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/14I	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2001/15U	LONG SEAM WELD	B-36
C-F-1		C5.12		24-SI-2002/01AD	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/02E	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/02I	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/02U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/03E	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/03I	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/04AD	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/04AU	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/04D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/05D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/05U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/06D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/06U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/07D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/07U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/10AD	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/10AU	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/10D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/10U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/11D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/11U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/12U	LONG SEAM WELD	B-37
C-F-1	98	C5.12		24-SI-2002/13E	LONG SEAM WELD	B-37
C-F-1	98	C5.12		24-SI-2002/13I	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/14E	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/14I	LONG SEAM WELD	B-37

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1	98	C5.12		24-SI-2002/16D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/17D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/17U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/18D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/18U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/19AD	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/19AU	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/19D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/19U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/1AD	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/20D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/20U	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/21D	LONG SEAM WELD	B-37
C-F-1		C5.12		24-SI-2002/21U	LONG SEAM WELD	B-37
C-F-1	98	C5.12		24-SI-2002/22U	LONG SEAM WELD	B-37
C-F-1		C5.12		6-SI-2002/02D	LONG SEAM WELD	B-42
C-F-1	98	C5.12		6-SI-2002/03D	LONG SEAM WELD	B-42
C-F-1	98	C5.12		6-SI-2002/03U	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/04D	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/04U	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/05D	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/05U	LONG SEAM WELD	B-42
C-F-1	98	C5.12		6-SI-2002/06D	LONG SEAM WELD	B-42
C-F-1	98	C5.12		6-SI-2002/06U	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/07U	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/10D	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/11D	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/11U	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/12D	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/12U	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/13D	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/13U	LONG SEAM WELD	B-42
C-F-1		C5.12		6-SI-2002/14U	LONG SEAM WELD	B-42
C-F-1		C5.21		2.5-CH-10/01	EXPANDER TO ELBOW	B-64
C-F-1		C5.21	TERM END	2.5-CH-10/02	ELBOW TO NOZZLE	B-64
C-F-1		C5.21		2.5-CH-16/01	EXPANDER TO PIPE	B-66
C-F-1		C5.21		2.5-CH-16/02	PIPE TO FLANGE	B-66
C-F-1		C5.21		2.5-CH-16/03	FLANGE TO PIPE	B-66
C-F-1	01	C5.21		2.5-CH-16/04	PIPE TO REDUCER	B-66
C-F-1		C5.21		4-CH-10/01	PIPE TO PIPE	B-73
C-F-1		C5.21		4-CH-10/01A	PIPE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/02	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/03	PIPE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/04	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/04A	PIPE TO PIPE	B-73
C-F-1		C5.21		4-CH-10/05	PIPE TO PIPE	B-73
C-F-1		C5.21		4-CH-10/05A	PIPE TO PIPE	B-73
C-F-1		C5.21		4-CH-10/06	PIPE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/07	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/08	PIPE TO ELBOW	B-73

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.21		4-CH-10/09	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/10	PIPE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/11	ELBOW TO PIPE	B-73
C-F-1	01	C5.21		4-CH-10/12	PIPE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/13	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/14	PIPE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/15	ELBOW TO VALVE	B-73
C-F-1		C5.21		4-CH-10/16	VALVE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/17	PIPE TO VALVE	B-73
C-F-1		C5.21		4-CH-10/18	VALVE TO PIPE	B-73
C-F-1	01	C5.21		4-CH-10/19	PIPE TO VALVE	B-73
C-F-1		C5.21		4-CH-10/20	VALVE TO PIPE	B-73
C-F-1	01	C5.21		4-CH-10/21	PIPE TO ELBOW	B-73
C-F-1	01	C5.21		4-CH-10/22	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/23	PIPE TO ELBOW	B-73
C-F-1		C5.21		4-CH-10/24	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/25	PIPE TO ELBOW	B-73
C-F-1	01	C5.21		4-CH-10/26	ELBOW TO ELBOW	B-73
C-F-1	01	C5.21		4-CH-10/27	ELBOW TO PIPE	B-73
C-F-1		C5.21		4-CH-10/28	PIPE TO PIPE	B-73
C-F-1		C5.21	TERM END	4-CH-10/29	PIPE TO PIPE	B-73
C-F-1		C5.21	TERM END	4-CH-11/01	PIPE TO REDUCER	B-74
C-F-1		C5.21		4-CH-11/02	REDUCER TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/03	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/04	PIPE TO VALVE	B-74
C-F-1		C5.21		4-CH-11/05	VALVE TO PIPE	B-74
C-F-1		C5.21		4-CH-11/06	PIPE TO VALVE	B-74
C-F-1		C5.21		4-CH-11/07	VALVE TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/08	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/09	PIPE TO TEE	B-74
C-F-1		C5.21		4-CH-11/10	TEE TO VALVE	B-74
C-F-1		C5.21		4-CH-11/11	VALVE TO PIPE	B-74
C-F-1		C5.21		4-CH-11/12	TEE TO PIPE	B-74
C-F-1		C5.21		4-CH-11/13	PIPE TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/14	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/15	PIPE TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/16	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/16A	PIPE TO PIPE	B-74
C-F-1		C5.21	TERM END	4-CH-11/17	PIPE TO REDUCER	B-74
C-F-1	98	C5.21		4-CH-11/18	REDUCER TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/19	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/20	PIPE TO VALVE	B-74
C-F-1	98	C5.21		4-CH-11/21	VALVE TO PIPE	B-74
C-F-1		C5.21		4-CH-11/22	PIPE TO VALVE	B-74
C-F-1		C5.21		4-CH-11/23	VALVE TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/24	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/25	PIPE TO TEE	B-74
C-F-1		C5.21		4-CH-11/26	TEE TO PIPE	B-74
C-F-1		C5.21		4-CH-11/27	TEE TO VALVE	B-74
C-F-1		C5.21		4-CH-11/28	VALVE TO PIPE	B-74

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.21		4-CH-11/29	PIPE TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/30	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/31	PIPE TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/32	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/33	PIPE TO ELBOW	B-74
C-F-1		C5.21		4-CH-11/34	ELBOW TO PIPE	B-74
C-F-1		C5.21		4-CH-11/35	PIPE TO PIPE	B-74
C-F-1		C5.21		4-CH-12/01	PIPE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/01A	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/02	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/03	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/04	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/05	PIPE TO TEE	B-75
C-F-1		C5.21	TERM END	4-CH-12/06	PIPE TO EXPANDER	B-75
C-F-1		C5.21		4-CH-12/07	EXPANDER TO ELBOW	B-75
C-F-1	01	C5.21		4-CH-12/08	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/09	PIPE TO VALVE	B-75
C-F-1		C5.21		4-CH-12/10	VALVE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/11	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/12	ELBOW TO VALVE	B-75
C-F-1		C5.21		4-CH-12/13	VALVE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/14	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/15	ELBOW TO TEE	B-75
C-F-1		C5.21		4-CH-12/16	TEE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/16A	PIPE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/17	PIPE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/17A	PIPE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/18	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/19	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/20	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/21	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/22	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/23	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/24	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/25	ELBOW TO VALVE	B-75
C-F-1		C5.21		4-CH-12/26	VALVE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/27	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/28	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/29	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/30	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/31	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/32	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/33	PIPE TO ELBOW	B-75
C-F-1		C5.21		4-CH-12/34	ELBOW TO PIPE	B-75
C-F-1		C5.21		4-CH-12/35	PIPE TO PIPE	B-75
C-F-1		C5.21		4-CH-12/36	PIPE TO PIPE	B-75
C-F-1		C5.21	TERM END	4-CH-12/37	PIPE TO PIPE	B-75
C-F-1		C5.21	TERM END	4-CH-13/01	PIPE TO ELBOW	B-76
C-F-1	98	C5.21		4-CH-13/02	ELBOW TO PIPE	B-76
C-F-1		C5.21		4-CH-13/03	PIPE TO ELBOW	B-76

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1	98	C5.21		4-CH-13/04	ELBOW TO PIPE	B-76
C-F-1		C5.21		4-CH-13/05	PIPE TO ELBOW	B-76
C-F-1		C5.21		4-CH-13/06	ELBOW TO PIPE	B-76
C-F-1		C5.21		4-CH-13/07	PIPE TO TEE	B-76
C-F-1		C5.21		4-CH-13/08	TEE TO REDUCER	B-76
C-F-1		C5.21		4-CH-13/09	TEE TO PIPE	B-76
C-F-1		C5.21		4-CH-13/09A	PIPE TO PIPE	B-76
C-F-1		C5.21		4-CH-13/09B	PIPE TO PIPE	B-76
C-F-1		C5.21		4-CH-13/10	PIPE TO PIPE	B-76
C-F-1		C5.21		4-CH-13/11	TEE TO PIPE	B-76
C-F-1		C5.21		4-CH-13/12	PIPE TO ELBOW	B-76
C-F-1		C5.21		4-CH-13/13	ELBOW TO PIPE	B-76
C-F-1		C5.21		4-CH-13/14	PIPE TO ELBOW	B-76
C-F-1		C5.21		4-CH-13/15	ELBOW TO PIPE	B-76
C-F-1		C5.21		4-CH-13/16	PIPE TO ELBOW	B-76
C-F-1		C5.21		4-CH-13/17	ELBOW TO PIPE	B-76
C-F-1		C5.21		4-CH-13/18	PIPE TO ELBOW	B-76
C-F-1		C5.21		4-CH-13/19	ELBOW TO PIPE	B-76
C-F-1		C5.21		4-CH-13/20	PIPE TO TEE	B-76
C-F-1		C5.21		4-CH-13/21	PIPE TO REDUCER	B-76
C-F-1		C5.21	TERM END	4-CH-14/01	PIPE TO ELBOW	B-81
C-F-1		C5.21		4-CH-14/02	ELBOW TO PIPE	B-81
C-F-1		C5.21		4-CH-14/03	PIPE TO ELBOW	B-81
C-F-1		C5.21		4-CH-14/04	ELBOW TO PIPE	B-81
C-F-1		C5.21		4-CH-14/05	PIPE TO ELBOW	B-81
C-F-1		C5.21		4-CH-14/06	ELBOW TO PIPE	B-81
C-F-1		C5.21		4-CH-14/07	PIPE TO TEE	B-81
C-F-1		C5.21		4-CH-14/08	TEE TO REDUCER	B-81
C-F-1		C5.21		4-CH-14/09	TEE TO PIPE	B-81
C-F-1		C5.21		4-CH-14/10	PIPE TO PIPE	B-81
C-F-1		C5.21		4-CH-14/10A	PIPE TO PIPE	B-81
C-F-1		C5.21		4-CH-14/11	PIPE TO ELBOW	B-81
C-F-1		C5.21		4-CH-14/12	ELBOW TO PIPE	B-81
C-F-1		C5.21		4-CH-14/13	PIPE TO ELBOW	B-81
C-F-1		C5.21		4-CH-14/14	ELBOW TO PIPE	B-81
C-F-1		C5.21		4-CH-14/15	PIPE TO ELBOW	B-81
C-F-1		C5.21		4-CH-14/16	ELBOW TO PIPE	B-81
C-F-1		C5.21		4-CH-14/17	PIPE TO ELBOW	B-81
C-F-1		C5.21		4-CH-14/18	ELBOW TO PIPE	B-81
C-F-1		C5.21		4-CH-14/19	PIPE TO PIPE	B-81
C-F-1		C5.21		4-CH-14/20	PIPE TO REDUCER	B-81
C-F-1		C5.30		2-CH-10/01	ELBOW TO PIPE	B-60
C-F-1		C5.30		2-CH-10/02	PIPE TO ELBOW	B-60
C-F-1		C5.30		2-CH-10/03	ELBOW TO PIPE	B-60
C-F-1		C5.30		2-CH-10/04	PIPE TO TEE	B-60
C-F-1		C5.30	TERM END	2-CH-10/05	PIPE TO VALVE	B-60
C-F-1		C5.30		2-CH-10/06	TEE TO PIPE	B-60
C-F-1		C5.30		2-CH-10/07	TEE TO PIPE	B-60
C-F-1		C5.30		2-CH-10/08	PIPE TO ELBOW	B-60
C-F-1		C5.30		2-CH-10/09	ELBOW TO PIPE	B-60

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-10/10	PIPE TO ELBOW	B-60
C-F-1		C5.30		2-CH-10/11	ELBOW TO PIPE	B-60
C-F-1		C5.30	TERM END	2-CH-10/12	PIPE TO VALVE	B-60
C-F-1		C5.30		2-CH-11/01	ELBOW TO PIPE	B-61
C-F-1		C5.30		2-CH-11/02	PIPE TO TEE	B-61
C-F-1		C5.30		2-CH-11/03	TEE TO PIPE	B-61
C-F-1		C5.30		2-CH-11/04	PIPE TO COUPLING	B-61
C-F-1		C5.30		2-CH-11/05	COUPLING TO PIPE	B-61
C-F-1		C5.30		2-CH-11/06	PIPE TO ELBOW	B-61
C-F-1		C5.30		2-CH-11/07	ELBOW TO PIPE	B-61
C-F-1		C5.30		2-CH-11/08	PIPE TO ELBOW	B-61
C-F-1		C5.30		2-CH-11/09	ELBOW TO PIPE	B-61
C-F-1		C5.30		2-CH-11/10	PIPE TO ELBOW	B-61
C-F-1		C5.30		2-CH-11/11	ELBOW TO PIPE	B-61
C-F-1		C5.30		2-CH-11/12	PIPE TO ELBOW	B-61
C-F-1		C5.30		2-CH-11/13	ELBOW TO PIPE	B-61
C-F-1		C5.30		2-CH-11/14	PIPE TO ELBOW	B-61
C-F-1		C5.30		2-CH-12/01	ELBOW TO PIPE	B-62
C-F-1		C5.30		2-CH-12/02	PIPE TO COUPLING	B-62
C-F-1		C5.30		2-CH-12/03	COUPLING TO PIPE	B-62
C-F-1		C5.30		2-CH-12/04	PIPE TO COUPLING	B-62
C-F-1		C5.30		2-CH-12/05	COUPLING TO PIPE	B-62
C-F-1		C5.30		2-CH-12/06	PIPE TO ELBOW	B-62
C-F-1		C5.30		2-CH-12/07	ELBOW TO PIPE	B-62
C-F-1		C5.30		2-CH-12/08	PIPE TO ELBOW	B-62
C-F-1		C5.30		2-CH-12/09	ELBOW TO PIPE	B-62
C-F-1		C5.30		2-CH-12/10	PIPE TO ELBOW	B-62
C-F-1		C5.30		2-CH-12/11	ELBOW TO PIPE	B-62
C-F-1		C5.30		2-CH-12/12	PIPE TO COUPLING	B-62
C-F-1		C5.30		2-CH-12/13	COUPLING TO PIPE	B-62
C-F-1		C5.30		2-CH-12/14	PIPE TO VALVE	B-62
C-F-1		C5.30		2-CH-12/15	VALVE TO PIPE	B-62
C-F-1		C5.30		2-CH-12/16	PIPE TO COUPLING	B-62
C-F-1		C5.30		2-CH-12/17	COUPLING TO PIPE	B-62
C-F-1		C5.30		2-CH-12/18	PIPE TO ELBOW	B-62
C-F-1		C5.30		2-CH-12/19	ELBOW TO PIPE	B-62
C-F-1		C5.30		2-CH-12/20	PIPE TO TEE	B-62
C-F-1		C5.30		2-CH-12/21	TEE TO PIPE	B-62
C-F-1		C5.30		2-CH-12/22	PIPE TO TEE	B-62
C-F-1		C5.30		2-CH-12/23	TEE TO PIPE	B-62
C-F-1		C5.30	TERM END	2-CH-12/24	PIPE TO VALVE	B-62
C-F-1		C5.30		2-CH-12/25	TEE TO PIPE	B-62
C-F-1		C5.30		2-CH-12/26	PIPE TO ELBOW	B-62
C-F-1		C5.30		2-CH-12/27	ELBOW TO PIPE	B-62
C-F-1		C5.30		2-CH-12/28	PIPE TO VALVE	B-62
C-F-1		C5.30	TERM END	2-CH-13/01	PIPE TO TEE	B-63
C-F-1		C5.30		2-CH-13/02	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/03	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/04	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/05	PIPE TO ELBOW	B-63

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-13/06	COUPLING TO PIPE	B-63
C-F-1		C5.30		2-CH-13/07	PIPE TO COUPLING	B-63
C-F-1		C5.30		2-CH-13/08	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/09	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/10	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/11	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/12	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/13	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/14	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/15	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/16	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/17	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/18	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/19	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/20	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/21	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/22	TEE TO PIPE	B-63
C-F-1		C5.30		2-CH-13/22A	PIPE TO TEE	B-63
C-F-1		C5.30		2-CH-13/22B	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/22C	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/22D	TEE TO PIPE	B-63
C-F-1		C5.30		2-CH-13/22E	TEE TO REDUCER	B-63
C-F-1		C5.30		2-CH-13/22F	COUPLING TO PIPE	B-63
C-F-1		C5.30	TERM END	2-CH-13/22G	NOZZLE TO COUPLING	B-63
C-F-1		C5.30		2-CH-13/23	TEE TO PIPE	B-63
C-F-1		C5.30		2-CH-13/24	PIPE TO COUPLING	B-63
C-F-1		C5.30		2-CH-13/25	COUPLING TO PIPE	B-63
C-F-1		C5.30		2-CH-13/26	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/27	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/28	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/29	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/30	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/31	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/32	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/33	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/34	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/35	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/36	PIPE TO COUPLING	B-63
C-F-1		C5.30		2-CH-13/37	COUPLING TO PIPE	B-63
C-F-1		C5.30		2-CH-13/38	PIPE TO VALVE	B-63
C-F-1		C5.30		2-CH-13/39	VALVE TO PIPE	B-63
C-F-1		C5.30		2-CH-13/40	PIPE TO COUPLING	B-63
C-F-1		C5.30		2-CH-13/41	COUPLING TO PIPE	B-63
C-F-1		C5.30		2-CH-13/42	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/43	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/44	PIPE TO ELBOW	B-63
C-F-1		C5.30		2-CH-13/45	ELBOW TO PIPE	B-63
C-F-1		C5.30		2-CH-13/46	PIPE TO VALVE	B-63
C-F-1	98	C5.30	TERM END	2-CH-14/01	PIPE TO COUPLING	B-64
C-F-1		C5.30		2-CH-14/01A	COUPLING TO PIPE	B-64

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-14/02	PIPE TO ELBOW	B-64
C-F-1	98	C5.30		2-CH-14/03	ELBOW TO PIPE	B-64
C-F-1	98	C5.30		2-CH-14/04	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/05	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/06	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/07	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/08	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/09	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/10	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/11	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/12	PIPE TO COUPLING	B-64
C-F-1		C5.30		2-CH-14/13	COUPLING TO PIPE	B-64
C-F-1		C5.30		2-CH-14/14	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/15	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/16	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/17	ELBOW TO PIPE	B-64
C-F-1	98	C5.30		2-CH-14/18	PIPE TO ELBOW	B-64
C-F-1	98	C5.30		2-CH-14/19	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/20	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/21	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/22	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/23	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/24	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/25	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/26	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/27	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/28	PIPE TO ELBOW	B-64
C-F-1		C5.30		2-CH-14/29	ELBOW TO PIPE	B-64
C-F-1		C5.30		2-CH-14/30	PIPE TO EXPANDER	B-64
C-F-1		C5.30		2-CH-15/01	REDUCER TO ELBOW	B-65
C-F-1		C5.30		2-CH-15/02	ELBOW TO PIPE	B-65
C-F-1		C5.30		2-CH-15/03	PIPE TO ELBOW	B-65
C-F-1		C5.30		2-CH-15/04	ELBOW TO PIPE	B-65
C-F-1		C5.30		2-CH-15/05	PIPE TO ELBOW	B-65
C-F-1		C5.30		2-CH-15/06	ELBOW TO PIPE	B-65
C-F-1		C5.30		2-CH-15/07	PIPE TO COUPLING	B-65
C-F-1		C5.30		2-CH-15/08	COUPLING TO PIPE	B-65
C-F-1		C5.30		2-CH-15/09	PIPE TO VALVE	B-65
C-F-1	95	C5.30		2-CH-15/10	VALVE TO PIPE	B-65
C-F-1	95	C5.30		2-CH-15/11	PIPE TO ELBOW	B-65
C-F-1	95	C5.30		2-CH-15/12	ELBOW TO PIPE	B-65
C-F-1		C5.30		2-CH-15/13	PIPE TO ELBOW	B-65
C-F-1		C5.30		2-CH-15/14	ELBOW TO PIPE	B-65
C-F-1		C5.30		2-CH-15/15	PIPE TO VALVE	B-65
C-F-1	01	C5.30		2-CH-15/16	VALVE TO PIPE	B-65
C-F-1		C5.30		2-CH-15/17	PIPE TO COUPLING	B-65
C-F-1	01	C5.30	TERM END	2-CH-15/18	COUPLING TO PIPE	B-65
C-F-1		C5.30		2-CH-16/01	ELBOW TO PIPE	B-66
C-F-1		C5.30		2-CH-16/02	PIPE TO ELBOW	B-66
C-F-1		C5.30		2-CH-16/03	ELBOW TO PIPE	B-66

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-16/04	PIPE TO ELBOW	B-66
C-F-1		C5.30		2-CH-16/05	ELBOW TO PIPE	B-66
C-F-1		C5.30		2-CH-16/06	PIPE TO COUPLING	B-66
C-F-1		C5.30		2-CH-16/07	COUPLING TO PIPE	B-66
C-F-1		C5.30		2-CH-16/08	PIPE TO COUPLING	B-66
C-F-1		C5.30		2-CH-16/09	COUPLING TO PIPE	B-66
C-F-1		C5.30		2-CH-16/10	PIPE TO COUPLING	B-66
C-F-1		C5.30		2-CH-16/11	COUPLING TO PIPE	B-66
C-F-1		C5.30		2-CH-16/12	PIPE TO ELBOW	B-66
C-F-1		C5.30		2-CH-16/13	ELBOW TO EXPANDER	B-66
C-F-1		C5.30		2-CH-17/02	PIPE TO ELBOW	B-67
C-F-1		C5.30		2-CH-17/03	ELBOW TO PIPE	B-67
C-F-1		C5.30		2-CH-17/04	PIPE TO COUPLING	B-67
C-F-1		C5.30		2-CH-17/05	COUPLING TO PIPE	B-67
C-F-1		C5.30		2-CH-17/06	PIPE TO ELBOW	B-67
C-F-1		C5.30		2-CH-17/07	ELBOW TO PIPE	B-67
C-F-1		C5.30		2-CH-17/08	PIPE TO ELBOW	B-67
C-F-1		C5.30		2-CH-17/09	ELBOW TO PIPE	B-67
C-F-1		C5.30		2-CH-17/10	PIPE TO ELBOW	B-67
C-F-1		C5.30		2-CH-17/11	ELBOW TO PIPE	B-67
C-F-1		C5.30		2-CH-17/12	PIPE TO ELBOW	B-67
C-F-1		C5.30		2-CH-17/13	ELBOW TO PIPE	B-67
C-F-1		C5.30		2-CH-17/14	PIPE TO ELBOW	B-67
C-F-1		C5.30		2-CH-18/01	TEE TO REDUCER	B-68
C-F-1		C5.30		2-CH-18/02	PIPE TO TEE	B-68
C-F-1		C5.30		2-CH-18/02A	FLANGE TO PIPE	B-68
C-F-1		C5.30	TERM END	2-CH-18/02B	NOZZLE TO FLANGE	B-68
C-F-1		C5.30		2-CH-18/03	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/04	PIPE TO TEE	B-68
C-F-1		C5.30		2-CH-18/04A	TEE TO REDUCER	B-68
C-F-1		C5.30		2-CH-18/05	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/06	PIPE TO ELBOW	B-68
C-F-1		C5.30		2-CH-18/07	ELBOW TO PIPE	B-68
C-F-1		C5.30		2-CH-18/08	PIPE TO ELBOW	B-68
C-F-1		C5.30		2-CH-18/09	ELBOW TO PIPE	B-68
C-F-1		C5.30		2-CH-18/10	PIPE TO ELBOW	B-68
C-F-1		C5.30		2-CH-18/11	ELBOW TO PIPE	B-68
C-F-1		C5.30		2-CH-18/12	PIPE TO TEE	B-68
C-F-1		C5.30		2-CH-18/12A	TEE TO REDUCER	B-68
C-F-1		C5.30		2-CH-18/13	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/14	PIPE TO ELBOW	B-68
C-F-1		C5.30		2-CH-18/15	ELBOW TO PIPE	B-68
C-F-1		C5.30		2-CH-18/16	PIPE TO TEE	B-68
C-F-1		C5.30		2-CH-18/16A	TEE TO REDUCER	B-68
C-F-1		C5.30		2-CH-18/17	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/18	PIPE TO ELBOW	B-68
C-F-1		C5.30		2-CH-18/19	ELBOW TO PIPE	B-68
C-F-1		C5.30		2-CH-18/20	PIPE TO VALVE	B-68
C-F-1		C5.30		2-CH-18/21	VALVE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/22	PIPE TO TEE	B-68

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-18/22A	TEE TO REDUCER	B-68
C-F-1		C5.30		2-CH-18/23	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/24	PIPE TO VALVE	B-68
C-F-1		C5.30		2-CH-18/25	VALVE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/26	PIPE TO TEE	B-68
C-F-1		C5.30		2-CH-18/27	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/28	PIPE TO ELBOW	B-68
C-F-1		C5.30		2-CH-18/29	ELBOW TO PIPE	B-68
C-F-1		C5.30		2-CH-18/30	PIPE TO TEE	B-68
C-F-1		C5.30		2-CH-18/30A	TEE TO REDUCER	B-68
C-F-1		C5.30		2-CH-18/31	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/32	PIPE TO TEE	B-68
C-F-1		C5.30		2-CH-18/32A	TEE TO REDUCER	B-68
C-F-1		C5.30		2-CH-18/33	TEE TO PIPE	B-68
C-F-1		C5.30		2-CH-18/34	PIPE TO ELBOW	B-68
C-F-1		C5.30		2-CH-18/35	ELBOW TO PIPE	B-68
C-F-1		C5.30		2-CH-19/01	TEE TO REDUCER	B-69
C-F-1		C5.30		2-CH-19/02	PIPE TO TEE	B-69
C-F-1		C5.30		2-CH-19/02A	FLANGE TO PIPE	B-69
C-F-1		C5.30	TERM END	2-CH-19/02B	NOZZLE TO FLANGE	B-69
C-F-1		C5.30		2-CH-19/03	TEE TO PIPE	B-69
C-F-1		C5.30		2-CH-19/04	PIPE TO TEE	B-69
C-F-1		C5.30		2-CH-19/04A	TEE TO REDUCER	B-69
C-F-1		C5.30		2-CH-19/05	TEE TO PIPE	B-69
C-F-1		C5.30		2-CH-19/06	PIPE TO ELBOW	B-69
C-F-1		C5.30		2-CH-19/07	ELBOW TO PIPE	B-69
C-F-1		C5.30		2-CH-19/08	PIPE TO ELBOW	B-69
C-F-1		C5.30		2-CH-19/09	ELBOW TO PIPE	B-69
C-F-1		C5.30		2-CH-19/10	PIPE TO TEE	B-69
C-F-1		C5.30		2-CH-19/10A	TEE TO REDUCER	B-69
C-F-1		C5.30		2-CH-19/11	TEE TO PIPE	B-69
C-F-1		C5.30		2-CH-19/12	PIPE TO ELBOW	B-69
C-F-1		C5.30		2-CH-19/13	ELBOW TO PIPE	B-69
C-F-1		C5.30		2-CH-19/14	PIPE TO ELBOW	B-69
C-F-1		C5.30		2-CH-19/15	ELBOW TO PIPE	B-69
C-F-1		C5.30		2-CH-19/16	PIPE TO VALVE	B-69
C-F-1		C5.30		2-CH-19/17	VALVE TO PIPE	B-69
C-F-1		C5.30		2-CH-19/18	PIPE TO TEE	B-69
C-F-1		C5.30		2-CH-19/18A	TEE TO REDUCER	B-69
C-F-1		C5.30		2-CH-19/19	TEE TO PIPE	B-69
C-F-1		C5.30		2-CH-19/20	PIPE TO VALVE	B-69
C-F-1		C5.30		2-CH-19/21	VALVE TO PIPE	B-69
C-F-1		C5.30		2-CH-19/22	PIPE TO ELBOW	B-69
C-F-1		C5.30		2-CH-19/23	ELBOW TO PIPE	B-69
C-F-1		C5.30		2-CH-19/24	PIPE TO TEE	B-69
C-F-1		C5.30		2-CH-20/01	TEE TO PIPE	B-70
C-F-1		C5.30		2-CH-20/02	PIPE TO ELBOW	B-70
C-F-1		C5.30		2-CH-20/03	ELBOW TO PIPE	B-70
C-F-1		C5.30		2-CH-20/04	PIPE TO COUPLING	B-70
C-F-1		C5.30		2-CH-20/05	COUPLING TO PIPE	B-70

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-20/06	PIPE TO TEE	B-70
C-F-1		C5.30		2-CH-20/07	TEE TO PIPE	B-70
C-F-1		C5.30		2-CH-20/08	PIPE TO VALVE	B-70
C-F-1		C5.30		2-CH-20/09	VALVE TO PIPE	B-70
C-F-1		C5.30		2-CH-20/10	PIPE TO ELBOW	B-70
C-F-1		C5.30		2-CH-20/11	ELBOW TO PIPE	B-70
C-F-1		C5.30		2-CH-20/12	PIPE TO TEE	B-70
C-F-1		C5.30		2-CH-20/13	TEE TO PIPE	B-70
C-F-1		C5.30		2-CH-20/14	PIPE TO ELBOW	B-70
C-F-1		C5.30		2-CH-20/15	ELBOW TO PIPE	B-70
C-F-1		C5.30		2-CH-20/16	PIPE TO COUPLING	B-70
C-F-1		C5.30		2-CH-20/17	COUPLING TO PIPE	B-70
C-F-1		C5.30		2-CH-20/18	PIPE TO ELBOW	B-70
C-F-1		C5.30		2-CH-20/19	ELBOW TO PIPE	B-70
C-F-1		C5.30		2-CH-20/20	PIPE TO ELBOW	B-70
C-F-1		C5.30		2-CH-20/21	ELBOW TO PIPE	B-70
C-F-1		C5.30		2-CH-20/22	PIPE TO ELBOW	B-70
C-F-1		C5.30		2-CH-21/01	TEE TO REDUCER	B-71
C-F-1		C5.30		2-CH-21/02	PIPE TO TEE	B-71
C-F-1		C5.30		2-CH-21/02A	FLANGE TO PIPE	B-71
C-F-1		C5.30	TERM END	2-CH-21/02B	NOZZLE TO FLANGE	B-71
C-F-1		C5.30		2-CH-21/03	TEE TO PIPE	B-71
C-F-1		C5.30		2-CH-21/04	PIPE TO TEE	B-71
C-F-1		C5.30		2-CH-21/04A	TEE TO REDUCER	B-71
C-F-1		C5.30		2-CH-21/05	TEE TO PIPE	B-71
C-F-1		C5.30		2-CH-21/06	PIPE TO ELBOW	B-71
C-F-1		C5.30		2-CH-21/07	ELBOW TO PIPE	B-71
C-F-1		C5.30		2-CH-21/08	PIPE TO ELBOW	B-71
C-F-1		C5.30		2-CH-21/09	ELBOW TO PIPE	B-71
C-F-1		C5.30		2-CH-21/10	PIPE TO TEE	B-71
C-F-1		C5.30		2-CH-21/10A	TEE TO REDUCER	B-71
C-F-1		C5.30		2-CH-21/11	TEE TO PIPE	B-71
C-F-1		C5.30		2-CH-21/12	PIPE TO ELBOW	B-71
C-F-1		C5.30		2-CH-21/13	ELBOW TO PIPE	B-71
C-F-1		C5.30		2-CH-21/14	PIPE TO ELBOW	B-71
C-F-1		C5.30		2-CH-21/15	ELBOW TO PIPE	B-71
C-F-1		C5.30		2-CH-21/16	PIPE TO VALVE	B-71
C-F-1		C5.30		2-CH-21/17	VALVE TO PIPE	B-71
C-F-1		C5.30		2-CH-21/18	PIPE TO TEE	B-71
C-F-1		C5.30		2-CH-21/18A	TEE TO REDUCER	B-71
C-F-1		C5.30		2-CH-21/19	TEE TO PIPE	B-71
C-F-1		C5.30		2-CH-21/20	PIPE TO VALVE	B-71
C-F-1		C5.30		2-CH-21/21	VALVE TO PIPE	B-71
C-F-1		C5.30		2-CH-21/22	PIPE TO ELBOW	B-71
C-F-1		C5.30		2-CH-21/23	ELBOW TO PIPE	B-71
C-F-1		C5.30		2-CH-21/24	PIPE TO ELBOW	B-71
C-F-1		C5.30		2-CH-21/25	ELBOW TO PIPE	B-71
C-F-1		C5.30		2-CH-22/01	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/02	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/03	ELBOW TO PIPE	B-72

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-22/04	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/05	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/06	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/07	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/08	PIPE TO COUPLING	B-72
C-F-1		C5.30		2-CH-22/09	COUPLING TO PIPE	B-72
C-F-1		C5.30		2-CH-22/10	PIPE TO COUPLING	B-72
C-F-1		C5.30		2-CH-22/11	COUPLING TO PIPE	B-72
C-F-1		C5.30		2-CH-22/12	PIPE TO COUPLING	B-72
C-F-1		C5.30		2-CH-22/13	COUPLING TO [illegible]	B-72
C-F-1		C5.30		2-CH-22/14	PIPE TO ELBO[illegible]	B-72
C-F-1		C5.30		2-CH-22/15	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/16	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/17	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/18	PIPE TO COUPLING	B-72
C-F-1		C5.30		2-CH-22/19	COUPLING TO PIPE	B-72
C-F-1		C5.30		2-CH-22/20	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/21	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/22	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/23	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/24	PIPE TO TEE	B-72
C-F-1		C5.30		2-CH-22/25	TEE TO PIPE	B-72
C-F-1		C5.30		2-CH-22/26	PIPE TO ELBOW	B-72
C-F-1	95	C5.30		2-CH-22/27	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/28	PIPE TO VALVE	B-72
C-F-1		C5.30		2-CH-22/29	VALVE TO PIPE	B-72
C-F-1		C5.30		2-CH-22/30	PIPE TO TEE	B-72
C-F-1		C5.30		2-CH-22/31	TEE TO PIPE	B-72
C-F-1		C5.30		2-CH-22/32	PIPE TO VALVE	B-72
C-F-1		C5.30		2-CH-22/33	VALVE TO PIPE	B-72
C-F-1		C5.30		2-CH-22/34	PIPE TO TEE	B-72
C-F-1	01	C5.30		2-CH-22/35	TEE TO REDUCER	B-72
C-F-1	01	C5.30		2-CH-22/36	TEE TO PIPE	B-72
C-F-1		C5.30		2-CH-22/37	PIPE TO VALVE	B-72
C-F-1	01	C5.30		2-CH-22/38	VALVE TO PIPE	B-72
C-F-1	01	C5.30		2-CH-22/39	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/40	ELBOW TO PIPE	B-72
C-F-1		C5.30		2-CH-22/41	PIPE TO TEE	B-72
C-F-1		C5.30		2-CH-22/42	TEE TO PIPE	B-72
C-F-1		C5.30		2-CH-22/43	PIPE TO ELBOW	B-72
C-F-1		C5.30		2-CH-22/44	ELBOW TO PIPE	B-72
C-F-1		C5.30	TERM END	2-CH-22/45	PIPE TO TEE	B-72
C-F-1	95	C5.30		2-CH-23/01A	BRANCH TO PIPE	B-74
C-F-1		C5.30		2-CH-23/01B	BRANCH TO PIPE	B-75
C-F-1	98	C5.30		2-CH-23/01C	BRANCH TO PIPE	B-74
C-F-1		C5.30		2-CH-23/02A	PIPE TO VALVE	B-74
C-F-1		C5.30		2-CH-23/02B	PIPE TO VALVE	B-75
C-F-1	98	C5.30		2-CH-23/02C	PIPE TO VALVE	B-74
C-F-1		C5.30	TERM END	2-CH-24/01	TEE TO PIPE	B-77
C-F-1		C5.30		2-CH-24/02	PIPE TO ELBOW	B-77

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-24/03	ELBOW TO PIPE	B-77
C-F-1		C5.30		2-CH-24/04	PIPE TO ELBOW	B-77
C-F-1		C5.30		2-CH-24/05	ELBOW TO PIPE	B-77
C-F-1		C5.30		2-CH-24/06	PIPE TO ELBOW	B-77
C-F-1		C5.30		2-CH-24/07	ELBOW TO PIPE	B-77
C-F-1		C5.30		2-CH-24/08	PIPE TO VALVE	B-77
C-F-1		C5.30		2-CH-24/09	VALVE TO PIPE	B-77
C-F-1		C5.30		2-CH-24/10	PIPE TO VALVE	B-77
C-F-1		C5.30		2-CH-25/01	REDUCER TO PIPE	B-78
C-F-1		C5.30		2-CH-25/02	PIPE TO COUPLING	B-78
C-F-1		C5.30		2-CH-25/03	COUPLING TO PIPE	B-78
C-F-1		C5.30		2-CH-25/04	PIPE TO COUPLING	B-78
C-F-1		C5.30		2-CH-25/05	COUPLING TO PIPE	B-78
C-F-1		C5.30		2-CH-25/06	PIPE TO COUPLING	B-78
C-F-1		C5.30		2-CH-25/07	COUPLING TO PIPE	B-78
C-F-1		C5.30		2-CH-25/08	PIPE TO ELBOW	B-78
C-F-1		C5.30		2-CH-25/09	ELBOW TO PIPE	B-78
C-F-1	95	C5.30		2-CH-25/10	PIPE TO ELBOW	B-78
C-F-1	95	C5.30		2-CH-25/11	ELBOW TO PIPE	B-78
C-F-1		C5.30		2-CH-25/12	PIPE TO VALVE	B-78
C-F-1	95	C5.30		2-CH-25/13	VALVE TO PIPE	B-78
C-F-1	95	C5.30		2-CH-25/14	PIPE TO VALVE	B-78
C-F-1		C5.30		2-CH-26/01	REDUCER TO PIPE	B-79
C-F-1		C5.30		2-CH-26/02	PIPE TO COUPLING	B-79
C-F-1		C5.30		2-CH-26/03	COUPLING TO PIPE	B-79
C-F-1		C5.30		2-CH-26/03A	PIPE TO COUPLING	B-79
C-F-1		C5.30		2-CH-26/03B	COUPLING TO PIPE	B-79
C-F-1		C5.30		2-CH-26/04	PIPE TO ELBOW	B-79
C-F-1		C5.30		2-CH-26/05	ELBOW TO PIPE	B-79
C-F-1		C5.30		2-CH-26/06	PIPE TO ELBOW	B-79
C-F-1		C5.30		2-CH-26/07	ELBOW TO PIPE	B-79
C-F-1	01	C5.30		2-CH-26/08	PIPE TO ELBOW	B-79
C-F-1	01	C5.30		2-CH-26/09	ELBOW TO PIPE	B-79
C-F-1		C5.30		2-CH-26/10	PIPE TO COUPLING	B-79
C-F-1		C5.30		2-CH-26/11	COUPLING TO PIPE	B-79
C-F-1		C5.30		2-CH-26/12	PIPE TO ELBOW	B-79
C-F-1		C5.30		2-CH-26/13	ELBOW TO PIPE	B-79
C-F-1	98	C5.30		2-CH-26/14	PIPE TO ELBOW	B-79
C-F-1	98	C5.30		2-CH-26/15	ELBOW TO PIPE	B-79
C-F-1		C5.30		2-CH-26/16	PIPE TO ELBOW	B-79
C-F-1		C5.30		2-CH-26/17	ELBOW TO PIPE	B-79
C-F-1		C5.30		2-CH-26/18	PIPE TO ELBOW	B-79
C-F-1		C5.30		2-CH-26/19	ELBOW TO PIPE	B-79
C-F-1		C5.30		2-CH-26/20	PIPE TO VALVE	B-79
C-F-1		C5.30		2-CH-26/21	VALVE TO PIPE	B-79
C-F-1		C5.30		2-CH-26/22	PIPE TO VALVE	B-79
C-F-1		C5.30	TERM END	2-CH-27/01	TEE TO PIPE	B-80
C-F-1		C5.30		2-CH-27/02	PIPE TO ELBOW	B-80
C-F-1		C5.30		2-CH-27/03	ELBOW TO PIPE	B-80
C-F-1		C5.30		2-CH-27/04	PIPE TO ELBOW	B-80

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		C5.30		2-CH-27/05	ELBOW TO PIPE	B-80
C-F-1		C5.30		2-CH-27/06	PIPE TO ELBOW	B-80
C-F-1		C5.30		2-CH-27/07	ELBOW TO PIPE	B-80
C-F-1		C5.30		2-CH-27/08	PIPE TO ELBOW	B-80
C-F-1		C5.30		2-CH-27/09	ELBOW TO PIPE	B-80
C-F-1		C5.30		2-CH-27/10	PIPE TO VALVE	B-80
C-F-1		C5.30		2-CH-27/11	VALVE TO PIPE	B-80
C-F-1		C5.30		2-CH-27/12	PIPE TO VALVE	B-80
C-F-1		C5.30	TERM END	2-CH-28/01	TEE TO PIPE	B-82
C-F-1		C5.30		2-CH-28/02	PIPE TO ELBOW	B-82
C-F-1		C5.30		2-CH-28/03	ELBOW TO PIPE	B-82
C-F-1		C5.30		2-CH-28/04	PIPE TO ELBOW	B-82
C-F-1		C5.30		2-CH-28/05	ELBOW TO PIPE	B-82
C-F-1		C5.30		2-CH-28/06	PIPE TO ELBOW	B-82
C-F-1	95	C5.30		2-CH-28/07	ELBOW TO PIPE	B-82
C-F-1		C5.30		2-CH-28/08	PIPE TO VALVE	B-82
C-F-1		C5.30		2-CH-28/09	VALVE TO PIPE	B-82
C-F-1		C5.30		2-CH-28/10	PIPE TO VALVE	B-82
C-F-1		C5.30		2-CH-29/01	REDUCER TO PIPE	B-83
C-F-1		C5.30		2-CH-29/02	PIPE TO COUPLING	B-83
C-F-1		C5.30		2-CH-29/03	COUPLING TO PIPE	B-83
C-F-1	95	C5.30		2-CH-29/04	PIPE TO ELBOW	B-83
C-F-1	95	C5.30		2-CH-29/05	ELBOW TO PIPE	B-83
C-F-1		C5.30		2-CH-29/06	PIPE TO ELBOW	B-83
C-F-1		C5.30		2-CH-29/07	ELBOW TO PIPE	B-83
C-F-1		C5.30		2-CH-29/08	PIPE TO ELBOW	B-83
C-F-1		C5.30		2-CH-29/09	ELBOW TO PIPE	B-83
C-F-1		C5.30		2-CH-29/10	PIPE TO ELBOW	B-83
C-F-1		C5.30		2-CH-29/11	ELBOW TO PIPE	B-83
C-F-1		C5.30		2-CH-29/12	PIPE TO ELBOW	B-83
C-F-1		C5.30		2-CH-29/13	ELBOW TO PIPE	B-83
C-F-1		C5.30		2-CH-29/14	PIPE TO ELBOW	B-83
C-F-1		C5.30		2-CH-29/15	ELBOW TO PIPE	B-83
C-F-1		C5.30		2-CH-29/16	PIPE TO VALVE	B-83
C-F-1		C5.30		2-CH-29/17	VALVE TO PIPE	B-83
C-F-1		C5.30		2-CH-29/18	PIPE TO VALVE	B-83
C-F-1	98	C5.30		2-CH-30/01	REDUCER TO PIPE	B-84
C-F-1		C5.30		2-CH-30/02	PIPE TO ELBOW	B-84
C-F-1		C5.30		2-CH-30/03	ELBOW TO PIPE	B-84
C-F-1	98	C5.30		2-CH-30/04	PIPE TO ELBOW	B-84
C-F-1	98	C5.30		2-CH-30/05	ELBOW TO PIPE	B-84
C-F-1		C5.30		2-CH-30/06	PIPE TO ELBOW	B-84
C-F-1		C5.30		2-CH-30/07	ELBOW TO PIPE	B-84
C-F-1		C5.30		2-CH-30/08	PIPE TO ELBOW	B-84
C-F-1		C5.30		2-CH-30/09	ELBOW TO PIPE	B-84
C-F-1		C5.30		2-CH-30/10	PIPE TO COUPLING	B-84
C-F-1		C5.30		2-CH-30/11	COUPLING TO PIPE	B-84
C-F-1		C5.30		2-CH-30/12	PIPE TO ELBOW	B-84
C-F-1		C5.30		2-CH-30/13	ELBOW TO PIPE	B-84
C-F-1	98	C5.30		2-CH-30/14	PIPE TO ELBOW	B-84

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1	98	C5.30		2-CH-30/15	ELBOW TO PIPE	B-84
C-F-1		C5.30		2-CH-30/16	PIPE TO ELBOW	B-84
C-F-1		C5.30		2-CH-30/17	ELBOW TO PIPE	B-84
C-F-1		C5.30		2-CH-30/18	PIPE TO ELBOW	B-84
C-F-1	95	C5.30		2-CH-30/19	ELBOW TO PIPE	B-84
C-F-1		C5.30		2-CH-30/20	PIPE TO ELBOW	B-84
C-F-1		C5.30		2-CH-30/21	ELBOW TO PIPE	B-84
C-F-1		C5.30		2-CH-30/22	PIPE TO VALVE	B-84
C-F-1		C5.30		2-CH-30/23	VALVE TO PIPE	B-84
C-F-1		C5.30		2-CH-30/24	PIPE TO VALVE	B-84
C-F-1	98	C5.30	TERM END	2-CH-31/01	TEE TO PIPE	B-85
C-F-1		C5.30		2-CH-31/02	PIPE TO PIPE	B-85
C-F-1		C5.30		2-CH-31/03	PIPE TO ELBOW	B-85
C-F-1		C5.30		2-CH-31/04	ELBOW TO PIPE	B-85
C-F-1		C5.30		2-CH-31/05	PIPE TO ELBOW	B-85
C-F-1		C5.30		2-CH-31/06	ELBOW TO PIPE	B-85
C-F-1		C5.30		2-CH-31/07	PIPE TO ELBOW	B-85
C-F-1		C5.30		2-CH-31/08	ELBOW TO PIPE	B-85
C-F-1		C5.30		2-CH-31/09	PIPE TO VALVE	B-85
C-F-1		C5.30		2-CH-31/10	VALVE TO PIPE	B-85
C-F-1		C5.30		2-CH-31/11	PIPE TO VALVE	B-85
C-F-1		C5.41		12-CSS-2001/01-BC-1	BRANCH (8-CSS-2001)	B-19
C-F-1	01	C5.41		12-CSS-2001/01-BC-2	BRANCH (8-CSS-2002)	B-19
C-F-1		C5.41		12-CSS-2001/01-BC-3	BRANCH (8-CSS-2003)	B-19
C-F-1		C5.41		4-CH-10/19-BC	BRANCH CONNECTION	B-73
C-F-1		C5.41		4-CH-11/05-BC	BRANCH CONNECTION	B-74
C-F-1		C5.41		4-CH-11/21-BC	BRANCH CONNECTION	B-74
C-F-1	01	C5.41		4-CH-12/10-BC	BRANCH CONNECTION	B-75
C-F-1		C5.41		4-CH-14/09-BC	BRANCH CONNECTION	B-81
C-F-1		C5.41		4-CH-14/19-BC	BRANCH CONNECTION	B-81
C-F-1		TOO THIN		10-LPH-2001/31	REDUCER TO PIPE	B-23
C-F-1		TOO THIN		10-LPH-2001/32	PIPE TO ELBOW	B-23
C-F-1		TOO THIN		10-LPH-2001/33	ELBOW TO PIPE	B-23
C-F-1		TOO THIN		10-LPH-2001/34	PIPE TO ELBOW	B-23
C-F-1		TOO THIN		10-LPH-2001/35	ELBOW TO PIPE	B-23
C-F-1		TOO THIN		10-LPH-2001/36	PIPE TO ELBOW	B-23
C-F-1		TOO THIN		10-LPH-2001/37	ELBOW TO PIPE	B-23
C-F-1		TOO THIN		10-LPH-2001/38	PIPE TO ELBOW	B-23
C-F-1		TOO THIN		10-LPH-2001/39	ELBOW TO PIPE	B-23
C-F-1		TOO THIN		10-LPH-2001/40	PIPE TO ELBOW	B-23
C-F-1		TOO THIN		10-LPH-2001/41	ELBOW TO PIPE	B-23
C-F-1		TOO THIN		10-LPH-2001/42	PIPE TO TEE	B-23
C-F-1		TOO THIN		10-LPH-2001/43	TEE TO REDUCER	B-23
C-F-1		TOO THIN	TERM END	10-LPSI-2001/01	TEE TO PIPE	B-24
C-F-1		TOO THIN		10-LPSI-2001/01D	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/02	PIPE TO ELBOW	B-24
C-F-1		TOO THIN		10-LPSI-2001/02U	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/03	ELBOW TO PIPE	B-24
C-F-1		TOO THIN		10-LPSI-2001/03D	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/04	PIPE TO ELBOW	B-24

CLASS 2

		CLASS 2 COMPONENTS AND SUPPORTS				REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		10-LPSI-2001/04U	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/05	ELBOW TO PIPE	B-24
C-F-1		TOO THIN		10-LPSI-2001/05D	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/06	PIPE TO ELBOW	B-24
C-F-1		TOO THIN		10-LPSI-2001/06U	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/07	ELBOW TO ELBOW	B-24
C-F-1		TOO THIN		10-LPSI-2001/08	ELBOW TO VALVE	B-24
C-F-1		TOO THIN		10-LPSI-2001/09	VALVE TO PIPE	B-24
C-F-1		TOO THIN		10-LPSI-2001/09D	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/10	PIPE TO ELBOW	B-24
C-F-1		TOO THIN		10-LPSI-2001/10U	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2001/11	ELBOW TO PIPE	B-24
C-F-1		TOO THIN		10-LPSI-2001/11D	LONG SEAM WELD	B-24
C-F-1		TOO THIN	TERM END	10-LPSI-2001/12	PIPE TO TEE	B-24
C-F-1		TOO THIN		10-LPSI-2001/12U	LONG SEAM WELD	B-24
C-F-1		TOO THIN		10-LPSI-2002/01	REDUCER TO FLANGE	B-25
C-F-1		TOO THIN		10-LPSI-2002/01D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/02	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/02U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/03	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/04	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/05	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/05D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/06	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/06U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/07	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/08	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/09	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/09D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/10	PIPE TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/10D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/10U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/11	PIPE TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/11D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/11U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/12	PIPE TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/12U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/13	PIPE TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/13D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/14	PIPE TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/14D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/14U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/15	PIPE TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/15D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/15U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/16	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/16D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/16U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/17	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/17D	LONG SEAM WELD	B-25

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		10-LPSI-2002/17U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/18	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/18D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/18U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/19	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/19U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/20	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/20D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/21	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/21U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/22	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/22A	PIPE TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/22AD	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/22AU	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/22D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/23	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/24	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/24D	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/25	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/25U	LONG SEAM WELD	B-25
C-F-1		TOO THIN		10-LPSI-2002/26	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/27	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/28	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/29	PIPE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/30	ELBOW TO VALVE	B-25
C-F-1		TOO THIN		10-LPSI-2002/31	VALVE TO ELBOW	B-25
C-F-1		TOO THIN		10-LPSI-2002/32	ELBOW TO PIPE	B-25
C-F-1		TOO THIN		10-LPSI-2002/33	PIPE TO PIPE	B-25
C-F-1		TOO THIN	TERM END	10-LPSI-2002/34	PIPE TO TEE	B-25
C-F-1		TOO THIN	TERM END	12-CSS-2011/01	TEE TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2011/01A	PIPE TO ELBOW	B-39
C-F-1		TOO THIN		12-CSS-2011/01AE	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/01AI	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/01AU	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/01D	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/02	ELBOW TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2011/02E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/02I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/03	PIPE TO ELBOW	B-39
C-F-1		TOO THIN		12-CSS-2011/03E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/03I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/04	ELBOW TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2011/04D	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/04E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/04I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/05	PIPE TO ELBOW	B-39
C-F-1		TOO THIN		12-CSS-2011/05E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/05I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/05U	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/06	PIPE TO VALVE	B-39

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		12-CSS-2011/06E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2011/06I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/01	PIPE TO ELBOW	B-39
C-F-1		TOO THIN	TERM END	12-CSS-2012/01A	TEE TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2012/01AD	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/01E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/01I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/01U	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/02	ELBOW TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2012/02D	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/02E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/02I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/03	PIPE TO ELBOW	B-39
C-F-1		TOO THIN		12-CSS-2012/03E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/03I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/03U	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/04	ELBOW TO VALVE	B-39
C-F-1		TOO THIN		12-CSS-2012/04E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2012/04I	LONG SEAM WELD	B-39
C-F-1		TOO THIN	TERM END	12-CSS-2013/01	PIPE TO ELBOW	B-39
C-F-1		TOO THIN		12-CSS-2013/01E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/01I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/02	ELBOW TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2013/02D	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/02E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/02I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/03	ELBOW TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2013/03E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/03I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/03U	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/04	ELBOW TO PIPE	B-39
C-F-1		TOO THIN		12-CSS-2013/04D	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/04E	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/04I	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-CSS-2013/05	PIPE TO VALVE	B-39
C-F-1		TOO THIN		12-CSS-2013/05U	LONG SEAM WELD	B-39
C-F-1		TOO THIN		12-LPH-2001/02	FLANGE TO REDUCER (8")	B-16
C-F-1		TOO THIN		12-LPH-2001/12	TEE TO PIPE (8")	B-16
C-F-1		TOO THIN		14-LPSI-2001/01	VALVE TO ELBOW	B-09
C-F-1		TOO THIN		14-LPSI-2001/01E	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/01I	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/02	ELBOW TO PIPE	B-09
C-F-1		TOO THIN		14-LPSI-2001/02E	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/02I	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/03	PIPE TO ELBOW	B-09
C-F-1		TOO THIN		14-LPSI-2001/03E	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/03I	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/04	ELBOW TO PIPE	B-09
C-F-1		TOO THIN		14-LPSI-2001/04E	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/04I	LONG SEAM WELD	B-09

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		14-LPSI-2001/05	PIPE TO TEE	B-09
C-F-1		TOO THIN		14-LPSI-2001/06	TEE TO PIPE	B-09
C-F-1		TOO THIN		14-LPSI-2001/07	PIPE TO REDUCER	B-09
C-F-1		TOO THIN	TERM END	14-LPSI-2001/08	REDUCER TO FLANGE	B-09
C-F-1		TOO THIN	TERM END	14-LPSI-2001/A1	TEE TO PIPE	B-09
C-F-1		TOO THIN		14-LPSI-2001/A2	PIPE TO ELBOW	B-09
C-F-1		TOO THIN		14-LPSI-2001/A2E	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/A2I	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/A3	ELBOW TO PIPE	B-09
C-F-1		TOO THIN		14-LPSI-2001/A3D	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/A3E	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/A3I	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/A4	PIPE TO PIPE	B-09
C-F-1		TOO THIN		14-LPSI-2001/A4D	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/A4U	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2001/A5	PIPE TO VALVE	B-09
C-F-1		TOO THIN		14-LPSI-2001/A5U	LONG SEAM WELD	B-09
C-F-1		TOO THIN		14-LPSI-2002/01	VALVE TO ELBOW	B-10
C-F-1		TOO THIN		14-LPSI-2002/02	ELBOW TO ELBOW	B-10
C-F-1		TOO THIN		14-LPSI-2002/02E	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/02I	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/03	ELBOW TO PIPE	B-10
C-F-1		TOO THIN		14-LPSI-2002/03D	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/03E	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/03I	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/04	PIPE TO TEE	B-10
C-F-1		TOO THIN		14-LPSI-2002/04D	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/04U	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/05	TEE TO REDUCER	B-10
C-F-1		TOO THIN		14-LPSI-2002/05U	LONG SEAM WELD	B-10
C-F-1		TOO THIN	TERM END	14-LPSI-2002/07	REDUCER FLANGE	B-10
C-F-1		TOO THIN	TERM END	14-LPSI-2002/A1	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A1E	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A1I	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A2	ELBOW TO PIPE	B-10
C-F-1		TOO THIN		14-LPSI-2002/A2D	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A2E	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A2I	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A3	PIPE TO ELBOW	B-10
C-F-1		TOO THIN		14-LPSI-2002/A3E	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A3I	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A3U	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A4	ELBOW TO PIPE	B-10
C-F-1		TOO THIN		14-LPSI-2002/A4D	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A4E	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A4I	LONG SEAM WELD	B-10
C-F-1		TOO THIN		14-LPSI-2002/A5	PIPE TO VALVE	B-10
C-F-1		TOO THIN		14-LPSI-2002/A5U	LONG SEAM WELD	B-10
C-F-1		TOO THIN		6-CSS-2001/01	TEE TO PIPE	B-35
C-F-1		TOO THIN		6-CSS-2001/02	PIPE TO ELBOW	B-35

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		6-CSS-2001/03	ELBOW TO PIPE	B-35
C-F-1		TOO THIN		6-CSS-2001/04	PIPE TO ELBOW	B-35
C-F-1		TOO THIN		6-CSS-2001/05	ELBOW TO PIPE	B-35
C-F-1		TOO THIN		6-CSS-2001/06	PIPE TO ELBOW	B-35
C-F-1		TOO THIN		6-CSS-2001/07	ELBOW TO PIPE	B-35
C-F-1		TOO THIN		6-CSS-2001/08	PIPE TO ELBOW	B-35
C-F-1		TOO THIN		6-CSS-2001/09	ELBOW TO PIPE	B-35
C-F-1		TOO THIN		6-CSS-2001/10	PIPE TO TEE	B-35
C-F-1		TOO THIN		6-CSS-2001/11	TEE TO PIPE	B-35
C-F-1		TOO THIN		6-CSS-2001/11A	PIPE TO VALVE	B-35
C-F-1		TOO THIN		6-CSS-2001/12	TEE TO REDUCER	B-35
C-F-1		TOO THIN		6-CSS-2001/13	VALVE TO PIPE	B-35
C-F-1		TOO THIN		6-CSS-2001/14	PIPE TO ELBOW	B-35
C-F-1		TOO THIN		6-CSS-2001/15	ELBOW TO VALVE	B-35
C-F-1		TOO THIN	TERM END	6-HPSI-2001/01	TEE TO PIPE	B-41
C-F-1		TOO THIN		6-HPSI-2001/01D	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/02	PIPE TO ELBOW	B-41
C-F-1		TOO THIN		6-HPSI-2001/02D	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/02U	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/03	ELBOW TO PIPE	B-41
C-F-1		TOO THIN		6-HPSI-2001/03D	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/03U	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/04	PIPE TO VALVE	B-41
C-F-1		TOO THIN		6-HPSI-2001/04U	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/05	VALVE TO TEE	B-41
C-F-1		TOO THIN		6-HPSI-2001/06	REDUCER TO TEE	B-41
C-F-1		TOO THIN		6-HPSI-2001/07	TEE TO PIPE	B-41
C-F-1		TOO THIN		6-HPSI-2001/07D	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/08	PIPE TO VALVE	B-41
C-F-1		TOO THIN		6-HPSI-2001/08U	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/09	VALVE TO PIPE	B-41
C-F-1		TOO THIN		6-HPSI-2001/09D	LONG SEAM WELD	B-41
C-F-1		TOO THIN		6-HPSI-2001/10	PIPE TO ELBOW	B-41
C-F-1		TOO THIN		6-HPSI-2001/10U	LONG SEAM WELD	B-41
C-F-1		TOO THIN	TERM END	6-HPSI-2001/11	ELBOW TO REDUCER	B-41
C-F-1		TOO THIN		6-HPSI-2002/15	REDUCER TO PIPE	B-40
C-F-1		TOO THIN		6-HPSI-2002/15D	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2002/16	PIPE TO ELBOW	B-40
C-F-1		TOO THIN		6-HPSI-2002/16U	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2002/17	ELBOW TO VALVE	B-40
C-F-1		TOO THIN		6-HPSI-2002/18	VALVE TO PIPE	B-40
C-F-1		TOO THIN		6-HPSI-2002/19	PIPE TO ELBOW	B-40
C-F-1		TOO THIN	TERM END	6-HPSI-2002/20	ELBOW TO REDUCER	B-40
C-F-1		TOO THIN		6-HPSI-2003/07	TEE TO PIPE	B-40
C-F-1		TOO THIN		6-HPSI-2003/07A	PIPE TO PIPE	B-40
C-F-1		TOO THIN		6-HPSI-2003/07AD	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/07AU	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/07D	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/08	PIPE TO ELBOW	B-40
C-F-1		TOO THIN		6-HPSI-2003/08D	LONG SEAM WELD	B-40

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		6-HPSI-2003/08U	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/09	ELBOW TO PIPE	B-40
C-F-1		TOO THIN		6-HPSI-2003/09D	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/09U	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/10	PIPE TO ELBOW	B-40
C-F-1		TOO THIN		6-HPSI-2003/10U	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/11	ELBOW TO VALVE	B-40
C-F-1		TOO THIN		6-HPSI-2003/12	VALVE TO PIPE	B-40
C-F-1		TOO THIN		6-HPSI-2003/12D	LONG SEAM WELD	B-40
C-F-1		TOO THIN		6-HPSI-2003/13	PIPE TO ELBOW	B-40
C-F-1		TOO THIN		6-HPSI-2003/13U	LONG SEAM WELD	B-40
C-F-1		TOO THIN	TERM END	6-HPSI-2003/14	ELBOW TO REDUCER	B-40
C-F-1		TOO THIN		6-LPH-2012/01	TEE TO PIPE	B-33
C-F-1		TOO THIN		6-LPH-2012/02	PIPE TO FLANGE	B-33
C-F-1		TOO THIN		6-LPH-2012/03	FLANGE TO PIPE	B-33
C-F-1		TOO THIN		6-LPH-2012/04	PIPE TO ELBOW	B-33
C-F-1		TOO THIN		6-LPH-2012/05	ELBOW TO PIPE	B-33
C-F-1		TOO THIN		6-LPH-2012/06	PIPE TO ELBOW	B-33
C-F-1		TOO THIN		6-LPH-2012/07	ELBOW TO REDUCER	B-33
C-F-1		TOO THIN		6-LPH-2014/01	REDUCER TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/02	PIPE TO ELBOW	B-34
C-F-1		TOO THIN		6-LPH-2014/03	ELBOW TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/04	PIPE TO ELBOW	B-34
C-F-1		TOO THIN		6-LPH-2014/05	ELBOW TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/06	PIPE TO ELBOW	B-34
C-F-1		TOO THIN		6-LPH-2014/07	ELBOW TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/08	PIPE TO ELBOW	B-34
C-F-1		TOO THIN		6-LPH-2014/09	ELBOW TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/10	PIPE TO ELBOW	B-34
C-F-1		TOO THIN		6-LPH-2014/11	ELBOW TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/12	PIPE TO ELBOW	B-34
C-F-1		TOO THIN		6-LPH-2014/13	ELBOW TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/14	PIPE TO FLANGE	B-34
C-F-1		TOO THIN		6-LPH-2014/15	FLANGE TO PIPE	B-34
C-F-1		TOO THIN		6-LPH-2014/16	PIPE TO ELBOW	B-34
C-F-1		TOO THIN		6-LPH-2014/17	ELBOW TO REDUCER	B-34
C-F-1		TOO THIN		6-LPH-2022/01	REDUCER TO PIPE BEND	B-31
C-F-1		TOO THIN		6-LPH-2022/02	PIPE BEND TO FLANGE	B-31
C-F-1		TOO THIN		6-LPH-2022/03	FLANGE TO PIPE	B-31
C-F-1		TOO THIN		6-LPH-2022/03A	FLANGE TO PIPE	B-31
C-F-1		TOO THIN		6-LPH-2022/03B	ELBOW TO PIPE	B-31
C-F-1		TOO THIN		6-LPH-2022/03C	PIPE TO ELBOW	B-31
C-F-1		TOO THIN		6-LPH-2022/03D	ELBOW TO PIPE	B-31
C-F-1		TOO THIN		6-LPH-2022/04	PIPE TO ELBOW	B-31
C-F-1		TOO THIN		6-LPH-2022/05	ELBOW TO PIPE	B-31
C-F-1		TOO THIN		6-LPH-2022/06	PIPE TO ELBOW	B-31
C-F-1		TOO THIN		6-LPH-2022/07	ELBOW TO REDUCER	B-31
C-F-1		TOO THIN		6-LPH-2024/01	TEE TO PIPE	B-32
C-F-1		TOO THIN		6-LPH-2024/02	PIPE TO FLANGE	B-32
C-F-1		TOO THIN		6-LPH-2024/03	FLANGE TO PIPE	B-32

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		6-LPH-2024/04	PIPE TO ELBOW	B-32
C-F-1		TOO THIN		6-LPH-2024/05	ELBOW TO ELBOW	B-32
C-F-1		TOO THIN		6-LPH-2024/06	ELBOW TO PIPE	B-32
C-F-1		TOO THIN		6-LPH-2024/07	PIPE TO REDUCER	B-32
C-F-1		TOO THIN		8-CSS-2001/01	FLANGE TO ELBOW	B-26
C-F-1		TOO THIN		8-CSS-2001/01D	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/02	ELBOW TO PIPE	B-26
C-F-1		TOO THIN		8-CSS-2001/02D	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/02I	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/03	PIPE TO ELBOW	B-26
C-F-1		TOO THIN		8-CSS-2001/03I	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/03U	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/04	ELBOW TO PIPE	B-26
C-F-1		TOO THIN		8-CSS-2001/04D	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/04I	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/05	PIPE TO PIPE	B-26
C-F-1		TOO THIN		8-CSS-2001/05D	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/05U	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/06	PIPE TO VALVE	B-26
C-F-1		TOO THIN		8-CSS-2001/06U	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/07	VALVE TO ELBOW	B-26
C-F-1		TOO THIN		8-CSS-2001/07D	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/08	ELBOW TO PIPE	B-26
C-F-1		TOO THIN		8-CSS-2001/08D	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/08U	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/09	PIPE TO PIPE	B-26
C-F-1		TOO THIN		8-CSS-2001/09U	LONG SEAM WELD	B-26
C-F-1		TOO THIN	TERM END	8-CSS-2001/10	PIPE TO WELDOLET	B-26
C-F-1		TOO THIN	TERM END	8-CSS-2001/A1	FLANGE TO REDUCER (6")	B-26
C-F-1		TOO THIN		8-CSS-2001/A2	REDUCER TO PIPE	B-26
C-F-1		TOO THIN		8-CSS-2001/A2D	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2001/A3	PIPE TO FLANGE	B-26
C-F-1		TOO THIN		8-CSS-2001/A3U	LONG SEAM WELD	B-26
C-F-1		TOO THIN		8-CSS-2002/01	FLANGE TO ELBOW	B-27
C-F-1		TOO THIN		8-CSS-2002/01D	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/02	ELBOW TO ELBOW	B-27
C-F-1		TOO THIN		8-CSS-2002/02D	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/02U	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/03	ELBOW TO PIPE	B-27
C-F-1		TOO THIN		8-CSS-2002/03A	PIPE TO PIPE	B-27
C-F-1		TOO THIN		8-CSS-2002/03AD	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/03AU	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/03D	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/03U	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/04	PIPE TO ELBOW	B-27
C-F-1		TOO THIN		8-CSS-2002/04I	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/04U	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/05	PIPE TO VALVE	B-27
C-F-1		TOO THIN		8-CSS-2002/05I	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/06	VALVE TO PIPE	B-27

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		8-CSS-2002/06D	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/07	PIPE TO PIPE	B-27
C-F-1		TOO THIN		8-CSS-2002/07D	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/07U	LONG SEAM WELD	B-27
C-F-1		TOO THIN	TERM END	8-CSS-2002/08	PIPE TO WELDOLET	B-27
C-F-1		TOO THIN		8-CSS-2002/08U	LONG SEAM WELD	B-27
C-F-1		TOO THIN	TERM END	8-CSS-2002/A1	FLANGE TO REDUCER (6")	B-27
C-F-1		TOO THIN		8-CSS-2002/A1D	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/A2	REDUCER TO PIPE	B-27
C-F-1		TOO THIN		8-CSS-2002/A2D	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/A2U	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2002/A3	PIPE TO FLANGE	B-27
C-F-1		TOO THIN		8-CSS-2002/A3U	LONG SEAM WELD	B-27
C-F-1		TOO THIN		8-CSS-2003/01	FLANGE TO ELBOW	B-28
C-F-1		TOO THIN		8-CSS-2003/01D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/02	ELBOW TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/02D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/02U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/03	PIPE TO VALVE	B-28
C-F-1		TOO THIN		8-CSS-2003/03U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/04	VALVE TO ELBOW	B-28
C-F-1		TOO THIN		8-CSS-2003/04D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/05	ELBOW TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/05D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/05U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/06	PIPE TO ELBOW	B-28
C-F-1		TOO THIN		8-CSS-2003/06D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/06U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/07	ELBOW TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/07D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/07U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/08	PIPE TO ELBOW	B-28
C-F-1		TOO THIN		8-CSS-2003/08D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/08U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/09	ELBOW TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/09D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/09U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/10	PIPE TO ELBOW	B-28
C-F-1		TOO THIN		8-CSS-2003/10D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/10U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/11	ELBOW TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/11D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/11U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/12	PIPE TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/12D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/12U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/14	PIPE TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/14U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/15	PIPE TO ELBOW	B-28
C-F-1		TOO THIN		8-CSS-2003/15D	LONG SEAM WELD	B-28

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		8-CSS-2003/16	ELBOW TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/16D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/16U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/17	PIPE TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/17D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/17U	LONG SEAM WELD	B-28
C-F-1		TOO THIN	TERM END	8-CSS-2003/18	PIPE TO WELDOLET	B-28
C-F-1		TOO THIN		8-CSS-2003/18U	LONG SEAM WELD	B-28
C-F-1		TOO THIN	TERM END	8-CSS-2003/A1	FLANGE TO REDUCER	B-28
C-F-1		TOO THIN		8-CSS-2003/A2	REDUCER TO PIPE	B-28
C-F-1		TOO THIN		8-CSS-2003/A2D	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-CSS-2003/A3	PIPE TO FLANGE	B-28
C-F-1		TOO THIN		8-CSS-2003/A3U	LONG SEAM WELD	B-28
C-F-1		TOO THIN		8-HPSI-2001/01	PIPE TO FLANGE	B-40
C-F-1		TOO THIN	TERM END	8-HPSI-2001/01A	TEE TO PIPE	B-40
C-F-1		TOO THIN		8-HPSI-2001/02	FLANGE TO TEE	B-40
C-F-1		TOO THIN		8-HPSI-2001/02A	PIPE TO PIPE	B-40
C-F-1		TOO THIN		8-HPSI-2001/02AD	LONG SEAM WELD	B-40
C-F-1		TOO THIN		8-HPSI-2001/03	PIPE TO ELBOW	B-40
C-F-1		TOO THIN		8-HPSI-2001/03D	LONG SEAM WELD	B-40
C-F-1		TOO THIN		8-HPSI-2001/03U	LONG SEAM WELD	B-40
C-F-1		TOO THIN		8-HPSI-2001/04	ELBOW TO PIPE	B-40
C-F-1		TOO THIN		8-HPSI-2001/04D	LONG SEAM WELD	B-40
C-F-1		TOO THIN		8-HPSI-2001/04U	LONG SEAM WELD	B-40
C-F-1		TOO THIN		8-HPSI-2001/05	PIPE TO TEE	B-40
C-F-1		TOO THIN		8-HPSI-2001/05D	LONG SEAM WELD	B-40
C-F-1		TOO THIN		8-HPSI-2001/05U	LONG SEAM WELD	B-40
C-F-1		TOO THIN		8-HPSI-2001/06	TEE TO REDUCER	B-40
C-F-1		TOO THIN		8-HPSI-2001/06U	LONG SEAM WELD	B-40
C-F-1		TOO THIN	TERM END	8-LPSI-2001/01	FLANGE TO REDUCER (6")	B-29
C-F-1		TOO THIN		8-LPSI-2001/02	REDUCER TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/03	PIPE TO FLANGE	B-29
C-F-1		TOO THIN		8-LPSI-2001/04	FLANGE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/05	ELBOW TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/06	PIPE TO VALVE	B-29
C-F-1		TOO THIN		8-LPSI-2001/07	VALVE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/07D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/08	ELBOW TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/08D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/08U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/09	PIPE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/09D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/09U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/10	ELBOW TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/10D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/10U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/11	PIPE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/11D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/11U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/12	ELBOW TO PIPE	B-29

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		8-LPSI-2001/12D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/12U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/13	PIPE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/13U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/14	ELBOW TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/14D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/15	PIPE TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/15D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/15U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/17	PIPE TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/17D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/17U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/18	PIPE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/18D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/18U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/19	ELBOW TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/19D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/19U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/20	PIPE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/20D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/20U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/21	ELBOW TO PIPE	B-29
C-F-1		TOO THIN		8-LPSI-2001/21D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/21U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/22	PIPE TO ELBOW	B-29
C-F-1		TOO THIN		8-LPSI-2001/22D	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/22U	LONG SEAM WELD	B-29
C-F-1		TOO THIN		8-LPSI-2001/23	ELBOW TO REDUCER	B-29
C-F-1		TOO THIN		8-LPSI-2001/23U	LONG SEAM WELD	B-29
C-F-1		TOO THIN	TERM END	8-LPSI-2002/01	FLANGE TO REDUCER (6")	B-30
C-F-1		TOO THIN		8-LPSI-2002/02	REDUCER TO PIPE	B-30
C-F-1		TOO THIN		8-LPSI-2002/02D	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/03	PIPE TO FLANGE	B-30
C-F-1		TOO THIN		8-LPSI-2002/03U	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/04	FLANGE TO ELBOW	B-30
C-F-1		TOO THIN		8-LPSI-2002/04D	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/05	ELBOW TO VALVE	B-30
C-F-1		TOO THIN		8-LPSI-2002/05U	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/06	VALVE TO PIPE	B-30
C-F-1		TOO THIN		8-LPSI-2002/06D	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/07	PIPE TO ELBOW	B-30
C-F-1		TOO THIN		8-LPSI-2002/07D	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/07U	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/08	ELBOW TO PIPE	B-30
C-F-1		TOO THIN		8-LPSI-2002/08D	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/08U	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/09	PIPE TO ELBOW	B-30
C-F-1		TOO THIN		8-LPSI-2002/09D	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/09U	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/10	ELBOW TO PIPE	B-30

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-1		TOO THIN		8-LPSI-2002/10D	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/10U	LONG SEAM WELD	B-30
C-F-1		TOO THIN		8-LPSI-2002/11	PIPE TO REDUCER	B-30
C-F-1		TOO THIN		8-LPSI-2002/11U	LONG SEAM WELD	B-30
C-F-2		C5.51		16-FW-2001/01	VALVE TO PIPE	B-07
C-F-2		C5.51		16-FW-2001/02	PIPE TO PIPE	B-07
C-F-2		C5.51		16-FW-2001/03	PIPE TO PIPE	B-07
C-F-2		C5.51		16-FW-2001/04	PIPE TO ELBOW	B-07
C-F-2		C5.51		16-FW-2001/05	ELBOW TO VALVE	B-07
C-F-2		C5.51		16-FW-2001/06	VALVE TO PIPE	B-07
C-F-2		C5.51		16-FW-2001/07	PIPE TO PIPE	B-07
C-F-2	96	C5.51		16-FW-2001/08	PIPE TO ELBOW	B-07
C-F-2	96	C5.51		16-FW-2001/09	ELBOW TO PIPE	B-07
C-F-2	96	C5.51		16-FW-2001/10	PIPE TO ELBOW	B-07
C-F-2	96	C5.51		16-FW-2001/11	ELBOW TO SAFE END	B-07
C-F-2	96	C5.51	TERM END	16-FW-2001/12	SAFE END TO NOZZLE	B-07
C-F-2		C5.51		16-FW-2002/01	VALVE TO ELBOW	B-08
C-F-2		C5.51		16-FW-2002/02	ELBOW TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/03	PIPE TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/04	PIPE TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/05	PIPE TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/06	PIPE TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/07	PIPE TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/08	PIPE TO ELBOW	B-08
C-F-2		C5.51		16-FW-2002/09	ELBOW TO VALVE	B-08
C-F-2		C5.51		16-FW-2002/10	VALVE TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/11	PIPE TO PIPE	B-08
C-F-2		C5.51		16-FW-2002/12	PIPE TO ELBOW	B-08
C-F-2	99	C5.51		16-FW-2002/13	ELBOW TO PIPE	B-08
C-F-2	99	C5.51		16-FW-2002/14	PIPE TO ELBOW	B-08
C-F-2	99	C5.51		16-FW-2002/15	ELBOW TO SAFE END	B-08
C-F-2	99	C5.51	TERM END	16-FW-2002/16	SAFE END TO NOZZLE	B-08
C-F-2	01	C5.51		28-MS-2001/01	SAFE END TO ELBOW	B-03
C-F-2		C5.51	TERM END	28-MS-2001/01A	NOZZLE TO SAFE END	B-03
C-F-2	01	C5.51		28-MS-2001/02	ELBOW TO PIPE	B-03
C-F-2	01	C5.51		28-MS-2001/03	PIPE TO ELBOW	B-03
C-F-2	01	C5.51		28-MS-2001/04	ELBOW TO PIPE	B-03
C-F-2		C5.51		28-MS-2001/05	PIPE TO ELBOW	B-03
C-F-2		C5.51		28-MS-2001/06	ELBOW TO PIPE	B-03
C-F-2		C5.51		28-MS-2001/07	PIPE TO ELBOW	B-03
C-F-2		C5.51		28-MS-2001/08	ELBOW TO PIPE	B-03
C-F-2		C5.51		28-MS-2001/09	PIPE TO ELBOW	B-03
C-F-2		C5.51		28-MS-2001/10	ELBOW TO PIPE	B-03
C-F-2		C5.51		28-MS-2001/11	PIPE TO ELBOW	B-03
C-F-2		C5.51		28-MS-2001/12	PIPE TO PIPE	B-04
C-F-2		C5.51		28-MS-2001/13	PIPE TO PIPE BEND	B-04
C-F-2		C5.51		28-MS-2001/14	PIPE BEND TO ELBOW	B-04
C-F-2		C5.51		28-MS-2001/15	ELBOW TO PIPE	B-04
C-F-2		C5.51		28-MS-2001/16	PIPE TO VALVE	B-04
C-F-2	99	C5.51		28-MS-2002/01	SAFE END TO ELBOW	B-05

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2	99	C5.51	TERM END	28-MS-2002/01A	NOZZLE TO SAFE END	B-05
C-F-2	99	C5.51		28-MS-2002/02	ELBOW TO PIPE	B-05
C-F-2	99	C5.51		28-MS-2002/03	PIPE TO ELBOW	B-05
C-F-2	99	C5.51		28-MS-2002/04	ELBOW TO PIPE	B-05
C-F-2	99	C5.51		28-MS-2002/05	PIPE TO ELBOW	B-05
C-F-2	99	C5.51		28-MS-2002/06	ELBOW TO PIPE	B-05
C-F-2		C5.51		28-MS-2002/07	PIPE TO ELBOW	B-05
C-F-2		C5.51		28-MS-2002/08	ELBOW TO PIPE	B-05
C-F-2		C5.51		28-MS-2002/09	PIPE TO ELBOW	B-05
C-F-2		C5.51		28-MS-2002/10	ELBOW TO PIPE	B-05
C-F-2		C5.51		28-MS-2002/11	PIPE TO PIPE	B-05
C-F-2		C5.51		28-MS-2002/12	PIPE TO PIPE	B-06
C-F-2		C5.51		28-MS-2002/13	PIPE TO 45 ELBOW	B-06
C-F-2		C5.51		28-MS-2002/14	45 ELBOW TO PIPE BEND	B-06
C-F-2		C5.51		28-MS-2002/15	PIPE BEND TO PIPE	B-06
C-F-2		C5.51		28-MS-2002/16	PIPE TO VALVE	B-06
C-F-2		C5.51		6-MS-2001/01	SWEEPOLET TO PIPE	B-04
C-F-2		C5.51		6-MS-2001/02	PIPE TO FLANGE	B-04
C-F-2		C5.51		6-MS-2002/01	SWEEPOLET TO PIPE	B-04
C-F-2		C5.51		6-MS-2002/02	PIPE TO FLANGE	B-04
C-F-2		C5.51		6-MS-2003/01	SWEEPOLET TO PIPE	B-04
C-F-2	96	C5.51		6-MS-2003/02	PIPE TO FLANGE	B-04
C-F-2		C5.51		6-MS-2004/01	SWEEPOLET TO PIPE	B-04
C-F-2	96	C5.51		6-MS-2004/02	PIPE TO FLANGE	B-04
C-F-2		C5.51		6-MS-2005/01	SWEEPOLET TO PIPE	B-06
C-F-2	01	C5.51		6-MS-2005/02	PIPE TO FLANGE	B-06
C-F-2		C5.51		6-MS-2006/01	SWEEPOLET TO PIPE	B-06
C-F-2	01	C5.51		6-MS-2006/02	PIPE TO FLANGE	B-06
C-F-2		C5.51		6-MS-2007/01	SWEEPOLET TO PIPE	B-06
C-F-2		C5.51		6-MS-2007/02	PIPE TO FLANGE	B-06
C-F-2		C5.51		6-MS-2008/01	SWEEPOLET TO PIPE	B-06
C-F-2		C5.51		6-MS-2008/02	PIPE TO FLANGE	B-06
C-F-2		C5.81		28-MS-2001/12-BC-1	BRANCH (6-MS-2001)	B-04
C-F-2		C5.81		28-MS-2001/12-BC-2	BRANCH (6-MS-2002)	B-04
C-F-2		C5.81		28-MS-2001/15-BC-1	BRANCH (6-MS-2003)	B-04
C-F-2		C5.81		28-MS-2001/15-BC-2	BRANCH (6-MS-2004)	B-04
C-F-2		C5.81		28-MS-2002/12-BC-1	BRANCH (6-MS-2005)	B-06
C-F-2		C5.81		28-MS-2002/12-BC-2	BRANCH (6-MS-2006)	B-06
C-F-2		C5.81		28-MS-2002/15-BC-2	BRANCH (6-MS-2007)	B-06
C-F-2		C5.81		28-MS-2002/15-BC-3	BRANCH (6-MS-2008)	B-06
C-F-2	96	SUBST		36-MS-1-BC-A	BRANCH (SUBST. C5.81)	B-86
C-F-2		TOO THIN		10-AC-2001/01	FLANGE TO REDUCER	B-50
C-F-2		TOO THIN		10-AC-2001/02	REDUCER TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/03	PIPE TO TEE	B-50
C-F-2		TOO THIN		10-AC-2001/04	FLANGE TO PIPE (8")	B-50
C-F-2		TOO THIN		10-AC-2001/05	PIPE TO ELBOW (8")	B-50
C-F-2		TOO THIN		10-AC-2001/06	ELBOW TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/07	PIPE TO TEE	B-50
C-F-2	98	TOO THIN		10-AC-2001/08	TEE TO REDUCER	B-50
C-F-2		TOO THIN		10-AC-2001/09	REDUCER TO FLANGE (8")	B-50

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2		TOO THIN		10-AC-2001/10	FLANGE TO ELBOW (8")	B-50
C-F-2		TOO THIN		10-AC-2001/11	ELBOW TO ELBOW	B-50
C-F-2		TOO THIN		10-AC-2001/12	ELBOW TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/13	PIPE TO ELBOW	B-50
C-F-2		TOO THIN		10-AC-2001/14	ELBOW TO PIPE	B-50
C-F-2	98	TOO THIN		10-AC-2001/15	PIPE TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/16	PIPE TO PIPE BEND	B-50
C-F-2		TOO THIN		10-AC-2001/17	PIPE BEND TO ELBOW	B-50
C-F-2		TOO THIN		10-AC-2001/18	ELBOW TO PIPE BEND	B-50
C-F-2		TOO THIN		10-AC-2001/19	PIPE BEND TO ELBOW	B-50
C-F-2		TOO THIN		10-AC-2001/20	ELBOW TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/21	PIPE TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/22	PIPE TO ELBOW	B-50
C-F-2		TOO THIN		10-AC-2001/23	ELBOW TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/24	PIPE TO ELBOW	B-50
C-F-2		TOO THIN		10-AC-2001/25	ELBOW TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/32	ELBOW TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/33	PIPE TO ELBOW	B-50
C-F-2		TOO THIN		10-AC-2001/34	ELBOW TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/35	PIPE TO PIPE	B-50
C-F-2		TOO THIN		10-AC-2001/36	PIPE TO TEE	B-50
C-F-2		TOO THIN		10-AC-2001/37	TEE TO REDUCER	B-50
C-F-2		TOO THIN		10-AC-2002/01	FLANGE TO REDUCER (8")	B-51
C-F-2		TOO THIN		10-AC-2002/02	REDUCER TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/03	PIPE TO TEE	B-51
C-F-2		TOO THIN		10-AC-2002/04	FLANGE TO PIPE (8")	B-51
C-F-2		TOO THIN		10-AC-2002/05	PIPE TO ELBOW (8")	B-51
C-F-2		TOO THIN		10-AC-2002/06	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/07	PIPE TO TEE	B-51
C-F-2		TOO THIN		10-AC-2002/08	TEE TO REDUCER	B-51
C-F-2		TOO THIN		10-AC-2002/09	REDUCER TO FLANGE (8")	B-51
C-F-2		TOO THIN		10-AC-2002/10	FLANGE TO RED. FLANGE (8")	B-51
C-F-2	01	TOO THIN		10-AC-2002/11	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/11A	PIPE TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/12	PIPE TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/13	PIPE TO ELBOW	B-51
C-F-2		TOO THIN		10-AC-2002/14	ELBOW TO PIPE	B-51
C-F-2	01	TOO THIN		10-AC-2002/15	PIPE TO ELBOW	B-51
C-F-2		TOO THIN		10-AC-2002/16	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/17	PIPE TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/18	PIP TO PIPE	B-51
C-F-2	01	TOO THIN		10-AC-2002/19	PIPE TO ELBOW	B-51
C-F-2	01	TOO THIN		10-AC-2002/20	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/21	PIPE TO ELBOW	B-51
C-F-2		TOO THIN		10-AC-2002/22	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/23	PIPE TO ELBOW	B-51
C-F-2		TOO THIN		10-AC-2002/24	ELBOW TO PIPE BEND	B-51
C-F-2		TOO THIN		10-AC-2002/25	PIPE BEND TO ELBOW	B-51
C-F-2		TOO THIN		10-AC-2002/26	ELBOW TO PIPE	B-51
C-F-2	01	TOO THIN		10-AC-2002/27	PIPE TO ELBOW	B-51

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2		TOO THIN		10-AC-2002/28	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/29	PIPE TO ELBOW	B-51
C-F-2		TOO THIN		10-AC-2002/30	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/31	PIPE TO ELBOW	B-51
C-F-2		TOO THIN		10-AC-2002/32	ELBOW TO PIPE	B-51
C-F-2		TOO THIN		10-AC-2002/33	PIPE TO TEE	B-51
C-F-2		TOO THIN		10-AC-2002/34	TEE TO REDUCER	B-51
C-F-2		TOO THIN		10-AC-2003/01	REDUCER TO TEE	B-56
C-F-2		TOO THIN		10-AC-2003/02	TEE TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/03	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/04	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/05	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/06	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/07	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/08	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/09	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/10	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/11	PIPE TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/12	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/13	ELBOW TO PIPE BEND	B-56
C-F-2		TOO THIN		10-AC-2003/14	PIPE BEND TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/15	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/16	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/17	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/18	PIPE TO PIPE BEND	B-56
C-F-2		TOO THIN		10-AC-2003/19	PIPE BEND TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/20	PIPE TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/22	PIPE TO ELBOW	B-56
C-F-2	01	TOO THIN		10-AC-2003/23	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/24	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/25	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/26	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/27	ELBOW TO FLANGE (8")	B-56
C-F-2		TOO THIN		10-AC-2003/28	FLANGE TO PIPE (8")	B-56
C-F-2		TOO THIN		10-AC-2003/29	PIPE TO REDUCER (8")	B-56
C-F-2		TOO THIN		10-AC-2003/30	REDUCER TO TEE	B-56
C-F-2		TOO THIN		10-AC-2003/31	TEE TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/32	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		10-AC-2003/33	ELBOW TO FLANGE (8")	B-56
C-F-2		TOO THIN		10-AC-2003/34	TEE TO PIPE	B-56
C-F-2		TOO THIN		10-AC-2003/35	PIPE TO REDUCER	B-56
C-F-2		TOO THIN		10-AC-2003/36	REDUCER TO FLANGE (8")	B-56
C-F-2		TOO THIN		10-AC-2004/01	REDUCER TO TEE	B-57
C-F-2		TOO THIN		10-AC-2004/02	TEE TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/03	PIPE TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/04	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/05	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/06	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/07	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/08	PIPE TO ELBOW	B-57

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2		TOO THIN		10-AC-2004/09	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/10	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/11	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/12	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/13	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/14	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/15	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/16	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/17	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/18	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/19	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/20	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/21	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/22	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/23	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/24	PIPE TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/25	PIPE TO PIPE	B-57
C-F-2	01	TOO THIN		10-AC-2004/26	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/27	ELBOW TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/28	ELBOW TO PIPE (8")	B-57
C-F-2		TOO THIN		10-AC-2004/29	PIPE TO FLANGE (8")	B-57
C-F-2		TOO THIN		10-AC-2004/30	FLANGE TO PIPE (8")	B-57
C-F-2		TOO THIN		10-AC-2004/31	PIPE TO REDUCER (8")	B-57
C-F-2		TOO THIN		10-AC-2004/32	REDUCER TO TEE	B-57
C-F-2		TOO THIN		10-AC-2004/33	TEE TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/34	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		10-AC-2004/35	ELBOW TO FLANGE (8")	B-57
C-F-2		TOO THIN		10-AC-2004/36	TEE TO PIPE	B-57
C-F-2		TOO THIN		10-AC-2004/37	PIPE TO REDUCER	B-57
C-F-2		TOO THIN		10-AC-2004/38	REDUCER TO FLANGE (8")	B-57
C-F-2		TOO THIN		6-AC-2001/01	FLANGE TO PIPE	B-48
C-F-2		TOO THIN		6-AC-2001/03	PIPE TO ELBOW	B-48
C-F-2		TOO THIN		6-AC-2001/04	ELBOW TO PIPE	B-48
C-F-2		TOO THIN		6-AC-2001/05	PIPE TO ELBOW	B-48
C-F-2		TOO THIN		6-AC-2001/06	ELBOW TO ELBOW	B-48
C-F-2		TOO THIN		6-AC-2001/07	ELBOW TO PIPE	B-48
C-F-2		TOO THIN		6-AC-2001/08	PIPE TO PIPE	B-48
C-F-2		TOO THIN		6-AC-2001/09	PIPE TO PIPE BEND	B-48
C-F-2		TOO THIN		6-AC-2001/10	PIPE BEND TO ELBOW	B-48
C-F-2		TOO THIN		6-AC-2001/11	ELBOW TO PIPE BEND	B-48
C-F-2		TOO THIN		6-AC-2001/12	PIPE BEND TO ELBOW	B-48
C-F-2		TOO THIN		6-AC-2001/13	ELBOW TO PIPE	B-48
C-F-2		TOO THIN		6-AC-2001/14	PIPE TO ELBOW	B-48
C-F-2		TOO THIN		6-AC-2001/15	ELBOW TO FLANGE	B-48
C-F-2		TOO THIN		6-AC-2001/16	FLANGE TO PIPE	B-48
C-F-2		TOO THIN		6-AC-2001/17	PIPE TO TEE	B-48
C-F-2		TOO THIN		6-AC-2001/18	TEE TO PIPE	B-48
C-F-2		TOO THIN		6-AC-2001/19	PIPE TO REDUCING ELBOW	B-48
C-F-2		TOO THIN		6-AC-2002/01	REDUCER TO TEE	B-49
C-F-2		TOO THIN		6-AC-2002/02	TEE TO PIPE	B-49

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2		TOO THIN		6-AC-2002/03	PIPE TO TEE	B-49
C-F-2		TOO THIN		6-AC-2002/04	REDUCER TO TEE	B-49
C-F-2		TOO THIN		6-AC-2002/05	TEE TO PIPE	B-49
C-F-2		TOO THIN		6-AC-2002/07	PIPE TO FLANGE	B-49
C-F-2		TOO THIN		6-AC-2002/09	FLANGE TO ELBOW	B-49
C-F-2		TOO THIN		6-AC-2002/10	ELBOW TO PIPE	B-49
C-F-2		TOO THIN		6-AC-2002/11	PIPE TO ELBOW	B-49
C-F-2		TOO THIN		6-AC-2002/12	ELBOW TO PIPE BEND	B-49
C-F-2		TOO THIN		6-AC-2002/13	PIPE BEND TO PIPE	B-49
C-F-2		TOO THIN		6-AC-2002/14	PIPE TO ELBOW	B-49
C-F-2		TOO THIN		6-AC-2002/15	ELBOW TO ELBOW	B-49
C-F-2		TOO THIN		6-AC-2002/16	ELBOW TO PIPE	B-49
C-F-2		TOO THIN		6-AC-2002/17	PIPE TO ELBOW	B-49
C-F-2		TOO THIN		6-AC-2002/19	ELBOW TO FLANGE	B-49
C-F-2		TOO THIN		6-AC-2003/01	TEE TO ELBOW	B-50A
C-F-2		TOO THIN		6-AC-2003/02	ELBOW TO PIPE	B-50A
C-F-2		TOO THIN		6-AC-2003/03	PIPE TO ELBOW	B-50A
C-F-2		TOO THIN		6-AC-2003/04	ELBOW TO PIPE	B-50A
C-F-2		TOO THIN	TERM END	6-AC-2003/05	PIPE TO PIPE	B-50A
C-F-2		TOO THIN		6-AC-2004/01	REDUCER TO PIPE	B-50A
C-F-2		TOO THIN		6-AC-2004/02	PIPE TO ELBOW	B-50A
C-F-2		TOO THIN		6-AC-2004/03	ELBOW TO PIPE	B-50A
C-F-2		TOO THIN		6-AC-2004/04	PIPE TO ELBOW	B-50A
C-F-2		TOO THIN		6-AC-2004/05	ELBOW TO PIPE	B-50A
C-F-2		TOO THIN		6-AC-2004/06	PIPE TO ELBOW	B-50A
C-F-2		TOO THIN	TERM END	6-AC-2004/07	ELBOW TO VA-1A	B-50A
C-F-2		TOO THIN		6-AC-2005/01	TEE TO PIPE	B-51A
C-F-2		TOO THIN		6-AC-2005/02	ELBOW TO PIPE	B-51A
C-F-2		TOO THIN		6-AC-2005/03	PIPE TO ELBOW	B-51A
C-F-2		TOO THIN		6-AC-2005/04	ELBOW TO PIPE	B-51A
C-F-2		TOO THIN		6-AC-2005/05	PIPE TO ELBOW	B-51A
C-F-2		TOO THIN	TERM END	6-AC-2005/06	ELBOW TO PIPE	B-51A
C-F-2		TOO THIN		6-AC-2006/01	REDUCER TO PIPE	B-51A
C-F-2		TOO THIN		6-AC-2006/02	PIPE TO ELBOW	B-51A
C-F-2		TOO THIN		6-AC-2006/03	ELBOW TO PIPE	B-51A
C-F-2		TOO THIN	TERM END	6-AC-2006/04	PIPE TO PIPE	B-51A
C-F-2		TOO THIN	TERM END	6-AC-2007/01	REDUCER TO PIPE	B-52
C-F-2		TOO THIN	TERM END	6-AC-2008/38	REDUCER TO PIPE	B-53
C-F-2		TOO THIN	TERM END	6-AC-2009/37	ELBOW TO PIPE	B-54
C-F-2		TOO THIN	TERM END	6-AC-2010/32	RED ELBOW TO PIPE	B-55
C-F-2		TOO THIN		6-AC-2011/45	TEE TO ELBOW	B-56
C-F-2		TOO THIN		6-AC-2011/46	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		6-AC-2011/47	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		6-AC-2011/48	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		6-AC-2011/49	PIPE TO PIPE	B-56
C-F-2		TOO THIN	TERM END	6-AC-2011/50	PIPE TO PIPE	B-56
C-F-2		TOO THIN	TERM END	6-AC-2012/41	PIPE TO PIPE	B-56
C-F-2		TOO THIN		6-AC-2012/42	PIPE TO ELBOW	B-56
C-F-2		TOO THIN		6-AC-2012/43	ELBOW TO PIPE	B-56
C-F-2		TOO THIN		6-AC-2012/44	PIPE TO REDUCER	B-56

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2		TOO THIN		6-AC-2013/48	TEE TO ELBOW	B-57
C-F-2		TOO THIN		6-AC-2013/49	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		6-AC-2013/50	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		6-AC-2013/51	ELBOW TO PIPE	B-57
C-F-2		TOO THIN	TERM END	6-AC-2013/52	PIPE TO PIPE	B-57
C-F-2		TOO THIN	TERM END	6-AC-2014/42	PIPE TO PIPE	B-57
C-F-2		TOO THIN		6-AC-2014/43	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		6-AC-2014/44	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		6-AC-2014/45	PIPE TO ELBOW	B-57
C-F-2		TOO THIN		6-AC-2014/46	ELBOW TO PIPE	B-57
C-F-2		TOO THIN		6-AC-2014/47	PIPE TO REDUCER	B-57
C-F-2		TOO THIN		8-AC-2001/01	FLANGE TO REDUCER (6")	B-52
C-F-2		TOO THIN		8-AC-2001/02	REDUCER TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/03	PIPE TO TEE	B-52
C-F-2		TOO THIN		8-AC-2001/04	FLANGE TO ELBOW (6")	B-52
C-F-2		TOO THIN		8-AC-2001/05	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/06	PIPE TO TEE	B-52
C-F-2		TOO THIN		8-AC-2001/07	TEE TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/08	PIPE TO REDUCER	B-52
C-F-2		TOO THIN		8-AC-2001/09	REDUCER TO FLANGE (6")	B-52
C-F-2		TOO THIN		8-AC-2001/10	FLANGE TO PIPE (6")	B-52
C-F-2		TOO THIN		8-AC-2001/10A	PIPE TO ELBOW (6")	B-52
C-F-2		TOO THIN		8-AC-2001/11	ELBOW TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/12	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/13	PIPE TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/14	PIPE TO PIPE BEND	B-52
C-F-2		TOO THIN		8-AC-2001/15	PIPE BEND TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/16	ELBOW TO PIPE BEND	B-52
C-F-2		TOO THIN		8-AC-2001/17	PIPE BEND TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/18	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/19	PIPE TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/20	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/21	PIPE TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/22	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/23	PIPE TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/24	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/25	PIPE TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/26	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/27	PIPE TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/28	PIPE TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/29	PIPE TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/30	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/31	PIPE TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/32	ELBOW TO PIPE	B-52
C-F-2		TOO THIN		8-AC-2001/33	PIPE TO ELBOW	B-52
C-F-2		TOO THIN		8-AC-2001/34	ELBOW TO REDUCER	B-52
C-F-2		TOO THIN		8-AC-2002/01	FLANGE TO REDUCER (6")	B-53
C-F-2		TOO THIN		8-AC-2002/02	REDUCER TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/03	PIPE TO TEE	B-53
C-F-2		TOO THIN		8-AC-2002/04	FLANG TO ELBOW (6")	B-53

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2		TOO THIN		8-AC-2002/05	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/06	PIPE TO TEE	B-53
C-F-2		TOO THIN		8-AC-2002/07	TEE TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/08	PIPE TO REDUCER	B-53
C-F-2		TOO THIN		8-AC-2002/09	REDUCER TO FLANGE (6")	B-53
C-F-2		TOO THIN		8-AC-2002/10	FLANGE TO ELBOW (6")	B-53
C-F-2		TOO THIN		8-AC-2002/11	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/12	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/13	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/14	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/15	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/16	PIPE TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/17	PIPE TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/18	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/19	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/20	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/21	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/22	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/23	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/24	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/25	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/26	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/27	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/28	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/29	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/30	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/31	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/32	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/33	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/34	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/35	ELBOW TO PIPE	B-53
C-F-2		TOO THIN		8-AC-2002/36	PIPE TO ELBOW	B-53
C-F-2		TOO THIN		8-AC-2002/37	ELBOW TO REDUCER	B-53
C-F-2		TOO THIN		8-AC-2003/01	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/02	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/03	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/04	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/05	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/06	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/07	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/08	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/09	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/10	PIPE TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/11	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/12	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/13	PIPE TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/14	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/15	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/16	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/17	ELBOW TO PIPE	B-54

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-F-2		TOO THIN		8-AC-2003/18	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/19	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/20	PIPE TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/22	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/23	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/24	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/25	ELBOW TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/26	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/27	ELBOW TO FLANGE (6")	B-54
C-F-2		TOO THIN		8-AC-2003/28	FLANGE TO PIPE (6")	B-54
C-F-2		TOO THIN		8-AC-2003/29	PIPE TO REDUCER (6")	B-54
C-F-2		TOO THIN		8-AC-2003/30	REDUCER TO TEE	B-54
C-F-2		TOO THIN		8-AC-2003/31	TEE TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/32	PIPE TO ELBOW	B-54
C-F-2		TOO THIN		8-AC-2003/33	ELBOW TO FLANGE (6")	B-54
C-F-2		TOO THIN		8-AC-2003/34	TEE TO PIPE	B-54
C-F-2		TOO THIN		8-AC-2003/35	PIPE TO REDUCER	B-54
C-F-2		TOO THIN		8-AC-2003/36	REDUCER TO FLANGE (6")	B-54
C-F-2		TOO THIN		8-AC-2004/01	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/02	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/03	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/04	PIPE TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/05	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/06	ELBOW TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/07	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/08	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/09	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/10	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/11	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/12	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/13	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/14	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/15	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/16	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/17	ELBOW TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/17A	PIPE TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/18	PIPE TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/19	PIPE TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/20	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/21	ELBOW TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/22	ELBOW TO FLANGE (6")	B-55
C-F-2		TOO THIN		8-AC-2004/23	FLANGE TO PIPE (6")	B-55
C-F-2		TOO THIN		8-AC-2004/24	PIPE TO REDUCER (6")	B-55
C-F-2		TOO THIN		8-AC-2004/25	REDUCER TO TEE	B-55
C-F-2		TOO THIN		8-AC-2004/26	TEE TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/27	PIPE TO ELBOW	B-55
C-F-2		TOO THIN		8-AC-2004/28	ELBOW TO FLANGE (6")	B-55
C-F-2		TOO THIN		8-AC-2004/29	TEE TO PIPE	B-55
C-F-2		TOO THIN		8-AC-2004/30	PIPE TO REDUCER	B-55
C-F-2		TOO THIN		8-AC-2004/31	REDUCER TO FLANGE (6")	B-55

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
C-G	01	C6.20		12-SDC-2020/HCV-347	VALVE BODY WELD (OUTLET)	B-11
F-A		F1.20	A	10-AC-2001/16-PR-1	STRUT, 3-BOLT	B-50
F-A		F1.20	A	10-AC-2001/18-PR-2	STRUT, 3-BOLT	B-50
F-A	98	F1.20	A	10-AC-2001/18-PR-6	STRUT, 3-BOLT	B-50
F-A	95	F1.20	A	10-AC-2001/32-PR	STRUT, 3-BOLT	B-50
F-A		F1.20	A	10-AC-2002/21-PR	STRUT, 3-BOLT	B-51
F-A		F1.20	A	10-AC-2002/24-PR-3	I-BEAM, 3-BOLT	B-51
F-A		F1.20	A	10-AC-2002/24-PR-6	STRUT, 3-BOLT	B-51
F-A		F1.20	A	10-AC-2003/13-PR-3	TRAPEZE RODS	B-56
F-A		F1.20	A	10-AC-2003/17-PR	ROD & CLEVIS	B-56
F-A		F1.20	A	10-AC-2003/34-PR-1	PLATE, 3-BOLT	B-56
F-A		F1.20	A	10-AC-2004/17-PR-1	ROD & CLEVIS	B-57
F-A		F1.20	A	10-AC-2004/19-PR	STRUT, 3-BOLT	B-57
F-A	01	F1.20	A	10-AC-2004/36-PR-1	STRUT, U-BOLT	B-57
F-A		F1.20	A	10-LPH-2001/31-PR-1	STRUT,3-BOLT	B-23
F-A		F1.20	A	10-LPH-2001/35-PR	ROD, 3-BOLT, TURNBUCKLE	B-23
F-A		F1.20	A	10-LPH-2001/39-PS	STRUT 3-BOLT	B-23
F-A		F1.20	A	10-LPSI-2001/09-PR	STRUT, 3-BOLT	B-24
F-A		F1.20	A	10-LPSI-2002/01-PR	ROD & CLEVIS	B-25
F-A		F1.20	A	10-LPSI-2002/18-PR-2	ROD & CLEVIS	B-25
F-A		F1.20	A	10-LPSI-2002/22-PR	STRUT,3-BOLT	B-25
F-A		F1.20	A	10-LPSI-2002/28-PR-8	PEDESTAL,PLATE	B-25
F-A		F1.20	A	12-CSS-2001/11-PR-1	TRAPEZE U-BOLT,STRUT	B-19
F-A		F1.20	A	12-CSS-2001/12-PR	TRAPEZE	B-19
F-A		F1.20	A	12-CSS-2001/13-PR	ROD, TRAPEZE	B-19
F-A		F1.20	A	12-CSS-2001/14-PR-3	TRAPEZE GANG	B-19
F-A		F1.20	A	12-CSS-2001/14-PR-4	PED, I-BEAM	B-19
F-A		F1.20	A	12-CSS-2001/17-PR-2	TRAPAZE/ROD & CLEVIS	B-19
F-A		F1.20	A	12-CSS-2001/19-PR-2	ROD & CLEVIS	B-19
F-A		F1.20	A	12-CSS-2004/06-PR-1	STRUT, 3-BOLT	B-38
F-A		F1.20	A	12-CSS-2004/06-PR-2	RIGID SUPPORT	B-38
F-A		F1.20	A	12-CSS-2004/12-PR-3	STRUT, 3-BOLT	B-38
F-A	01	F1.20	A	12-CSS-2005/03-PR-2	STRUT, 3-BOLT	B-38
F-A		F1.20	A	12-CSS-2011/02-PR-1A	STRUT, 3-BOLT	B-39
F-A	01	F1.20	A	12-CSS-2012/03-PR	STRUT, 3-BOLT	B-39
F-A		F1.20	A	12-LPH-2001/03-PR-1	STRUT,3-BOLT	B-16
F-A	01	F1.20	A	12-LPH-2001/16-PR	STRUT, 3-BOLT T/B	B-16
F-A	98	F1.20	A	12-LPH-2001/25-PR	STRUT, 3-BOLT, U-BOLT	B-16
F-A		F1.20	A	12-LPH-2001/26-PR-1	ROD 3-BOLT T/B	B-16
F-A	95	F1.20	A	12-LPSI-2002/08-PR	ROD & CLEVIS	B-17
F-A		F1.20	A	12-LPSI-2002/11-PR	ROD & CLEVIS	B-17
F-A		F1.20	A	12-LPSI-2002/13-PR	TRAPEZE	B-17
F-A	98	F1.20	A	12-LPSI-2002/13-PR-2	ROD & CLEVIS	B-17
F-A		F1.20	A	12-LPSI-2002/16-PR	ROD & CLEVIS	B-17
F-A		F1.20	A	12-LPSI-2002/16-PR-1	ROD & CLEVIS	B-17
F-A		F1.20	A	12-LPSI-2003/02-PR-1	ROD & CLEVIS	B-18
F-A		F1.20	A	12-LPSI-2003/02-PR-2	ROD & CLEVIS	B-18
F-A		F1.20	A	12-LPSI-2003/14-PR-1	STRUT,3-BOLT T/B	B-18
F-A		F1.20	A	12-LPSI-2003/14-PR-2	ROD & CLEVIS	B-18
F-A		F1.20	A	12-LPSI-2003/15-PR-1	TRAPEZE	B-18

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	A	12-LPSI-2003/17-PR-1A	STRUT, 3-BOLT	B-18
F-A		F1.20	A	12-LPSI-2003/17-PR-3	TRAPEZE 3/4 BOX, GANG	B-18
F-A	95	F1.20	A	12-LPSI-2003/17-PR-4	PED, I-BEAM	B-18
F-A	01	F1.20	A	12-LPSI-2003/21-PR-1	ROD & CLEVIS	B-18
F-A		F1.20	A	12-LPSI-2003/23-PR-2	TRAPEZE	B-18
F-A		F1.20	A	12-LPSI-2003/23-PR-A1	1/2 BOX	B-18
F-A		F1.20	A	12-SDC-2001/13-PR	ROD, 3-BOLT, TURNBUCKLE	B-21
F-A		F1.20	A	12-SDC-2001/17-PR-1	ROD & CLEVIS	B-21
F-A		F1.20	A	12-SDC-2001/19-PR-2	TRAPEZE	B-21
F-A		F1.20	A	12-SDC-2001/24-PR-3	PLATE, 3-BOLT, LUGS	B-21
F-A		F1.20	A	12-SDC-2002/14-PR-1	STRUT, 3-BOLT	B-22
F-A		F1.20	A	12-SDC-2002/18-PR-1	STRUT, 3-BOLT	B-22
F-A	95	F1.20	A	12-SDC-2002/21-PR-1	ROD & CLEVIS	B-22
F-A		F1.20	A	12-SDC-2003/09A-PR-1	U-BOLT, ROD & CLEVIS	B-22A
F-A		F1.20	A	12-SDC-2003/09B-PR	STRUT, 3-BOLT	B-22A
F-A		F1.20	A	12-SDC-2003/11-PR-2	ROD & CLEVIS	B-22A
F-A		F1.20	A	12-SDC-2003/14-PR-3	STRUT, U-BOLT	B-22A
F-A		F1.20	A	12-SDC-2003/15-PR-1	TRAPEZE, U-BOLT	B-22A
F-A	98	F1.20	A	12-SDC-2020/12-PR	ROD & CLEVIS	B-11
F-A		F1.20	A	12-SDC-2020/16-PR-1	ROD & CLEVIS	B-11
F-A		F1.20	A	12-SDC-2020/16-PR-5	ROD & CLEVIS	B-11
F-A		F1.20	A	14-LPSI-2001/A4-PR	STRUT,3-BOLT	B-09
F-A		F1.20	A	14-LPSI-2001/A4-PR-1	STRUT,3-BOLT	B-10
F-A		F1.20	A	16-FW-2001/01-PR-1	WHIP RESTRAINT,CONCRETE	B-08
F-A		F1.20	A	16-FW-2002/01-PS	CONCRETE,TRUNNION	B-08
F-A		F1.20	A	2-CH-11/09-PR	ROD & CLEVIS	B-61
F-A		F1.20	A	2-CH-11/09-PR-1	ROD & CLEVIS	B-61
F-A		F1.20	A	2-CH-13/05-PR	1/2 BOX	B-63
F-A		F1.20	A	2-CH-17/01-PR	ROD & CLEVIS	B-67
F-A		F1.20	A	2-CH-17/03-PR	ROD & CLEVIS	B-67
F-A		F1.20	A	2-CH-17/05-PR	ROD & CLEVIS	B-67
F-A		F1.20	A	2-CH-17/05-PR-2	ROD & CLEVIS	B-67
F-A		F1.20	A	2-CH-17/09-PR	ROD & CLEVIS	B-67
F-A		F1.20	A	2-CH-17/13-PR-2	ROD, 3-BOLT	B-67
F-A		F1.20	A	2-CH-18/09-PR	ROD & CLEVIS	B-68
F-A		F1.20	A	2-CH-18/11-PR-1	ROD & CLEVIS	B-68
F-A		F1.20	A	2-CH-19/09-PR-1	ROD & CLEVIS	B-69
F-A		F1.20	A	2-CH-19/09-PR-2	ROD & CLEVIS	B-69
F-A		F1.20	A	2-CH-21/09-PR-1	ROD & CLEVIS	B-71
F-A		F1.20	A	2-CH-21/09-PR-3	ROD & CLEVIS	B-71
F-A		F1.20	A	2-CH-21/11-PR	ROD & CLEVIS	B-71
F-A		F1.20	A	2-CH-22/01-PR-2	ROD, U-BOLT	B-72
F-A		F1.20	A	2-CH-22/17-PR	ROD & CLEVIS	B-72
F-A	01	F1.20	A	2-CH-22/21-PR	ROD & CLEVIS	B-72
F-A		F1.20	A	2-CH-26/03-PR	ROD & CLEVIS	B-79
F-A		F1.20	A	2-CH-26/03-PR-1	ROD & CLEVIS	B-79
F-A	95	F1.20	A	2-CH-26/07-PR-1	ROD & CLEVIS	B-79
F-A		F1.20	A	2-CH-26/09-PR	ROD & CLEVIS	B-79
F-A		F1.20	A	2-CH-26/09-PR-1	ROD & CLEVIS	B-79
F-A	98	F1.20	A	2-CH-26/11-PR-1	ROD & CLEVIS	B-79

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	A	2-CH-30/09-PR	ROD & CLEVIS	B-84
F-A		F1.20	A	2-CH-30/09-PR-1	ROD & CLEVIS	B-84
F-A		F1.20	A	2-CH-30/11-PR-1	ROD & CLEVIS	B-84
F-A		F1.20	A	2-CH-30/11-PR-2	ROD & CLEVIS	B-84
F-A		F1.20	A	2.5-CH-11/01-PR-1	1/2 BOX	B-66
F-A		F1.20	A	20-SI-2001/05-PR	ROD & CLEVIS	B-36
F-A		F1.20	A	20-SI-2001/06-PR	STRUT, 3-BOLT	B-36
F-A	95	F1.20	A	24-SI-2001/06-PR-1	STRUT, 3-BOLT	B-36
F-A		F1.20	A	24-SI-2001/06-PR-3	STRUT, 3-BOLT	B-36
F-A		F1.20	A	24-SI-2001/13-PR	STRUT, 3-BOLT	B-36
F-A		F1.20	A	24-SI-2001/15-PR	STRUT, 3-BOLT	B-36
F-A		F1.20	A	24-SI-2002/01A-PR	STRUT, 3-BOLT	B-37
F-A		F1.20	A	24-SI-2002/04A-PR	STRUT, 3-BOLT	B-37
F-A		F1.20	A	24-SI-2002/07-PR	TRAPEZE,U-BOLT	B-37
F-A		F1.20	A	24-SI-2002/08-PR-1	TRAPEZE, U-BOLT	B-37
F-A	98	F1.20	A	24-SI-2002/12-PR	STRUT, 3-BOLT	B-37
F-A		F1.20	A	24-SI-2002/16-PR-A	STRUT, 3-BOLT	B-37
F-A	98	F1.20	A	24-SI-2002/17-PR-1	STRUT, 3-BOLT	B-37
F-A		F1.20	A	28-MS-2001/12-PR-4	WHIP RESTRAINT,I-BEAM	B-04
F-A		F1.20	A	28-MS-2002/12-PR-2	WHIP RESTRAINT,I-BEAM	B-06
F-A		F1.20	A	4-CH-10/02-PR	ROD, 3-BOLT	B-73
F-A	95	F1.20	A	4-CH-10/02-PR-1	I-BEAM	B-73
F-A		F1.20	A	4-CH-10/04-PR-1	BOX	B-73
F-A		F1.20	A	4-CH-10/04-PR-2	ROD, 3-BOLT	B-73
F-A		F1.20	A	4-CH-10/04-PR-3	STRUT, 3-BOLT	B-73
F-A		F1.20	A	4-CH-10/05-PR-1	I-BEAM	B-73
F-A		F1.20	A	4-CH-10/05-PR-4	ROD, ANGLE	B-73
F-A		F1.20	A	4-CH-10/07-PR	ROD & CLEVIS	B-73
F-A		F1.20	A	4-CH-10/07-PR-1	ROD & CLEVIS	B-73
F-A	01	F1.20	A	4-CH-10/15-PR	DUAL PEDESTAL, 3/4 BOX	B-73
F-A	95	F1.20	A	4-CH-11/11-PR	STRUT, 3-BOLT	B-74
F-A		F1.20	A	4-CH-11/14-PR	STRUT, 3-BOLT	B-74
F-A		F1.20	A	4-CH-11/16-PR	STRUT, 3-BOLT	B-74
F-A		F1.20	A	4-CH-11/28-PR	STRUT, 3-BOLT	B-74
F-A	98	F1.20	A	4-CH-11/28-PR-2	STRUT, 3-BOLT	B-74
F-A		F1.20	A	4-CH-11/32-PR	ROD & CLEVIS	B-74
F-A		F1.20	A	4-CH-12/02-PR	I-BEAM, GANG	B-75
F-A	95	F1.20	A	4-CH-12/16-PR	I-BEAM	B-75
F-A	98	F1.20	A	4-CH-12/17-PR-1	I-BEAM, GANG	B-75
F-A		F1.20	A	4-CH-12/17-PR-3	I-BEAM, GANG	B-75
F-A		F1.20	A	4-CH-12/17-PR-4	I-BEAM, ROD, GANG	B-75
F-A		F1.20	A	4-CH-12/19-PR	ROD & CLEVIS	B-75
F-A		F1.20	A	4-CH-12/19-PR-3	ROD & CLEVIS	B-75
F-A		F1.20	A	4-CH-13/09-PR-1	ROD, 3-BOLT, TURNBUCKLE	B-76
F-A		F1.20	A	4-CH-13/09-PR-3	ROD, 3-BOLT	B-76
F-A		F1.20	A	4-CH-13/09-PR-5	ROD, 3-BOLT, TRAPEZE	B-76
F-A	01	F1.20	A	4-CH-13/11-PR	ROD, 3-BOLT	B-76
F-A	01	F1.20	A	4-CH-13/13-PR	STRUT, 3-BOLT	B-76
F-A		F1.20	A	4-CH-13/15-PR	ROD, 3-BOLT, TURNBUCKLE	B-76
F-A		F1.20	A	4-CH-13/17-PR	ROD, 3-BOLT, TURNBUCKLE	B-76

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	A	4-CH-13/19-PR-1	ROD, 3-BOLT	B-76
F-A		F1.20	A	4-CH-14/09-PR	PLATE, 3-BOLT	B-81
F-A		F1.20	A	4-CH-14/09-PR-2	ROD, 3-BOLT	B-81
F-A		F1.20	A	4-CH-14/10-PR-1	ROD, 3-BOLT	B-81
F-A		F1.20	A	4-CH-14/10-PR-2	ROD, 3-BOLT	B-81
F-A		F1.20	A	4-CH-14/12-PR	ROD, 3-BOLT, TURNBUCKLE	B-81
F-A		F1.20	A	4-CH-14/14-PR	ROD, 3-BOLT	B-81
F-A		F1.20	A	4-CH-14/16-PR	ROD, 3-BOLT	B-81
F-A		F1.20	A	4-CH-14/18-PR-1	ANGLE, 3-BOLT	B-81
F-A		F1.20	A	4-CH-14/18-PR-3	ROD, 3-BOLT, TURNBUCKLE	B-81
F-A		F1.20	A	4-CH-14/19-PR	ROD, 3-BOLT	B-81
F-A	98	F1.20	A	6-AC-2002/04-PR	PLATE, 3-BOLT	B-49
F-A	95	F1.20	A	6-CSS-2001/05-PR-1	TRAPEZE, ROD & CLEVIS	B-35
F-A		F1.20	A	6-LPH-2014/01-PH	STRUT, 3-BOLT	B-34
F-A		F1.20	A	6-LPH-2014/09-PR-2	TRAPEZE, U-BOLT	B-34
F-A		F1.20	A	6-LPH-2014/09-PR-4	STRUT, 3-BOLT	B-34
F-A		F1.20	A	6-SI-2002/06-PR	STRUT, 3-BOLT	B-42
F-A		F1.20	A	6-SI-2002/08-PR-1	STRUT, 3-BOLT	B-42
F-A		F1.20	A	6-SI-2002/10-PR-2	ROD & CLEVIS	B-42
F-A		F1.20	A	6-SI-2022/01A-PR	STRUT, 3-BOLT	B-31
F-A	98	F1.20	A	8-AC-2001/20-PR	I-BEAM, 3-BOLT	B-52
F-A		F1.20	A	8-AC-2001/21-PR	ROD & CLEVIS	B-52
F-A		F1.20	A	8-AC-2001/27-PR-2	TRAPEZE, U-BOLT, GANG	B-52
F-A		F1.20	A	8-AC-2001/28-PR-2	TRAPEZE, U-BOLT	B-52
F-A		F1.20	A	8-AC-2001/28-PR-3	STRUT, U-BOLT, T-BKLE	B-52
F-A		F1.20	A	8-AC-2001/30-PR	TRAPEZE	B-52
F-A		F1.20	A	8-AC-2001/31-PR	STRUT, 3-BOLT, T/B	B-52
F-A		F1.20	A	8-AC-2002/19-PR	STRUT, WELDED PLATE	B-53
F-A		F1.20	A	8-AC-2002/23-PR-3	STRUT, 3-BOLT	B-53
F-A		F1.20	A	8-AC-2002/29-PR	STRUT, 3-BOLT	B-53
F-A		F1.20	A	8-AC-2002/29-PR-1	STRUT, 3-BOLT	B-53
F-A		F1.20	A	8-AC-2002/29-PR-2	ROD & CLEVIS	B-53
F-A		F1.20	A	8-AC-2002/29-PR-3	STRUT, 3-BOLT	B-53
F-A		F1.20	A	8-AC-2002/33-PR	TRAPEZE, U-BOLT, GANG	B-53
F-A		F1.20	A	8-AC-2002/33-PR-1	STRUT, 3-BOLT	B-53
F-A	95	F1.20	A	8-AC-2003/01-PR	TRAPEZE, U-BOLT, GANG	B-54
F-A		F1.20	A	8-AC-2003/05-PR	STRUT, 3-BOLT	B-54
F-A		F1.20	A	8-AC-2003/05-PR-1	STRUT, 3-BOLT	B-54
F-A		F1.20	A	8-AC-2003/05-PR-3	TRAPEZE, U-BOLT	B-54
F-A		F1.20	A	8-AC-2003/07-PR-1	STRUT, 3-BOLT	B-54
F-A		F1.20	A	8-AC-2003/12-PR-3	TRAPEZE, STRUT, U-BOLT	B-54
F-A		F1.20	A	8-AC-2003/13-PR-1	ROD & CLEVIS	B-54
F-A		F1.20	A	8-AC-2003/13-PR-2	ROD & CLEVIS	B-54
F-A		F1.20	A	8-AC-2003/23-PR	STRUT, 3-BOLT	B-54
F-A	01	F1.20	A	8-AC-2004/01-PR	TRAPEZE, STRUT	B-55
F-A		F1.20	A	8-AC-2004/03-PR	TRAPEZE, U-BOLT, GANG	B-55
F-A		F1.20	A	8-AC-2004/04-PR-3	STRUT, 3-BOLT	B-55
F-A		F1.20	A	8-AC-2004/04-PR-B	TRAPEZE, U-BOLT, GANG	B-55
F-A		F1.20	A	8-AC-2004/11-PR-4	STRUT, 3-BOLT, T/B	B-55
F-A		F1.20	A	8-CSS-2001/08-PR	STRUT,3-BOLT	B-26

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	A	8-CSS-2003/07-PR-1	ROD & CLEVIS	B-28
F-A		F1.20	A	8-CSS-2003/09-PR-A	TRAPEZE/DUAL TURNBUCKLE	B-28
F-A		F1.20	A	8-CSS-2003/09-PR-B	STRUT, 3-BOLT, T/B	B-28
F-A		F1.20	A	8-CSS-2003/11-PR	STRUT, 3-BOLT	B-28
F-A		F1.20	A	8-CSS-2003/14-PR-3	STRUT, 3-BOLT, T/B	B-28
F-A		F1.20	A	8-CSS-2003/14-PR-4	ROD & CLEVIS	B-28
F-A		F1.20	A	8-LPSI-2001/10-PR-2	STRUT,3-BOLT	B-29
F-A		F1.20	A	8-LPSI-2001/12-PR-1	ROD & CLEVIS	B-29
F-A		F1.20	A	8-LPSI-2001/12-PR-3	STRUT, 3-BOLT, T/B	B-29
F-A		F1.20	A	8-LPSI-2001/15-PR-2	STRUT, 3-BOLT, T/B	B-29
F-A		F1.20	A	8-LPSI-2001/19-PR-1	STRUT, 3-BOLT	B-29
F-A	95	F1.20	B	10-AC-2001/02-PR	3/4 BOX	B-50
F-A	01	F1.20	B	10-AC-2001/14-PR	PEDESTAL, U-BOLT	B-50
F-A		F1.20	B	10-AC-2001/18-PR-1	FULL BOX	B-50
F-A		F1.20	B	10-AC-2001/18-PR-3	DUAL STRUT, LUG	B-50
F-A		F1.20	B	10-AC-2001/23-PR	GANG SUPP, U-BOLT	B-50
F-A		F1.20	B	10-AC-2001/34-PR	GANG SUPPORT, BOX	B-50
F-A		F1.20	B	10-AC-2001/34-PR-1	GANG SUPPORT, BOX	B-50
F-A		F1.20	B	10-AC-2001/35-PR	GANG SUPPORT, U-BOLT	B-50
F-A		F1.20	B	10-AC-2002/02-PR	PEDESTAL, U-BOLT	B-51
F-A	95	F1.20	B	10-AC-2002/14-PR	PEDESTAL, U-BOLT	B-51
F-A		F1.20	B	10-AC-2002/16-PR	BOX	B-51
F-A		F1.20	B	10-AC-2002/24-PR-1	ANGLE, U-BOLT	B-51
F-A		F1.20	B	10-AC-2002/24-PR-2	TRAPEZE, STRUT, U-BOLT	B-51
F-A		F1.20	B	10-AC-2002/24-PR-4	BOX	B-51
F-A		F1.20	B	10-AC-2002/24-PR-5	I-BEAM, DUAL U-BOLT	B-51
F-A		F1.20	B	10-AC-2002/28-PR	GANG SUPPORT, U-BOLT	B-51
F-A		F1.20	B	10-AC-2002/30-PR	BOX	B-51
F-A		F1.20	B	10-AC-2002/32-PR	GANG SUPPORT, BOX	B-51
F-A	01	F1.20	B	10-AC-2002/32-PR-1	GANG SUPPORT, BOX	B-51
F-A		F1.20	B	10-AC-2003/02-PR	GANG, BOX 4 PIPE	B-56
F-A		F1.20	B	10-AC-2003/03-PR	GANG, FULL BOX	B-56
F-A		F1.20	B	10-AC-2003/08-PR	PEDESTAL 3/4 BOX	B-56
F-A		F1.20	B	10-AC-2003/28-PR	PEDESTAL, 3/4 BOX	B-56
F-A		F1.20	B	10-AC-2003/34-PR	PEDESTAL, U-BOLT	B-56
F-A		F1.20	B	10-AC-2004/02-PR	GANG, U-BOLT, 2-PIPES	B-57
F-A		F1.20	B	10-AC-2004/03-PR-1	GANG FULL BOX, 4-PIPES	B-57
F-A		F1.20	B	10-AC-2004/04-PR	GANG, FULL BOX, 2-PIPES	B-57
F-A		F1.20	B	10-AC-2004/05-PR	FULL BOX	B-57
F-A		F1.20	B	10-AC-2004/09-PR	FULL BOX	B-57
F-A		F1.20	B	10-AC-2004/09-PR-1	FULL BOX	B-57
F-A		F1.20	B	10-AC-2004/18-PR	FULL BOX	B-57
F-A		F1.20	B	10-AC-2004/18-PR-1	ANGLE, 1/2 BOX	B-57
F-A		F1.20	B	10-AC-2004/30-PR	PEDESTAL, 3/4 BOX	B-57
F-A	01	F1.20	B	10-AC-2004/36-PR	PEDESTAL, U-BOLT	B-57
F-A		F1.20	B	10-LPH-2001/31-PR	LUGS/STRUT,3-BOLT/GANG	B-23
F-A	95	F1.20	B	10-LPH-2001/39-PR	GANG BOX	B-23
F-A	95	F1.20	B	10-LPSI-2002/03-PR-1	DUAL STRUT, 3-BOLT	B-25
F-A		F1.20	B	12-CSS-2001/12-PR-1	FULL BOX	B-19
F-A		F1.20	B	12-CSS-2001/24-PR	RISER, LUGS	B-19

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	B	12-CSS-2002/06-PR	RISER, LUGS	B-20
F-A		F1.20	B	12-LPH-2001/25-PR-1	GANG WELDED	B-16
F-A		F1.20	B	12-LPSI-2002/12-PR	SIDE PED, U-BOLT	B-17
F-A		F1.20	B	12-LPSI-2003/28-PR	RISER, LUGS	B-18
F-A		F1.20	B	12-SDC-2001/08-PR	RISER, LUGS	B-21
F-A	95	F1.20	B	12-SDC-2001/17-PR-2	STRUT, 3-BOLT, T/B	B-21
F-A		F1.20	B	12-SDC-2002/08-PR	RISER, LUGS	B-22
F-A		F1.20	B	12-SDC-2002/23-PR-2	DUAL STRUT, 3-BOLT	B-22
F-A		F1.20	B	12-SDC-2002/26-PR-2	PED, U-BOLT	B-22
F-A		F1.20	B	12-SDC-2003/15-PR-2	FULL BOX	B-22A
F-A		F1.20	B	16-FW-2002/11-PR	PEDESTAL,U-BOLT	B-08
F-A		F1.20	B	2-CH-11/01-PR	ANGLE, U-BOLT	B-61
F-A		F1.20	B	2-CH-11/03-PR	ANGLE, U-BOLT	B-61
F-A		F1.20	B	2-CH-11/05-PR	ANGLE, U-BOLT	B-61
F-A		F1.20	B	2-CH-11/13-PR	ANGLE, U-BOLT	B-61
F-A		F1.20	B	2-CH-12/01-PR	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/01-PR-1	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/03-PR	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/03-PR-1	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/05-PR	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/05-PR-1	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/09-PR	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/09-PR-1	ANGLE, U-BOLT	B-62
F-A		F1.20	B	2-CH-12/14-PR	I-BEAM, DUAL U-BOLT	B-62
F-A		F1.20	B	2-CH-13/15-PR	ANGLE, U-BOLT	B-63
F-A		F1.20	B	2-CH-13/19-PR	ANGLE, U-BOLT	B-63
F-A		F1.20	B	2-CH-13/23-PR	ANGLE, U-BOLT	B-63
F-A		F1.20	B	2-CH-13/33-PR	ANGLE, U-BOLT	B-63
F-A		F1.20	B	2-CH-13/33-PR-1	ANGLE, U-BOLT	B-63
F-A		F1.20	B	2-CH-13/38-PR	I-BEAM, DUAL U-BOLT	B-63
F-A		F1.20	B	2-CH-14/05-PR	ANGLE, U-BOLT	B-64
F-A		F1.20	B	2-CH-14/07-PR	ANGLE, U-BOLT	B-64
F-A		F1.20	B	2-CH-14/07-PR-1	ANGLE, U-BOLT	B-64
F-A		F1.20	B	2-CH-14/11-PR	ANGLE, U-BOLT	B-64
F-A		F1.20	B	2-CH-14/13-PR	ANGLE, U-BOLT	B-64
F-A	98	F1.20	B	2-CH-14/19-PR	ANGLE, U-BOLT	B-64
F-A	98	F1.20	B	2-CH-14/19-PR-1	ANGLE, U-BOLT	B-64
F-A		F1.20	B	2-CH-14/25-PR	ANGLE, U-BOLT	B-64
F-A	95	F1.20	B	2-CH-15/14-PR	PEDESTAL, 1/2 BOX	B-65
F-A		F1.20	B	2-CH-16/01-PR	ANGLE, U-BOLT	B-66
F-A		F1.20	B	2-CH-17/01-PR-1	ANGLE, U-BOLT	B-67
F-A		F1.20	B	2-CH-17/03-PR-1	ANGLE, U-BOLT	B-67
F-A		F1.20	B	2-CH-17/05-PR-1	ANGLE, U-BOLT	B-67
F-A		F1.20	B	2-CH-17/07-PR	ANGLE, U-BOLT	B-67
F-A		F1.20	B	2-CH-17/13-PR	ANGLE, U-BOLT	B-67
F-A		F1.20	B	2-CH-17/13-PR-1	ANGLE, U-BOLT	B-67
F-A		F1.20	B	2-CH-18/02-PR	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-18/11-PR	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-18/11-PR-2	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-18/15-PR	ANGLE, U-BOLT	B-68

CLASS 2

	CLASS 2 COMPONENTS AND SUPPORTS					REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	B	2-CH-18/17-PR	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-18/19-PR	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-18/27-PR	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-18/31-PR	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-18/33-PR	ANGLE, U-BOLT	B-68
F-A		F1.20	B	2-CH-19/02-PR	ANGLE, U-BOLT	B-69
F-A		F1.20	B	2-CH-19/09-PR	ANGLE, U-BOLT	B-69
F-A		F1.20	B	2-CH-19/13-PR	ANGLE, U-BOLT	B-69
F-A		F1.20	B	2-CH-19/13-PR-1	ANGLE, U-BOLT	B-69
F-A		F1.20	B	2-CH-19/15-PR	ANGLE, U-BOLT	B-69
F-A		F1.20	B	2-CH-19/21-PR	ANGLE, U-BOLT	B-69
F-A		F1.20	B	2-CH-20/03-PR	ANGLE, U-BOLT	B-70
F-A		F1.20	B	2-CH-20/03-PR-1	ANGLE, U-BOLT	B-70
F-A		F1.20	B	2-CH-20/07-PR	ANGLE, U-BOLT	B-70
F-A		F1.20	B	2-CH-20/09-PR	ANGLE, U-BOLT	B-70
F-A		F1.20	B	2-CH-20/11-PR	ANGLE, U-BOLT	B-70
F-A		F1.20	B	2-CH-20/13-PR	ANGLE, U-BOLT	B-70
F-A		F1.20	B	2-CH-21/02-PR	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-21/07-PR	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-21/09-PR	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-21/09-PR-2	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-21/13-PR	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-21/15-PR	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-21/21-PR	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-21/23-PR	ANGLE, U-BOLT	B-71
F-A		F1.20	B	2-CH-22/01-PR	ANGLE, U-BOLT	B-72
F-A		F1.20	B	2-CH-22/01-PR-1	ANGLE, U-BOLT	B-72
F-A		F1.20	B	2-CH-22/17-PR-1	ANGLE, U-BOLT	B-72
F-A		F1.20	B	2-CH-22/19-PR	ANGLE, U-BOLT	B-72
F-A	01	F1.20	B	2-CH-22/23-PR	ANGLE, U-BOLT	B-72
F-A	95	F1.20	B	2-CH-22/28-PR	ANGLE, DUAL U-BOLT	B-72
F-A	01	F1.20	B	2-CH-22/32-PR	I-BEAM, DUAL U-BOLT	B-72
F-A		F1.20	B	2-CH-24/09-PR	DUAL FULL BOX	B-77
F-A	95	F1.20	B	2-CH-25/01-PR	ANGLE, U-BOLT	B-78
F-A	95	F1.20	B	2-CH-25/01-PR-1	ANGLE, U-BOLT	B-78
F-A	95	F1.20	B	2-CH-25/07-PR	ANGLE, U-BOLT	B-78
F-A		F1.20	B	2-CH-25/11-PR	PEDESTAL, DUAL U-BOLT	B-78
F-A	01	F1.20	B	2-CH-26/07-PR-3	ANGLE, U-BOLT	B-79
F-A		F1.20	B	2-CH-26/11-PR	ANGLE, U-BOLT	B-79
F-A		F1.20	B	2-CH-26/11-PR-2	ANGLE, U-BOLT	B-79
F-A	98	F1.20	B	2-CH-26/15-PR	ANGLE, U-BOLT	B-79
F-A	98	F1.20	B	2-CH-26/15-PR-1	PEDESTAL, U-BOLT	B-79
F-A		F1.20	B	2-CH-26/19-PR	DUAL BOX	B-79
F-A		F1.20	B	2-CH-27/07-PR	DUAL BOX	B-80
F-A		F1.20	B	2-CH-27/11-PR	PEDESTAL, U-BOLT	B-80
F-A		F1.20	B	2-CH-28/07-PR	I-BEAM, DUAL U-BOLT	B-82
F-A		F1.20	B	2-CH-28/09-PR	PEDESTAL, U-BOLT	B-82
F-A		F1.20	B	2-CH-29/01-PR	BOX	B-83
F-A		F1.20	B	2-CH-29/03-PR	ANGLE, U-BOLT	B-83
F-A		F1.20	B	2-CH-29/15-PR	PEDESTAL, DUAL U-BOLT	B-83

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	B	2-CH-30/11-PR	ANGLE, U-BOLT	B-84
F-A		F1.20	B	2-CH-30/15-PR	ANGLE, U-BOLT	B-84
F-A		F1.20	B	2-CH-30/19-PR	ANGLE, U-BOLT	B-84
F-A		F1.20	B	2-CH-30/21-PR	PEDESTAL, DUAL U-BOLT	B-84
F-A		F1.20	B	2-CH-31/08-PR	I-BEAM, DUAL U-BOLT	B-85
F-A		F1.20	B	2.5-CH-11/01-PR	FULL BOX	B-66
F-A		F1.20	B	2.5-CH-11/03-PR	FULL BOX	B-66
F-A	01	F1.20	B	28-MS-2001/15-PR-1	WHIP RESTRAINT,U-BOLT	B-04
F-A		F1.20	B	28-MS-2002/15-PR-1	PIPE RESTRAINT,U-BOLT	B-06
F-A		F1.20	B	28-MS-2002/15-PR-3C	PEDESTAL, U-BOLT	B-06
F-A		F1.20	B	28-MS-2002/15-PR-4	WHIP RESTRAINT, U-BOLT	B-06
F-A	98	F1.20	B	4-CH-10/05-PR-2	FULL BOX	B-73
F-A		F1.20	B	4-CH-11/02-PR	TRUNNION	B-74
F-A		F1.20	B	4-CH-11/18-PR	TRUNNION	B-74
F-A		F1.20	B	4-CH-11/30-PR	I-BEAM, 3/4 BOX	B-74
F-A	98	F1.20	B	4-CH-11/30-PR-1	FULL BOX	B-74
F-A	01	F1.20	B	4-CH-12/04-PR	FULL BOX	B-75
F-A	95	F1.20	B	4-CH-12/07-PR	TRUNNION	B-75
F-A		F1.20	B	4-CH-12/16-PR-1	3/4 BOX	B-75
F-A		F1.20	B	4-CH-12/19-PR-1	FULL BOX	B-75
F-A		F1.20	B	4-CH-12/28-PR-1	RISER, LUGS	B-75
F-A	01	F1.20	B	4-CH-13/09-PR	FULL BOX	B-76
F-A		F1.20	B	4-CH-13/09-PR-2	I-BEAM, WELDED SADDLE	B-76
F-A		F1.20	B	4-CH-13/09-PR-4	I-BEAM, U-BOLT	B-76
F-A	01	F1.20	B	4-CH-13/11-PR-2	FULL BOX, LUGS	B-76
F-A		F1.20	B	4-CH-13/19-PR	FULL BOX	B-76
F-A		F1.20	B	4-CH-14/09-PR-1	3/4 BOX	B-81
F-A		F1.20	B	4-CH-14/09-PR-3	I-BEAM, WELDED SADDLE	B-81
F-A		F1.20	B	4-CH-14/10-PR	I-BEAM, U-BOLT	B-81
F-A		F1.20	B	4-CH-14/14-PR-1	BOX	B-81
F-A		F1.20	B	4-CH-14/18-PR	FULL BOX	B-81
F-A		F1.20	B	4-CH-14/18-PR-2	FULL BOX	B-81
F-A		F1.20	B	4-CH-14/19-PR-1	STRUT, TRUNNION	B-81
F-A		F1.20	B	4-CH-14/19-PR-2	3/4 BOX	B-81
F-A		F1.20	B	6-AC-2001/10-PR	PEDESTAL, DUAL U-BOLT	B-48
F-A		F1.20	B	6-AC-2001/14-PS	TRUNNION	B-48
F-A	98	F1.20	B	6-AC-2002/02-PR	3/4 BOX RESTRAINT	B-49
F-A	98	F1.20	B	6-AC-2002/04-PS	TRUNNION, SLIDER	B-49
F-A		F1.20	B	6-AC-2002/09-PR	TRUNNION	B-49
F-A		F1.20	B	AC-2004/01-PR	GANG SUPPORT, U-BOLT	B-50A
F-A		F1.20	B	6-AC-2004/03-PR	DUAL STRUT, U-BOLT	B-50A
F-A		F1.20	F	6-AC-2005/02-PR	GANG SUPPORT, BOX	B-51A
F-A		F1.20	B	6-AC-2011/46-PR	GANG, I-BEAM, U-BOLT	B-56
F-A		F1.20	B	6-AC-2014/44-PR	DUAL STRUT, U-BOLT	B-57
F-A		F1.20	B	6-AC-2014/46-PR	U-BOLT, GANG 2-PIPES	B-57
F-A		F1.20	B	6-HPSI-2001/10-PS	TRUNNION	B-41
F-A		F1.20	B	6-HPSI-2002/19-PS	TRUNNION	B-40
F-A		F1.20	B	6-LPH-2014/05-PR	FULL BOX	B-34
F-A		F1.20	B	6-LPH-2022/01-PR-2	FULL BOX	B-31
F-A		F1.20	B	8-AC-2001/02-PR	PEDESTAL, U-BOLT	B-52

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A	95	F1.20	B	8-AC-2001/12-PR	PEDESTAL, U-BOLT	B-52
F-A		F1.20	B	8-AC-2001/16-PR-1	SADDLE, U-BOLT	B-52
F-A		F1.20	B	8-AC-2001/16-PR-2	GANG SUPPORT, BOX	B-52
F-A		F1.20	B	8-AC-2001/16-PR-3	GANG SUPPORT, BOX	B-52
F-A		F1.20	B	8-AC-2001/26-PR-1	BOX	B-52
F-A		F1.20	B	8-AC-2001/26-PR-2	FULL BOX	B-52
F-A	01	F1.20	B	8-AC-2001/26-PR-3	GANG SUPPORT, BOX	B-52
F-A		F1.20	B	8-AC-2001/27-PR-1	3/4 BOX	B-52
F-A		F1.20	B	8-AC-2002/02-PR	PEDESTAL, U-BOLT	B-53
F-A		F1.20	B	8-AC-2002/13-PR	PED, U-BOLT, PLATE, 3-G	B-53
F-A		F1.20	B	8-AC-2002/23-PR	3/4 BOX	B-53
F-A		F1.20	B	8-AC-2002/23-PR-1	BOX, 3-GANG	B-53
F-A		F1.20	B	8-AC-2002/23-PR-2	BOX, 3-GANG	B-53
F-A		F1.20	B	8-AC-2002/23-PR-4	STRUT, 3-BOLT	B-53
F-A		F1.20	B	8-AC-2003/06-PR-2	STRUT, 3-BOLT, LUGS	B-54
F-A		F1.20	B	8-AC-2003/12-PR-2	I-BEAM, U-BOLT	B-54
F-A		F1.20	B	8-AC-2003/34-PR	PEDESTAL, 3/4 BOX	B-54
F-A	01	F1.20	B	8-AC-2004/04-PR-1	BOX, GANG-2	B-55
F-A		F1.20	B	8-AC-2004/11-PR-1	GANG BOX	B-55
F-A		F1.20	B	8-AC-2004/11-PR-5	GANG BOX	B-55
F-A		F1.20	B	8-AC-2004/11-PR-6	FULL BOX	B-55
F-A		F1.20	B	8-AC-2004/15-PR	FULL BOX	B-55
F-A		F1.20	B	8-AC-2004/19-PR	DUAL STRUT, 3-BOLT	B-55
F-A		F1.20	B	8-AC-2004/34-PR	PEDESTAL, 3/4 BOX	B-55
F-A		F1.20	B	8-LPSI-2001/19-PR-2	ANGLE, I-BEAM	B-29
F-A		F1.20	B	8-LPSI-2002/05-PR	COMPLEX	B-30
F-A		F1.20	C	10-AC-2001/18-PR-4	TRAPEZE, DUAL SPRING CAN	B-50
F-A	98	F1.20	C	10-AC-2001/18-PR-7	SPRING CAN, TRAPEZE, T/B	B-50
F-A		F1.20	C	10-AC-2003/13-PR	U-BOLT, 2-SPRING CAN	B-56
F-A		F1.20	C	10-AC-2003/13-PR-2	DUAL SPRING CAN, U-BOLT	B-56
F-A		F1.20	C	10-AC-2003/15-PR	SPRING CAN, ROD & CLEVIS	B-56
F-A		F1.20	C	10-AC-2004/16-PR	SPRING CAN, ROD & CLEVIS	B-57
F-A		F1.20	C	12-CSS-2004/12-PR-1	SPRING CAN, TRAPEZE	B-38
F-A	01	F1.20	C	12-CSS-2005/03-PR-1	SPRING CAN, 3-BOLT	B-38
F-A		F1.20	C	12-CSS-2011/02-PR-2	SPRING CAN, ROD & CLEVIS	B-39
F-A		F1.20	C	12-CSS-2011/06-PR	SPRING CAN COMPLEX	B-39
F-A		F1.20	C	12-CSS-2012/04-PR	SPRING CAN COMPLEX	B-39
F-A		F1.20	C	12-CSS-2013/02-PR	SPRING CAN, ROD & CLEVIS	B-39
F-A		F1.20	C	12-CSS-2013/05-PR	SPRING CAN COMPLEX	B-39
F-A		F1.20	C	12-LPSI-2002/01-PR-3	SPRING CAN	B-17
F-A		F1.20	C	14-LPSI-2001/A5-PR	SPRING CAN, COMPLEX	B-09
F-A		F1.20	C	14-LPSI-2002/A5-PR	SPRING CAN, COMPLEX	B-10
F-A		F1.20	C	16-FW-2001/01-PR-2	SPRING CAN	B-07
F-A		F1.20	C	16-FW-2001/03-PR-1	SPRING CAN	B-07
F-A		F1.20	C	16-FW-2001/06-PR-A1	CONSTANT LOAD	B-07
F-A	96	F1.20	C	16-FW-2001/07-PR	SPRING CAN	B-07
F-A		F1.20	C	16-FW-2002/02-PR-2	SPRING CAN	B-08
F-A		F1.20	C	16-FW-2002/07-PR-1	SPRING CAN	B-08
F-A		F1.20	C	16-FW-2002/10-PR	CONSTANT LOAD	B-08
F-A		F1.20	C	28-MS-2001/06-PR-1	CONSTANT LOAD	B-03

CLASS 2

CLASS 2 COMPONENTS AND SUPPORTS						REV.1
CATEGORY	3RD INT	ITEM#	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.20	C	28-MS-2001/08-PR-2	CONSTANT LOAD	B-03
F-A		F1.20	C	28-MS-2001/10-PR-1	SPRING CAN	B-03
F-A		F1.20	C	28-MS-2001/12-PR-1	SPRING CAN	B-04
F-A		F1.20	C	28-MS-2001/15-PR-3A	SPRING CAN	B-04
F-A	99	F1.20	C	28-MS-2002/06-PR-1	CONSTANT LOAD	B-05
F-A		F1.20	C	28-MS-2002/08-PR-2	CONSTANT LOAD	B-05
F-A		F1.20	C	28-MS-2002/10-PR-1	SPRING CAN	B-05
F-A		F1.20	C	28-MS-2002/12-PR-1	SPRING CAN	B-06
F-A		F1.20	C	4-CH-11/06-PR	SPRING CAN, COMPLEX	B-74
F-A		F1.20	C	4-CH-11/10-PR	SPRING CAN, SNUBBER	B-74
F-A	98	F1.20	C	4-CH-11/22-PR	SPRING CAN, COMPLEX	B-74
F-A		F1.20	C	4-CH-11/27-PR	SPRING CAN, SNUBBER	B-74
F-A		F1.20	C	4-CH-12/12-PR	SPRING CAN, COMPLEX	B-75
F-A	01	F1.20	C	6-AC-2001/02-PR	TRUNNION, SPRING CAN	B-48
F-A		F1.20	C	6-HPSI-2001/08-PR	SPRING CAN COMPLEX	B-41
F-A		F1.20	C	6-HPSI-2002/17-PR	SPRING CAN COMPLEX	B-40
F-A		F1.20	C	6-HPSI-2003/11-PR	SPRING CAN COMPLEX	B-40
F-A		F1.20	C	6-LPH-2014/11-PR-2	SPRING CAN	B-34
F-A		F1.20	C	6-LPH-2022/30-PR	3-BOLT, SPRING CAN	B-31
F-A		F1.20	C	6-SI-2012/02-PR-2	SPRING CAN, U-BOLT	B-33
F-A		F1.20	C	6-SI-2024/11-PR	SPRING CAN, U-BOLT	B-32
F-A		F1.20	C	8-AC-2002/24-PR	SPRING CAN, ROD & CLEVIS	B-53
F-A		F1.20	C	8-AC-2003/12-PR	SPRING CAN, ROD & CLEVIS	B-54
F-A		F1.20	C	8-AC-2004/11-PR	SPRING CAN, ROD & CLEVIS	B-55
F-A		F1.20	C	8-CSS-2001/03-PR-3	SPRING CAN/ROD & CLEV	B-27
F-A		F1.20	C	8-CSS-2001/05-PR-3	SPRING CAN/ROD & CLEV	B-26
F-A		F1.20	C	8-CSS-2001/06-PR	SPRING CAN COMPLEX	B-26
F-A		F1.20	C	8-CSS-2002/05-PR	SPRING CAN COMPLEX	B-27
F-A	98	F1.20	C	8-CSS-2003/02-PR-2	SPRING CAN, 3-BOLT	B-28
F-A		F1.20	C	8-CSS-2003/03-PR	SPRING CAN COMPLEX	B-28
F-A	98	F1.20	C	8-HPSI-2001/02-PR-3	SPRING CAN, ROD & CLEVIS	B-40
F-A		F1.20	C	8-LPSI-2001/06-PR	SPRING CAN COMPLEX	B-29
F-A		F1.20	C	8-LPSI-2001/08-PR-2	SPRING CAN, ROD & CLEVIS	B-29
F-A	01	F1.20	C	8-LPSI-2002/10-PR-4	TRAPEZE, DUAL SPRING	B-30
F-A		F1.40	B	CSS-SI-3A-1	PUMP SUPPORT ASSEMBLY	B-47
F-A		F1.40	B	CSS-SI-3A-2	PUMP SUPPORT ASSEMBLY	B-47
F-A		F1.40	B	CSS-SI-3B-1	PUMP SUPPORT ASSEMBLY	B-47
F-A		F1.40	B	CSS-SI-3B-2	PUMP SUPPORT ASSEMBLY	B-47
F-A	01	F1.40	B	CSS-SI-3C-1	PUMP SUPPORT ASSEMBLY	B-47
F-A	01	F1.40	B	CSS-SI-3C-2	PUMP SUPPORT ASSEMBLY	B-47
F-A		F1.40	B	LPSI-SI-1A-1	PUMP SUPPORT ASSEMBLY	B-47
F-A		F1.40	B	LPSI-SI-1A-2	PUMP SUPPORT ASSEMBLY	B-47
F-A	01	F1.40	B	LPSI-SI-1B-1	PUMP SUPPORT ASSEMBLY	B-47
F-A	01	F1.40	B	LPSI-SI-1B-2	PUMP SUPPORT ASSEMBLY	B-47

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
D-A	98	D1.20	A	4-FW-4/PS-FWH-209-1	WELDED SADDLE	C-10
D-A	98	D1.20	A	4-FW-4/PS-FWH-210-1	WELDED SADDLE	C-10
D-A	95	D1.20	A	4-FW-6/PS-FWH-223-1	LUG WELDS	C-12
D-A	96	D1.20	B	4-FW-9B/PS-FWH-221-1	TRUNNION WELD	C-17
D-A	01	D1.20	B	8-FW-1/PR-FWS-54-1	LUG WELDS	C-18
D-A	01	D1.30	S	4-FW-6/PR-FWS-65-1	WELDED SADDLE (SNUBBER)	C-12
D-A	01	D1.40	C	4-FW-4/PS-FWH-205-1	LUG WELDS	C-09
D-A	01	D1.40	C	4-FW-4/PS-FWH-213-1	WELDED SPRING CAN	C-10
D-B	99	D2.20	A	10-AC-1B/PS-ACH-4-1	STRUT WELD	C-38
D-B	99	D2.20	A	10-AC-4B/PR-ACS-81A-1	LUG WELDS	C-50
D-B	99	D2.20	A	12-RW-1/PS-RWH-3-1	WELDED PLATE	C-24
D-B	01	D2.20	A	14-RW-10/RWS-22A-1	LUG WELDS	C-56
D-B	99	D2.20	A	14-RW-1/PR-RWS-50A-1	LUG WELDS	C-19
D-B	01	D2.20	A	16-AC-1/PR-ACS-161-1	WELDED SADDLE	C-36
D-B	99	D2.20	A	16-RW-11/17-PR-VT1	WELDED PLATE	C-58
D-B	01	D2.20	A	16-RW-12/RWH-4-1	WELDED PLATE	C-57
D-B	99	D2.20	A	16-RW-1/PS-RWH-9-1	TRUNNION WELD	C-19
D-B	99	D2.20	A	16-RW-1/PS-RWS-109A-1	LUG WELDS	C-19
D-B	99	D2.20	A	8-AC-2B-/PR-ACS-29A-1	LUG WELDS	C-44
D-B	01	D2.20	A	8-AC-2B-/PR-ACS-31-1	LUG WELDS	C-45
D-B	99	D2.20	B	10-AC-1A/PS-ACH-2-1	LUG WELDS	C-38
D-B	99	D2.20	B	10-AC-1A/PS-ACH-3-1	TRUNNION WELD	C-38
D-B	99	D2.20	B	10-AC-3B/PS-ACH-10-1	TRUNNION WELD	C-49
D-B	99	D2.20	B	12-AC-1/PS-ACH-1-1	TRUNNION WELD	C-37
D-B	99	D2.20	B	12-AC-2/PR-ACS-326-1	LUG WELDS	C-39
D-B	99	D2.20	B	12-AC-2/PR-ACS-76-1	WELDED SADDLE	C-39
D-B	99	D2.20	B	12-AC-4/PS-ACS-335-1	WELDED SADDLE	C-44
D-B	99	D2.20	B	12-RW-10/05-PR-1-VT1	TRUNNION WELD	C-62
D-B	99	D2.20	B	12-RW-10/05-PR-VT1	TRUNNION WELD	C-62
D-B	99	D2.20	B	12-RW-1/PS-RWH-1-1	LUG WELDS	C-24
D-B	99	D2.20	B	12-RW-1/PS-RWH-2-1	LUG WELDS	C-24
D-B	99	D2.20	B	12-RW-2A/PR-RWS-106-1	LUG WELDS	C-28
D-B	99	D2.20	B	12-RW-2B/PS-RWH-16-1	TRUNNION WELD	C-28
D-B	01	D2.20	B	12-RW-3/PR-RWH-39/RWS-31-1	PEDESTAL WELD	C-25
D-B	96	D2.20	B	14-AC-2/PR-ACS-67A-1	LUG WELDS	C-40
D-B	96	D2.20	B	14-AC-3A/PS-ACH-16-1	TRUNNION WELD	C-40
D-B	96	D2.20	B	14-AC-3B/PS-ACH-17-1	TRUNNION WELD	C-40
D-B	99	D2.20	B	14-RW-2/PR-RWH-32-1	PEDESTAL WELD	C-26
D-B	99	D2.20	B	14-RW-2/PR-RWH-34-1	LUG WELDS	C-26
D-B	99	D2.20	B	14-RW-2/PR-RWS-132-1	LUG WELDS	C-26
D-B	99	D2.20	B	14-RW-2/PR-RWS-38-1	TRUNNION WELD	C-26
D-B	01	D2.20	B	16-AC-1/PR-ACS-163-1	WELDED SADDLE	C-36
D-B	99	D2.20	B	16-AC-2/PR-ACS-56A-1	LUG WELDS	C-37
D-B	96	D2.20	B	16-AC-3/PS-ACH-464-1	LUG WELDS	C-40
D-B	01	D2.20	B	16-AC-4/PR-ACS-156A-1	LUG WELDS	C-43
D-B	01	D2.20	B	16-RW-10/19-PR-VT1	TRUNNION WELD	C-61
D-B	01	D2.20	B	16-RW-11/04-PR-VT1	TRUNNION WELD	C-58
D-B	99	D2.20	B	16-RW-14/PS-RWS-25/H-31-1	LUG WELDS	C-25
D-B	01	D2.20	B	16-RW-2/PS-RWH-47-1	LUG WELDS	C-22
D-B	01	D2.20	B	20-RW-1/PS-RWS-118-1	BOX WELDED	C-23

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
D-B	01	D2.20	B	20-RW-1/PS-RWS-119-1	LUG WELDS	C-23
D-B	01	D2.20	B	20-RW-3/PA-RWH-41-1	PEDESTAL WELD	C-25
D-B	01	D2.20	B	20-RW-3/PR-RWH-42-1	PEDESTAL WELD	C-25
D-B	01	D2.20	B	20-RW-3/PS-RWH-36-1	PEDESTAL WELD	C-25
D-B	01	D2.20	B	20-RW-3/PS-RWH-37-1	PEDESTAL WELD	C-25
D-B	01	D2.20	B	20-RW-3/PS-RWH-38-1	PEDESTAL WELD	C-25
D-B	01	D2.20	B	20-RW-3/PS-RWH-40-1	PEDESTAL WELD	C-25
D-B	01	D2.20	B	20-RW-3/PS-RWH-43-1	PEDESTAL WELD	C-25
D-B	01	D2.20	B	20-RW-3/PS-RWS-130-1	LUG WELDS	C-25
D-B	01	D2.20	B	20-RW-4/PR-RWS-36-1	LUG WELD	C-26
D-B	01	D2.20	B	20-RW-5/PS-RWH-26-1	PEDESTAL,WELD	C-27
D-B	96	D2.20	B	6-AC-2/PS-ACS-59-1	TRUNNION WELD	C-37
D-B	01	D2.20	B	8-AC-1A/PR-ACS-19A-1	LUG WELDS	C-39
D-B	01	D2.20	B	8-AC-2B-/PR-ACS-30-1	WELDED SADDLE	C-45
D-B	96	D2.20	B	8-AC-2/PS-ACH-26-1	TRUNNION WELD	C-39
D-B	96	D2.30	S	16-AC-10/PR-ACS-386-1	LUG WELDS (SNUBBER)	C-36
D-B	96	D2.30	S	8-AC-1/PR-ACS-18-1	WELDED SADDLE (SNUBBER)	C-39
D-B	01	D2.40	C	16-RW-10/01-PR-VT1	WELDED PLATE	C-61
D-B	96	D2.40	C	6-AC-5/PS-ACH-34-1	TRUNNION WELD	C-32
D-B	96	D2.40	C	6-AC-6/PS-ACH-37-1	TRUNNION WELD	C-33
F-A	95	F1.30	A	10-AC-1A/PS-ACS-356	STRUT,3-BOLT	C-38
F-A		F1.30	A	10-AC-1B/PS-ACH-4	STRUT, WELDED	C-38
F-A	98	F1.30	A	10-AC-4A/PR-ACS-83	STRUT,3-BOLT	C-50
F-A		F1.30	A	10-AC-4B/PR-ACS-81A	STRUT, 3-BOLT, T/B, LUGS	C-50
F-A		F1.30	A	10-AC-4B/PS-ACH-42	1/2 BOX	C-50
F-A		F1.30	A	10-AC-4B/PS-ACH-43	ANGLE	C-50
F-A		F1.30	A	12-AC-1/PR-ACS-63	STRUTS,3-BOLT	C-37
F-A		F1.30	A	12-AC-4/PR-ACH-32	I-BEAM,2 GANG,C-39 H-31	C-44
F-A		F1.30	A	12-AC-4/PR-ACS-335A	PLATE,3-BOLT	C-44
F-A		F1.30	A	12-AC-4/PS-ACH-467	I-BEAM	C-44
F-A	95RI98	F1.30	A	12-RW-1/PR-RWS-124	STRUT,3-BOLT	C-24
F-A		F1.30	A	12-RW-1/PS-RWH-3	WELDED PLATE, STRUT	C-24
F-A		F1.30	A	12-RW-2A/PR-RWS-105	STRUT,3-BOLT,TURNBUCKLE	C-28
F-A		F1.30	A	12-RW-2A/PS-RWH-17	ROD & CLEVIS	C-28
F-A		F1.30	A	12-RW-2B/PR-RWS-107	STRUT,3-BOLT,TURNBUCKLE	C-28
F-A		F1.30	A	12-RW-2B/PR-RWS-108	STRUT,3-BOLT,TURNBUCKLE	C-28
F-A		F1.30	A	12-RW-2B/PS-RWS-107A	PLATE,3-BOLT	C-28
F-A		F1.30	A	14-AC-1A/PR-ACH-23	ROD & CLEVIS	C-19
F-A		F1.30	A	14-AC-1A/PR-ACS-77	STRUT,3-BOLT,TURNBUCKLE	C-19
F-A		F1.30	A	14-AC-1B/PR-ACS-78A	STRUT,3-BOLT,TURNBUCKLE	C-19
F-A		F1.30	A	14-AC-1B/PS-ACH-21	TRAPEZE,STRUT	C-19
F-A		F1.30	A	14-AC-2/PS-RWH-5	STRUT,3-BOLT	C-40
F-A		F1.30	A	14-AC-3A/PR-ACS-69	STRUT,3-BOLT	C-40
F-A		F1.30	A	14-AC-3A/PR-ACS-73	STRUT,3-BOLT,TURNBUCKLE	C-40
F-A		F1.30	A	14-AC-3A/PS-ACH-19	ROD & CLEVIS	C-40
F-A		F1.30	A	14-AC-3A/PS-ACH-461	PLATE,3-BOLT	C-40
F-A		F1.30	A	14-AC-4/PR-ACS-389	TRAPEZE,U-BOLT,DUAL STRUT	C-43
F-A		F1.30	A	14-RW-10/09-PR	DUAL STRUT,TURNBUCKLE	C-56
F-A		F1.30	A	14-RW-10/09-PR-1	ROD & CLEVIS	C-56
F-A		F1.30	A	14-RW-10/13-PR	STRUT,3-BOLT,TURNBKLE,LUGS	C-56

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	A	14-RW-10/13-PR-1	ROD & CLEVIS	C-56
F-A		F1.30	A	14-RW-10/13-PR-2	STRUT,3-BOLT,TURNBUCKLE	C-56
F-A		F1.30	A	14-RW-10/13-PR-3	STRUT,3-BOLT	C-56
F-A		F1.30	A	14-RW-1/PR-RWS-50A	STRUT, 3-BOLT, T/B, LUGS	C-19
F-A		F1.30	A	14-RW-1/PS-RWH-10	ROD & CLEVIS	C-19
F-A	95ADDL	F1.30	A	14-RW-2/PS-RWS-120	STRUT,3-BOLT,TURNBUCKLE	C-26
F-A	98	F1.30	A	14-RW-2/PS-RWS-26	PLATE,3-BOLT	C-26
F-A	95	F1.30	A	16-AC-10/PS-ACH-384	ROD & CLEVIS	C-34
F-A		F1.30	A	16-AC-1/PR-ACH-7	1/2 BOX	C-37
F-A		F1.30	A	16-AC-1/PR-ACS-161	STRUT, WELDED SADDLE	C-36
F-A		F1.30	A	16-AC-1/PR-ACS-162	STRUT,3-BOLT	C-36
F-A		F1.30	A	16-AC-1/PR-ACS-164	GANG,STRUT,3-BOLT (2-PIPES)	C-36
F-A		F1.30	A	16-AC-1/PR-ACS-60	STRUT,3-BOLT,TURNBUCKLE	C-37
F-A		F1.30	A	16-AC-1/PR-ACS-61	STRUT,3-BOLT,TURNBUCKLE	C-36
F-A		F1.30	A	16-AC-1/PS-ACH-236	STRUT,3-BOLT,GANG (2-PIPES)	C-36
F-A		F1.30	A	16-AC-1/PS-ACH-237	ROD & CLEVIS	C-36
F-A		F1.30	A	16-AC-1/PS-ACH-238	ROD & CLEVIS	C-36
F-A		F1.30	A	16-AC-1/PS-ACH-239	STRUT,3-BOLT	C-36
F-A		F1.30	A	16-AC-1/PS-ACH-240	ROD,3-BOLT	C-36
F-A		F1.30	A	16-AC-2/PR-ACS-56	STRUT,3-BOLT,TURNBUCKLE	C-37
F-A		F1.30	A	16-AC-2/PS-ACH-5	ROD & CLEVIS	C-37
F-A		F1.30	A	16-AC-3/PR-ACS-357	PLATE,3-BOLT	C-40
F-A		F1.30	A	16-AC-3/PS-ACH-6	STRUT,3-BOLT	C-40
F-A		F1.30	A	16-AC-4/PR-ACS-155	STRUT,3-BOLT,2 GANG (C-36)	C-43
F-A	96	F1.30	A	16-AC-4/PR-ACS-158	TRAPEZE,U-BOLT,DUAL STRUT	C-41
F-A		F1.30	A	16-AC-4/PR-ACS-159	STRUT,3-BOLT,TURNBUCKLE	C-41
F-A		F1.30	A	16-AC-4/PR-ACS-79	TRAPEZE,U-BOLT, DUAL STRUT & T/B	C-41
F-A		F1.30	A	16-AC-4/PS-ACH-229	STRUT,3-BOLT C-36 #236	C-43
F-A		F1.30	A	16-AC-4/PS-ACH-230	ROD & CLEVIS	C-43
F-A		F1.30	A	16-AC-4/PS-ACH-231	ROD & CLEVIS	C-43
F-A		F1.30	A	16-AC-4/PS-ACH-232	ROD & CLEVIS	C-43
F-A		F1.30	A	16-AC-4/PS-ACH-233	ROD & CLEVIS	C-41
F-A		F1.30	A	16-AC-4/PS-ACH-234	STRUT,3-BOLT	C-41
F-A	96	F1.30	A	16-AC-4/PS-ACH-235	STRUT,3-BOLT	C-41
F-A		F1.30	A	16-AC-4/PS-ACH-24	PLATE,3-BOLT	C-41
F-A		F1.30	A	16-AC-6/PR-ACH-246	TRAPEZE,DUAL STRUT,U-BOLT	C-47
F-A		F1.30	A	16-AC-6/PR-ACS-378	STRUT,3-BOLT	C-48
F-A		F1.30	A	16-AC-6/PR-ACS-84	STRUT,3-BOLT,TURNBUCKLE	C-48
F-A		F1.30	A	16-AC-6/PR-ACS-84A	STRUT,3-BOLT,TURNBUCKLE	C-48
F-A		F1.30	A	16-AC-6/PS-ACH-244	STRUT,3-BOLT	C-47
F-A		F1.30	A	16-AC-6/PS-ACH-245	TRAPEZE,U-BOLT,DUAL ROD	C-47
F-A		F1.30	A	16-AC-6/PS-ACH-451	ROD,3-BOLT,TURNBUCKLE	C-47
F-A		F1.30	A	16-AC-6/PS-ACH-452	TRAPEZE,SADDLE	C-48
F-A		F1.30	A	16-AC-6/PS-ACH-8	STRUT,3-BOLT	C-48
F-A		F1.30	A	16-AC-6/PS-ACH-9	STRUT,3-BOLT	C-48
F-A		F1.30	A	16-AC-6/PS-ACS-168	STRUT,3-BOLT,2 GANG	C-47
F-A		F1.30	A	16-RW-10/05-PR	THREADED ROD W/3-BOLT	C-61
F-A		F1.30	A	16-RW-10/05-PR-1	TRAPEZE	C-61
F-A		F1.30	A	16-RW-10/16-PR	ROD, 3-BOLT	C-61
F-A	01	F1.30	A	16-RW-10/22-PR-1	THREADED ROD, 3-BOLT	C-61

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	A	16-RW-11/06-PR	ROD & CLEVIS	C-58
F-A		F1.30	A	16-RW-11/06-PR-1	STRUT,3-BOLT	C-58
F-A		F1.30	A	16-RW-11/08-PR	RIGID STRUT W/U-BOLT	C-58
F-A		F1.30	A	16-RW-11/08-PR-1	ROD & CLEVIS	C-58
F-A		F1.30	A	16-RW-11/10-PR	ROD & CLEVIS	C-58
F-A		F1.30	A	16-RW-11/10-PR-2	ROD & CLEVIS	C-58
F-A		F1.30	A	16-RW-11/14-PR	STRUT W/TURNBUCKLE,3-BOLT	C-58
F-A		F1.30	A	16-RW-11/14-PR-1	TRAPEZE W/U-BOLT	C-58
F-A		F1.30	A	16-RW-11/14-PR-2	STRUT W/TURNBUCKLE,3-BOLT	C-58
F-A		F1.30	A	16-RW-11/17-PR	ROD W/WELDED LUG	C-58
F-A		F1.30	A	16-RW-12/06-PR	PLATE,3-BOLT	C-57
F-A		F1.30	A	16-RW-12/06-PR-1	TRAPEZE,U-BOLT,DUAL STRUT	C-57
F-A		F1.30	A	16-RW-12/08-PR	STRUT,3-BOLT,TURNBUCKLE	C-57
F-A		F1.30	A	16-RW-12/09-PR	WELDED PLATE,ROD	C-57
F-A		F1.30	A	16-RW-12/12-PR	ROD & CLEVIS	C-57
F-A	01	F1.30	A	16-RW-12/12-PR-1	STRUT, 3-BOLT	C-57
F-A		F1.30	A	16-RW-12/14-PR	STRUT,3-BOLT, TURNBUCKLE	C-57
F-A		F1.30	A	16-RW-1/PR-RWS-109	STRUT,3-BOLT,TURNBUCKLE	C-19
F-A		F1.30	A	16-RW-1/PS-RWH-9	RIGID SUPPORT,WELD	C-19
F-A		F1.30	A	16-RW-1/PS-RWS-109A	STRUT, 3-BOLT, T/B, LUGS	C-19
F-A		F1.30	A	16-RW-2/PR-RWS-123A	STRUT,3-BOLT	C-22
F-A		F1.30	A	16-RW-2/PR-RWS-51	PLATE,3-BOLT	C-22
F-A		F1.30	A	16-RW-2/PR-RWS-52	STRUT,3-BOLT,TURNBUCKLE	C-22
F-A		F1.30	A	16-RW-2/PR-RWS-75A	STRUT,3-BOLT,TURNBUCKLE	C-21
F-A		F1.30	A	16-RW-2/PR-RWS-76A	STRUT,3-BOLT,TURNBUCKLE	C-21
F-A		F1.30	A	16-RW-2/PR-RWS-79A	STRUT,3-BOLT,TURNBUCKLE	C-21
F-A		F1.30	A	16-RW-2/PS-RWH-107	STRUT,3-BOLT	C-21
F-A		F1.30	A	16-RW-2/PS-RWH-109	ROD & CLEVIS	C-21
F-A		F1.30	A	16-RW-2/PS-RWH-110	STRUT, 3-BOLT	C-21
F-A		F1.30	A	16-RW-2/PS-RWS-52A	PLATE,3-BOLT	C-22
F-A	95	F1.30	A	1.5-FW-1/PR-FWSP-20	STRUT, 3-BOLT	C-01
F-A		F1.30	A	1.5-FW-2/PS-FWSP-31	STRUT,3-BOLT	C-16
F-A		F1.30	A	1.5-FW-2/PS-MSSP-3A	ROD & CLEVIS	C-15
F-A		F1.30	A	20-RW-1/PR-RWH-140	STRUT,3-BOLT	C-23
F-A	01	F1.30	A	20-RW-1/PR-RWH-69B	PLATE,3-BOLT	C-23
F-A		F1.30	A	20-RW-1/PR-RWS-46	STRUTS,3-BOLT,TURNBUCKLE	C-23
F-A	01	F1.30	A	20-RW-1/PS-RWH-139	STRUTS,3-BOLT	C-23
F-A		F1.30	A	20-RW-1/PS-RWH-44	ROD,3-BOLT	C-23
F-A	01	F1.30	A	20-RW-1/PS-RWH-64	PEDESTAL,I-BEAM	C-23
F-A		F1.30	A	20-RW-1/PS-RWH-65	PEDESTAL,I-BEAM	C-23
F-A		F1.30	A	20-RW-1/PS-RWH-70	PEDESTAL,DUAL STRUT	C-23
F-A		F1.30	A	20-RW-1/PS-RWS-44A	STRUT,U-BOLT,TURNBUCKLE	C-23
F-A		F1.30	A	20-RW-1/PS-RWS-47	STRUT,3-BOLT,TURNBUCKLE	C-23
F-A		F1.30	A	20-RW-3/PR-RWS-28	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-3/PR-RWS-29	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-3/PR-RWS-30	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-3/PR-RWS-32	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-3/PR-RWS-33	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-3/PR-RWS-35	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-3/PS-RWH-141	PEDESTAL	C-25

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	A	20-RW-3/PS-RWH-142	PEDESTAL	C-25
F-A		F1.30	A	20-RW-3/PS-RWH-35	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-3/PS-RWS-27	STRUT,3-BOLT,TURNBUCKLE	C-25
F-A		F1.30	A	20-RW-3/PS-RWS-34	STRUT,3-BOLT	C-25
F-A		F1.30	A	20-RW-4/PR-RWS-41	TRAPEZE, U-BOLT,STRUTS	C-27
F-A		F1.30	A	20-RW-4/PR-RWS-42	TRAPEZE, U-BOLT,STRUTS	C-27
F-A	01	F1.30	A	20-RW-5/PR-RWS-39	TRAPEZE, U-BOLT,STRUTS	C-27
F-A	95ADDL	F1.30	A	20-RW-5/PS-RWH-143	STRUT,3-BOLT	C-27
F-A	95ADDL	F1.30	A	20-RW-5/PS-RWH-23	STRUT,3-BOLT	C-27
F-A	01	F1.30	A	20-RW-5/PS-RWH-24	TRAPEZE,ROD & CLEVIS	C-27
F-A		F1.30	A	20-RW-5/PS-RWH-25	TRAPEZE,ROD & CLEVIS	C-27
F-A		F1.30	A	20-RW-5/PS-RWH-27	ROD,3-BOLT	C-27
F-A		F1.30	A	2-FW-3/PS-FWSP-03	ROD & CLEVIS	C-06
F-A		F1.30	A	2-FW-3/PS-FWSP-03A	ROD & CLEVIS	C-06
F-A		F1.30	A	2-FW-3/PS-FWSP-04	ROD & CLEVIS	C-06
F-A		F1.30	A	2-FW-3/PS-FWSP-05	ROD & CLEVIS	C-06
F-A		F1.30	A	2-FW-3/PS-FWSP-06	ROD & CLEVIS	C-06
F-A		F1.30	A	2-FW-3/PS-FWSP-07	ROD & CLEVIS	C-06
F-A		F1.30	A	2-MS-4/13-PR	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/17-PR	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/21-PR-1	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/23-PR	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/23-PR-1	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/25-PR	PLATE, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/25-PR-1	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/27-PR	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/31-PR	STRUT, 3-BOLT	C-55
F-A		F1.30	A	2-MS-4/43-PR-1	STRUT, 3-BOLT	C-53
F-A		F1.30	A	2-MS-4/47-PR	ROD & CLEVIS	C-53
F-A		F1.30	A	2-MS-4/47-PR-3	ROD & CLEVIS	C-53
F-A		F1.30	A	2-MS-4/49-PR-2	ROD, 3-BOLT	C-53
F-A		F1.30	A	2-MS-5/15-PR	STRUT, 3-BOLT	C-54
F-A		F1.30	A	2-MS-5/15-PR-1	STRUT, 3-BOLT	C-54
F-A		F1.30	A	2-MS-5/17-PR	STRUT, 3-BOLT	C-54
F-A		F1.30	A	2-MS-5/27-PR-2	ANGLE, U-BOLT	C-54
F-A		F1.30	A	2-MS-5/27-PR-3	ROD & CLEVIS	C-54
F-A		F1.30	A	2-MS-5/29-PR-1	ROD & CLEVIS	C-54
F-A		F1.30	A	2-MS-5/29-PR-2	ROD & CLEVIS	C-54
F-A	01	F1.30	A	2-MS-5/33-PR-1	STRUT, 3-BOLT	C-54
F-A		F1.30	A	2-MS-5/55-PR	STRUT, 3-BOLT	C-53
F-A		F1.30	A	2-MS-5/55-PR-1	STRUT, 3-BOLT	C-53
F-A		F1.30	A	3-FW-1/PS-FWH-147	ROD,3-BOLT	C-14
F-A		F1.30	A	3-FW-1/PS-FWH-148	ROD,3-BOLT,TURNBUCKLE	C-14
F-A		F1.30	A	3-FW-1/PS-FWH-226	TRAPEZE,ROD	C-14
F-A		F1.30	A	3-FW-2/PS-FWH-149	ROD,3-BOLT	C-14
F-A	01	F1.30	A	3-FW-2/PS-FWS-116	STRUT,SADDLE CLAMP	C-14
F-A		F1.30	A	3-FW-3/PR-FWH-145	ROD,3-BOLT,TURNBUCKLE	C-13
F-A		F1.30	A	3-FW-3/PS-FWH-143	ROD, 3-BOLT	C-13
F-A		F1.30	A	3-FW-3/PS-FWH-144	ROD, 3-BOLT	C-13
F-A		F1.30	A	3-FW-3/PS-FWS-117	STRUT,SADDLE CLAMP	C-13

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	A	4-FW-2B/PS-FWS-30A	STRUT,3-BOLT	C-08
F-A		F1.30	A	4-FW-3B/PR-FWS-86	STRUT,3-BOLT,TRNBUCKLE	C-09
F-A		F1.30	A	4-FW-4/PS-FWH-207	STRUT,3-BOLT	C-10
F-A		F1.30	A	4-FW-4/PS-FWH-208	ROD,3-BOLT	C-10
F-A		F1.30	A	4-FW-4/PS-FWH-209	TRAPEZE,SADDLE WELD, ROD	C-10
F-A		F1.30	A	4-FW-4/PS-FWH-210	TRAPEZE,SADDLE WELD, ROD	C-10
F-A		F1.30	A	4-FW-4/PS-FWH-211	ROD,3-BOLT	C-10
F-A		F1.30	A	4-FW-4/PS-FWH-212	ROD,3-BOLT	C-10
F-A		F1.30	A	4-FW-5/PR-FWH-135	ANGLE,3-BOLT	C-11
F-A		F1.30	A	4-FW-5/PR-FWS-120	STRUT,3-BOLT	C-11
F-A		F1.30	A	4-FW-5/PS-FWH-133	ANGLE,3-BOLT	C-11
F-A		F1.30	A	4-FW-5/PS-FWH-134	ANGLE,3-BOLT	C-11
F-A		F1.30	A	4-FW-5/PS-FWH-137	PEDESTAL,3-BOLT	C-11
F-A	01	F1.30	A	4-FW-6/PS-FWH-130	ROD,3-BOLT,TURNBUCKLE	C-12
F-A		F1.30	A	4-FW-6/PS-FWH-131	ROD,3-BOLT	C-12
F-A		F1.30	A	4-FW-6/PS-FWH-132	ROD,3-BOLT	C-12
F-A		F1.30	A	4-FW-6/PS-FWH-14	TRAPEZE,3-BOLT,ROD	C-08
F-A	95	F1.30	A	4-FW-6/PS-FWH-223	ROD, BOX, LUGS	C-12
F-A		F1.30	A	4-FW-6/PS-FWS-29	STRUT,3-BOLT,TRNBUCKLE	C-08
F-A		F1.30	A	4-FW-7/PR-FWS-75	STRUT,3-BOLT,TURNBUCKLE	C-13
F-A		F1.30	A	4-FW-7/PS-FWH-141	ROD,3-BOLT	C-13
F-A		F1.30	A	4-FW-7/PS-FWH-142	ROD,3-BOLT,T/B	C-13
F-A	96	F1.30	A	6-AC-1/PR-ACS-144	STRUT,3-BOLT	C-35
F-A		F1.30	A	6-AC-1/PR-ACS-144A	STRUT,3-BOLT,TURNBUCKLE	C-35
F-A		F1.30	A	6-AC-1/PR-ACS-146	STRUT,3-BOLT,TURNBUCKLE	C-35
F-A		F1.30	A	6-AC-1/PR-ACS-148	STRUT,3-BOLT,TURNBUCKLE	C-35
F-A		F1.30	A	6-AC-1/PR-ACS-148A	STRUT,3-BOLT,TURNBUCKLE	C-35
F-A		F1.30	A	6-AC-1/PR-ACS-150	STRUT,3-BOLT,TURNBUCKLE	C-35
F-A		F1.30	A	6-AC-1/PR-ACS-178	STRUT,3-BOLT	C-35
F-A		F1.30	A	6-AC-1/PS-ACH-228	ROD & CLEVIS	C-35
F-A		F1.30	A	6-AC-1/PS-ACH-255	ROD & CLEVIS	C-35
F-A		F1.30	A	6-AC-1/PS-ACH-256	ROD & CLEVIS	C-35
F-A		F1.30	A	6-AC-1/PS-ACH-257	ROD & CLEVIS	C-35
F-A		F1.30	A	6-AC-1/PS-ACH-458	ROD & CLEVIS	C-35
F-A		F1.30	A	6-AC-1/PS-ACH-459	I-BEAM	C-35
F-A		F1.30	A	6-AC-3/PR-ACS-143	STRUT,3-BOLT	C-51
F-A	96	F1.30	A	6-AC-3/PR-ACS-143A	STRUT,3-BOLT	C-51
F-A		F1.30	A	6-AC-3/PR-ACS-145	STRUT,3-BOLT,TURNBUCKLE	C-52
F-A		F1.30	A	6-AC-3/PR-ACS-147	STRUT,3-BOLT,TURNBUCKLE	C-51
F-A		F1.30	A	6-AC-3/PR-ACS-149	STRUT,3-BOLT,TURNBUCKLE	C-51
F-A		F1.30	A	6-AC-3/PR-ACS-180	STRUT,3-BOLT,TRNBUCKLE	C-52
F-A	96	F1.30	A	6-AC-3/PS-ACH-226	TRAPEZE,U-BOLT,2-PIPES,DUAL RODS	C-51
F-A		F1.30	A	6-AC-3/PS-ACH-227	STRUT,3-BOLT	C-52
F-A		F1.30	A	6-AC-3/PS-ACH-258	ROD & CLEVIS	C-52
F-A		F1.30	A	6-AC-3/PS-ACH-259	ROD & CLEVIS	C-52
F-A		F1.30	A	6-AC-3/PS-ACH-260	ROD & CLEVIS	C-52
F-A		F1.30	A	6-AC-3/PS-ACH-267	ROD,3-BOLT	C-51
F-A		F1.30	A	6-AC-5/PR-ACS-317	STRUT,3-BOLT,TURNBUCKLE	C-32
F-A		F1.30	A	6-AC-5/PR-ACS-318	STRUT,3-BOLT,TURNBUCKLE	C-32
F-A		F1.30	A	6-AC-5/PR-ACS-319	STRUT,3-BOLT	C-32

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	A	6-AC-5/PR-ACS-320	STRUT,3-BOLT	C-32
F-A		F1.30	A	6-AC-5/PS-ACH-33	ROD & CLEVIS	C-32
F-A		F1.30	A	6-AC-6/PR-ACS-315	STRUT,3-BOLT,TURNBUCKLE	C-33
F-A		F1.30	A	6-AC-6/PR-ACS-321	STRUT,3-BOLT	C-33
F-A		F1.30	A	6-AC-6/PR-ACS-322	STRUT,3-BOLT	C-33
F-A		F1.30	A	6-AC-6/PS-ACH-36	ROD & CLEVIS	C-33
F-A	01	F1.30	A	6-FW-1A/PR-FWS-27	STRUT,3-BOLT	C-17
F-A		F1.30	A	6-FW-1A/PS-FWH-12	ROD&CLEVIS,TRNBUCKLE	C-17
F-A		F1.30	A	6-FW-1A/PS-FWH-222	STRUT,3-BOLT	C-17
F-A		F1.30	A	6-RW-11/10-PR	THREADED ROD & CLEVIS	C-62
F-A		F1.30	A	6-RW-11/12-PR	STRUT, 3-BOLT, TURNBUCKLE	C-62
F-A		F1.30	A	6-RW-11/12-PR-1	ROD & CLEVIS	C-62
F-A		F1.30	A	6-RW-11/14-PR	STRUT, TURNBUCKLE, 3-BOLT	C-62
F-A		F1.30	A	6-RW-11/14-PR-1	ROD & CLEVIS	C-62
F-A		F1.30	A	6-RW-11/16-PR	STRUT,3-BOLT,TURNBUCKLE	C-62
F-A		F1.30	A	6-RW-11/16-PR-1	ROD & CLEVIS	C-62
F-A		F1.30	A	8-AC-1A/PR-ACS-19	STRUT,3-BOLT,TURNBUCKLE	C-39
F-A		F1.30	A	8-AC-1A/PR-ACS-20	STRUT,3-BOLT,TURNBUCKLE	C-39
F-A		F1.30	A	8-AC-1A/PS-ACH-199	PLATE,3-BOLT	C-39
F-A		F1.30	A	8-AC-1A/PS-ACH-201	ROD & CLEVIS	C-39
F-A		F1.30	A	8-AC-1A/PS-ACH-463	STRUT,3-BOLT	C-39
F-A		F1.30	A	8-AC-1/PS-ACH-195	STRUT,U-BOLT	C-39
F-A	98	F1.30	A	8-AC-1/PS-ACH-197	ROD & CLEVIS	C-39
F-A		F1.30	A	8-AC-2A/PR-ACS-333	STRUT,3-BOLT,TURNBUCKLE	C-44
F-A		F1.30	A	8-AC-2A/PS-ACH-28	ROD & CLEVIS	C-44
F-A		F1.30	A	8-AC-2B-/PR-ACS-29A	STRUT, 3-BOLT, LUGS	C-44
F-A		F1.30	A	8-AC-2B-/PR-ACS-31	STRUT, 3-BOLT, LUGS	C-45
F-A	98	F1.30	A	8-AC-2B/PR-ACH-194	STRUT,U-BOLT	C-44
F-A	98	F1.30	A	8-AC-2B/PR-ACS-28	STRUT,U-BOLT,TURNBUCKLE	C-44
F-A		F1.30	A	8-AC-2B/PR-ACS-30A	PLATE,3-BOLT	C-45
F-A		F1.30	A	8-AC-2B/PR-ACS-388	STRUT,3-BOLT	C-45
F-A		F1.30	A	8-AC-2B/PS-ACH-196	TRAPEZE, U-BOLT,DUAL ROD	C-44
F-A		F1.30	A	8-AC-2B/PS-ACH-198	STRUT,3-BOLT	C-44
F-A		F1.30	A	8-AC-2B/PS-ACH-200	TRAPEZE,U-BOLT,DUAL ROD	C-45
F-A		F1.30	A	8-AC-2B/PS-ACH-203	ROD & CLEVIS	C-45
F-A		F1.30	A	8-AC-2B/PS-ACH-468	STRUT,3-BOLT	C-44
F-A		F1.30	A	8-AC-2/PR-ACS-323	STRUT,3-BOLT,TURNBUCKLE	C-39
F-A		F1.30	A	8-AC-2/PR-ACS-75	STRUT,3-BOLT	C-39
F-A		F1.30	A	8-FW-1/PR-FWS-108	STRUT,3-BOLT	C-17
F-A		F1.30	A	8-FW-1/PR-FWS-25	STRUT,3-BOLT,TURNBUCKLE	C-17
F-A	01	F1.30	A	8-FW-1/PR-FWS-59	STRUT,3-BOLT,TURNBUCKLE	C-18
F-A		F1.30	A	8-FW-1/PS-FWH-9	STRUT,3-BOLT	C-17
F-A	98	F1.30	B	10-AC-1A/PS-ACH-2	RISER,LUGS	C-38
F-A	98	F1.30	B	10-AC-1A/PS-ACH-3	TRUNNION	C-38
F-A		F1.30	B	10-AC-2A/PS-ACH-46	PEDESTAL, 3/4 BOX	C-38
F-A		F1.30	B	10-AC-2B/PS-ACH-45	PEDESTAL, 3/4 BOX	C-38
F-A		F1.30	B	10-AC-3B/PS-ACH-10	TRUNNION	C-49
F-A		F1.30	B	10-AC-4A/PS-ACH-44	PEDESTAL,U-BOLT	C-50
F-A		F1.30	B	10-AC-4B/PR-ACS-379	3/4 BOX	C-50
F-A		F1.30	B	10-AC-4B/PR-ACS-82	3/4 BOX, U-BOLT	C-50

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A	98	F1.30	B	10-AC-4B/PS-ACH-41	FULL BOX	C-50
F-A		F1.30	B	12-AC-1/PS-ACH-1	TRUNNION	C-37
F-A		F1.30	B	12-AC-2/PR-ACS-325	PLATE, U-BOLT	C-39
F-A		F1.30	B	12-AC-2/PR-ACS-326	STRUT, 3-BOLT, T/B, LUGS	C-39
F-A		F1.30	B	12-AC-2/PR-ACS-76	GANG,U-BOLT, WELDED SADDLE	C-39
F-A		F1.30	B	12-AC-2/PS-ACH-31	GANG,U-BOLT,ANGLE	C-39
F-A		F1.30	B	12-AC-3A/PS-ACH-370/ACS-187	PEDESTAL,U-BOLT	C-42
F-A		F1.30	B	12-AC-3B/PS-ACH-369/ACS-186	PEDESTAL,U-BOLT	C-42
F-A	96	F1.30	B	12-AC-3C/PS-ACH-367/ACS-184	PEDESTAL,U-BOLT	C-42
F-A		F1.30	B	12-AC-3C/PS-ACH-368/ACS-185	PEDESTAL,U-BOLT	C-42
F-A		F1.30	B	12-AC-4/PS-ACS-335	STRUT,SADDLE WELD	C-44
F-A		F1.30	B	12-AC-5A/PS-ACH-366	PEDESTAL,U-BOLT	C-46
F-A		F1.30	B	12-AC-5B/PS-ACH-365	PEDESTAL,U-BOLT	C-46
F-A		F1.30	B	12-AC-5C/PS-ACH-364	PEDESTAL,U-BOLT,SLIDER	C-46
F-A		F1.30	B	12-AC-6A/PR-ACH-11/S-81	DUAL STRUT,3-BOLT	C-49
F-A	01	F1.30	B	12-RW-10/05-PR	STRUT,3-BOLT,TRUNNION, TURNBUCKLE	C-62
F-A		F1.30	B	12-RW-10/05-PR-1	STRUT, 3-BOLT, TURNBUCKLE, TRUNNION	C-62
F-A	95ADDL	F1.30	B	12-RW-1/PS-RWH-1	RISER,LUGS	C-24
F-A	95ADDL	F1.30	B	12-RW-1/PS-RWH-2	RISER,LUGS	C-24
F-A		F1.30	B	12-RW-2A/PR-RWS-106	STRUT, 3-BOLT, T/B, LUGS	C-28
F-A	98	F1.30	B	12-RW-2B/PS-RWH-16	TRUNNION	C-28
F-A		F1.30	B	14-AC-1B/PR-ACH-22	TRAPEZE,SADDLE,STRUT	C-19
F-A		F1.30	B	14-AC-1B/PR-ACS-78	3/4 BOX	C-19
F-A		F1.30	B	14-AC-2/PR-ACS-67A	STRUT, 3-BOLT, LUGS	C-40
F-A		F1.30	B	14-AC-2/PS-ACH-14	PEDESTAL,DUAL U-BOLT	C-40
F-A		F1.30	B	14-AC-2/PS-ACH-15	PEDESTAL,DUAL U-BOLT	C-40
F-A		F1.30	B	14-AC-2/PS-RWH-8	PEDESTAL, U-BOLT	C-40
F-A		F1.30	B	14-AC-3A/PS-ACH-16	TRUNNION	C-40
F-A		F1.30	B	14-AC-3B/PR-ACS-381	DUAL STRUT,3-BOLT	C-40
F-A		F1.30	B	14-AC-3B/PS-ACH-17	TRUNNION	C-40
F-A		F1.30	B	14-RW-1/PR-RWS-50	TRAPEZE,U-BOLT,STRUTS	C-19
F-A		F1.30	B	14-RW-2/PR-RWH-32	PEDESTAL, WELD	C-26
F-A	98	F1.30	B	14-RW-2/PR-RWH-34	RISER, LUGS	C-26
F-A		F1.30	B	14-RW-2/PR-RWS-132	LUGS, 3-BOLT	C-26
F-A	98	F1.30	B	14-RW-2/PR-RWS-38	TRUNNION, CLAMP	C-26
F-A		F1.30	B	14-RW-2/PS-RWH-33	PEDESTAL/SADDLE	C-26
F-A		F1.30	B	16-AC-10/PR-ACS-387	STRUTS,3-BOLTS	C-36
F-A		F1.30	B	16-AC-10/PS-ACH-383	GANG(2-PIPES),PEDSTL,U-BOLT	C-34
F-A		F1.30	B	16-AC-1/PR-ACS-160	FULL BOX	C-36
F-A		F1.30	B	16-AC-1/PR-ACS-163	U-BOLT, WELDED SADDLE	C-36
F-A		F1.30	B	16-AC-1/PR-ACS-383	FULL BOX	C-36
F-A		F1.30	B	16-AC-1/PS-ACH-241	TRAPEZE,SADDLE	C-36
F-A		F1.30	B	16-AC-2/PR-ACS-56A	STRUT,3-BOLT, T/B, LUGS	C-37
F-A		F1.30	B	16-AC-3/PR-ACH-12/ACS-57	STRUT,3-BOLT,I-BEAM	C-40
F-A		F1.30	B	16-AC-3/PS-ACH-464	RISER,LUGS	C-40
F-A		F1.30	B	16-AC-4/PR-ACS-156/156A	FULL BOX, 3-BOLT, T/B, LUGS	C-43
F-A		F1.30	B	16-AC-4/PR-ACS-380	STRUT,U-BOLT	C-41
F-A	96	F1.30	B	16-AC-5/PS-ACH-371/ACS-188	PEDESTAL,U-BOLT	C-42
F-A		F1.30	B	16-AC-5/PS-ACH-372	PEDESTAL,U-BOLT C-34,383	C-42
F-A		F1.30	B	16-AC-6/PR-ACS-166/H-243	STRUT,3-BOLT,CONNECT TO 243	C-47

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	B	16-AC-6/PR-ACS-167	I-BEAM,U-BOLT	C-47
F-A		F1.30	B	16-AC-6/PR-ACS-377	FULL BOX	C-47
F-A		F1.30	B	16-AC-7/PS-ACH-374/ACS-191	PEDESTAL,U-BOLT	C-31
F-A		F1.30	B	16-AC-8/PS-ACH-373/ACS-190	PEDESTAL, U-BOLT	C-31
F-A		F1.30	B	16-AC-9A/PS-ACH-386	PEDESTAL,U-BOLT	C-34
F-A	95	F1.30	B	16-AC-9B/PS-ACH-385	PEDESTAL,U-BOLT	C-34
F-A		F1.30	B	16-RW-10/13-PR	BOX RESTRAINT	C-61
F-A		F1.30	B	16-RW-10/19-PR	TRUNNION, SLIDER	C-61
F-A		F1.30	B	16-RW-10/22-PR	PEDESTAL, U-BOLT	C-61
F-A		F1.30	B	16-RW-11/01-PR	DUAL STRUT W/3-BOLTS	C-58
F-A		F1.30	B	16-RW-11/04-PR	TRUNNION	C-58
F-A	01	F1.30	B	16-RW-11/10-PR-1	ANGLE IRON W/U-BOLT	C-58
F-A		F1.30	B	16-RW-11/10-PR-3	ANGLE IRON W/U-BOLT	C-58
F-A		F1.30	B	16-RW-11/18-PR	FULL BOX	C-58
F-A		F1.30	B	16-RW-13/02-PR	DUAL STRUT & 3-BOLT	C-60
F-A		F1.30	B	16-RW-13/06-PR	FULL BOX,PED	C-60
F-A		F1.30	B	16-RW-13/06-PR-1	PED W/U-BOLT	C-60
F-A		F1.30	B	16-RW-13/12-PR	TRAPEZE,U-BOLT/STRUT,3-BOLT	C-60
F-A		F1.30	B	16-RW-13/12-PR-1	SLIDE PLATE/U-BOLT	C-60
F-A	98	F1.30	B	16-RW-14/PS-RWS-25/H-31	RISER,LUGS	C-25
F-A		F1.30	B	16-RW-2/PR-RWH-113	FULL BOX, GANG (3 PIPES)	C-22
F-A		F1.30	B	16-RW-2/PR-RWS-51A	PLATE,3-BOLT	C-22
F-A		F1.30	B	16-RW-2/PR-RWS-77	FULL BOX	C-21
F-A		F1.30	B	16-RW-2/PR-RWS-78	FULL BOX	C-21
F-A		F1.30	B	16-RW-2/PS-RWH-106/RWS-75	DUAL STRUT,3-BOLT	C-21
F-A		F1.30	B	16-RW-2/PS-RWH-108	I-BEAM,U-BOLT	C-21
F-A		F1.30	B	16-RW-2/PS-RWH-124/RWS-90	PEDESTAL, U-BOLT	C-20
F-A		F1.30	B	16-RW-2/PS-RWH-125/RWS-91	PEDESTAL,STRUT,U-BOLT	C-21
F-A		F1.30	B	16-RW-2/PS-RWH-127/RWS-93	DUAL STRUT,3-BOLT	C-21
F-A		F1.30	B	16-RW-2/PS-RWH-47	RISER,LUGS	C-22
F-A		F1.30	B	16-RW-2/PS-RWH-48	TRAPEZE,U-BOLT,STRUT	C-22
F-A		F1.30	B	16-RW-2/PS-RWS-127	3/4 BOX, PEDASTAL	C-21
F-A		F1.30	B	16-RW-2/PS-RWS-92	DUAL STRUT, 3-BOLT	C-21
F-A		F1.30	B	16-RW-4/PS-RWS-35A	PEDESTAL, U-BOLT	C-26
F-A		F1.30	B	1.5-FW-2/FWSP-23	C-7 GANG SUPPORT,3/4 BOX RESTRNT	C-16
F-A		F1.30	B	1.5-FW-2/PR-FWSP-18	ANGLE,U-BOLT	C-15
F-A		F1.30	B	1.5-FW-2/PS-FWSP-13	SEE C-7, GANG ANGLE U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-14	SEE C-7, 3-GANG, ANGLE U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-15	SEE C-7, 3-GANG, ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-16	SEE C-7, 3-GANG, ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-17	SEE C-7, 3-GANG, ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-18	SEE C-7, 2 GANG, ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-22	I-BEAM, U-BOLT	C-15
F-A		F1.30	B	1.5-FW-2/PS-FWSP-25	ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-26	ANGLE,U-BOLT	C-16
F-A	01	F1.30	B	1.5-FW-2/PS-FWSP-27	ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-28	ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-29	ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-30	ANGLE,U-BOLT	C-16
F-A		F1.30	B	1.5-FW-2/PS-FWSP-41	C-7 GANG,ANGLE,U-BOLT	C-16

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	B	1.5-FW-2/PS-MSSP-3	ANGLE,U-BOLT,GANG-2	C-15
F-A		F1.30	B	1.5-FW-2/PS-MSSP-61	ANGLE,U-BOLT,GANG	C-15
F-A		F1.30	B	20-RW-1/PR-RWH-121A	TRAPEZE, U-BOLT,STRUTS	C-23
F-A		F1.30	B	20-RW-1/PR-RWH-45	TRAPEZE, U-BOLT,STRUTS	C-23
F-A		F1.30	B	20-RW-1/PR-RWH-66A	PEDESTAL, U-BOLT	C-23
F-A		F1.30	B	20-RW-1/PR-RWH-69A	PEDESTAL, U-BOLT	C-23
F-A		F1.30	B	20-RW-1/PR-RWS-119	PEDESTAL,FULL BOX,LUGS	C-23
F-A		F1.30	B	20-RW-1/PS-RWH-66B	PEDESTAL, U-BOLT	C-23
F-A		F1.30	B	20-RW-1/PS-RWH-67	PEDESTAL,SADDLE	C-23
F-A		F1.30	B	20-RW-1/PS-RWH-68	BOX,FULL	C-23
F-A		F1.30	B	20-RW-1/PS-RWS-118	FULL BOX, PEDESTAL,LUGS	C-23
F-A		F1.30	B	20-RW-3/PA-RWH-41	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PR-RWH-39/RWS-31	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PR-RWH-42	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PS-RWH-36	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PS-RWH-37	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PS-RWH-38	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PS-RWH-40	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PS-RWH-43	PEDESTAL,WELD	C-25
F-A		F1.30	B	20-RW-3/PS-RWS-130	LUGS, 3-BOLT	C-25
F-A		F1.30	B	20-RW-4/PR-RWH-28	PEDESTAL,SADDLE	C-27
F-A		F1.30	B	20-RW-4/PR-RWS-36	LUG,3/4 BOX	C-26
F-A		F1.30	B	20-RW-4/PS-RWH-29	PEDESTAL,SADDLE	C-27
F-A	95	F1.30	B	20-RW-4/PS-RWH-30	PEDESTAL,SADDLE	C-26
F-A		F1.30	B	20-RW-5/PR-RWS-125	FULL BOX	C-27
F-A		F1.30	B	20-RW-5/PR-RWS-126	DUAL STRUT,3-BOLT	C-27
F-A		F1.30	B	20-RW-5/PS-RWH-26	PEDESTAL,WELD	C-27
F-A		F1.30	B	20-RW-5/PS-RWS-133	3/4 BOX	C-27
F-A		F1.30	B	20-RW-7/PS-RWS-104	ANGLE,STRUT,3-BOLT	C-30
F-A		F1.30	B	20-RW-7/PS-RWS-129	DUAL STRUT,3-BOLT	C-30
F-A		F1.30	B	2-FW-1/PS-FWSP-32	ANGLE,U-BOLT	C-04
F-A		F1.30	B	2-FW-1/PS-FWSP-32A	ANGLE,U-BOLT	C-04
F-A	01	F1.30	B	2-FW-1/PS-FWSP-33	ANGLE,U-BOLT	C-04
F-A		F1.30	B	2-FW-2A/PS-FWSP-01	ANGLE,U-BOLT	C-05
F-A		F1.30	B	2-FW-3/PS-FWSP-08	ANGLE,U-BOLT	C-06
F-A		F1.30	B	2-FW-3/PS-FWSP-09	GANG ANGLE,U-BOLT	C-06
F-A		F1.30	B	2-FW-3/PS-FWSP-10	ANGLE,U-BOLT	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-11	ANGLE,U-BOLT	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-12	ANGLE,U-BOLT	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-13	U-BOLT, 2 GANG PIPE	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-14	GANG SUPPORT U-BOLT 3-PIPE	C-07
F-A	95	F1.30	B	2-FW-3/PS-FWSP-15	SEE C-16,GANG U-BOLT 3 PIPE	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-16	SEE C-16,GANG U-BOLT 3 PIPE	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-17	SEE C-16,GANG U-BOLT 3 PIPE	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-18	SEE C-16,GANG U-BOLT 2 PIPE	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-19	U-BOLT,ANGLE	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-40	GANG SUPPORT, 3/4 BOX	C-07
F-A		F1.30	B	2-FW-3/PS-FWSP-41	U-BOLT, GANG	C-07
F-A		F1.30	B	2-MS-4/21-PR	DUAL STRUT, 3-BOLT	C-55
F-A	01	F1.30	B	2-MS-4/33-PR	ANGLE, U-BOLT	C-55

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	B	2-MS-4/33-PR-1	ANGLE, U-BOLT	C-55
F-A		F1.30	B	2-MS-4/33-PR-2	ANGLE, U-BOLT	C-55
F-A		F1.30	B	2-MS-4/39-PR	ANGLE, U-BOLT	C-55
F-A		F1.30	B	2-MS-4/47-PR-1	ANGLE, U-BOLT	C-53
F-A		F1.30	B	2-MS-4/47-PR-2	ANGLE, U-BOLT	C-53
F-A		F1.30	B	2-MS-4/49-PR-1	ANGLE, U-BOLT	C-53
F-A		F1.30	B	2-MS-4/49-PR-3	ANGLE, U-BOLT	C-53
F-A		F1.30	B	2-MS-4/53-PR	ANGLE, U-BOLT	C-53
F-A		F1.30	B	2-MS-5/21-PR	ANGLE, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/23-PR	ANGLE, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/25-PR	I-BEAM, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/27-PR	ANGLE, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/27-PR-1	STRUT, 3-BOLT	C-54
F-A	01	F1.30	B	2-MS-5/29-PR	I-BEAM, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/31-PR	ANGLE, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/33-PR	ANGLE, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/35-PR	ANGLE, U-BOLT	C-54
F-A		F1.30	B	2-MS-5/53-PR	BOX	C-53
F-A		F1.30	B	2-MS-5/55-PR-2	ANGLE, U-BOLT	C-53
F-A		F1.30	B	3-FW-1/PS-FWS-109A	U-BOLT,ANGLE	C-02
F-A		F1.30	B	3-FW-1/PS-FWS-109B	U-BOLT,ANGLE	C-02
F-A		F1.30	B	3-FW-1/PS-FWS-109C	U-BOLT,ANGLE	C-02
F-A		F1.30	B	3-FW-1/PS-FWS-109D	U-BOLT,ANGLE	C-02
F-A	95	F1.30	B	3-FW-1/PS-FWS-109E	U-BOLT,ANGLE	C-02
F-A		F1.30	B	3-FW-2/PS-FWH-151	PEDESTAL,U-BOLT	C-14
F-A		F1.30	B	3-FW-2/PS-FWH-224	DUAL PEDESTAL,DUAL U-BOLT	C-14
F-A		F1.30	B	3-FW-3/PR-FWS-122	3/4 BOX	C-13
F-A		F1.30	B	3-FW-3/PS-FWH-225	DUAL PEDESTAL,U-BOLT	C-13
F-A		F1.30	B	4-FW-10/PS-FWH-127	PEDESTAL,U-BOLT	C-03
F-A		F1.30	B	4-FW-1/PS-FWH-114	PEDESTAL,U-BOLT	C-01
F-A	01	F1.30	B	4-FW-1/PS-FWH-115/FWS-52	PEDESTAL,U-BOLT	C-01
F-A		F1.30	B	4-FW-3A/PS-FWS-114	ANGLE,U-BOLT	C-09
F-A		F1.30	B	4-FW-4/PS-FWS-113	3/4 BOX	C-09
F-A	98	F1.30	B	4-FW-6/PR-FWH-129	PEDESTAL,U-BOLT	C-12
F-A		F1.30	B	4-FW-6/PS-FWS-118	ANGLE, U-BOLT	C-12
F-A		F1.30	B	4-FW-6/PS-FWS-119	ANGLE,U-BOLT	C-12
F-A		F1.30	B	4-FW-9B/PS-FWH-221	TRUNNION	C-17
F-A	96	F1.30	B	6-AC-1/PR-ACS-375	U-BOLT, 2 GANG	C-35
F-A		F1.30	B	6-AC-1/PR-ACS-376	3/4 BOX, 2 GANG	C-35
F-A		F1.30	B	6-AC-1/PS-ACH-226	TRAPEZE,4-BOLT,GANG (2-PIPES)	C-35
F-A		F1.30	B	6-AC-1/PS-ACH-266	GANG SUPPORT,BOX (2-PIPES)	C-35
F-A	98	F1.30	B	6-AC-2/PR-ACS-382	3/4 BOX	C-37
F-A		F1.30	B	6-AC-2/PR-ACS-59	TRUNNION	C-37
F-A		F1.30	B	6-AC-3/PR-ACS-375	3/4 BOX SUPPORT,2 GANG C-35	C-51
F-A		F1.30	B	6-AC-3/PR-ACS-376	GANG SUPP,U-BOLT,2-PIPES C-35	C-51
F-A		F1.30	B	6-AC-3/PS-ACH-266	3/4 BOX	C-51
F-A		F1.30	B	6-AC-6/PR-ACS-316	3/4 BOX	C-33
F-A		F1.30	B	6-FW-1A/PS-FWH-11	PEDESTAL,U-BOLT	C-17
F-A		F1.30	B	6-FW-1B/PS-FWH-10/FWS-26	TRUNNION,STRUT,3/B,U/B,PED,T/B	C-17
F-A		F1.30	B	6-RW-10/05-PR	PEDESTAL W/U-BOLT	C-59

CLASS 3

CLASS 3 INTEGRAL ATTACHMENTS AND SUPPORTS (SORTED BY CAT#, ITEM#, COMPONENT)						REV.1
CATEGORY	3RD INT	ITEM #	TYPE	COMPONENT	DESCRIPTION	ISO#
F-A		F1.30	B	8-AC-1A/PR-ACS-19A	STRUT, 3-BOLT, LUGS	C-39
F-A		F1.30	B	8-AC-1A/PR-ACS-21	FULL BOX,GANG C-44,S-29	C-39
F-A		F1.30	B	8-AC-1/PR-ACS-17	GANG SUPPORT,3/4 BOX C-44,S-27	C-39
F-A		F1.30	B	8-AC-1/PS-ACH-30	GANG (2-PIPES),I-BEAM,U-BOLT	C-39
F-A		F1.30	B	8-AC-2B-/PR-ACS-30	WELDED SADDLE	C-45
F-A		F1.30	B	8-AC-2B/PR-ACS-29	FULL BOX SUPPORT,2 GANG C-39,S-21	C-44
F-A		F1.30	B	8-AC-2B/PS-ACH-30	I-BEAM,U-BOLT,2 GANG	C-44
F-A		F1.30	B	8-AC-2B/PS-ACS-27	3/4 BOX SUPPORT,2 GANG C-39,S-17	C-44
F-A		F1.30	B	8-AC-2/PS-ACH-26	TRUNNION	C-39
F-A		F1.30	B	8-AC-2/PS-ACH-27	I-BEAM,U-BOLT	C-39
F-A		F1.30	B	8-FW-1/PR-FWS-54	FULL BOX,LUGS	C-18
F-A		F1.30	B	8-FW-1/PS-FWH-119	PEDESTAL,U-BOLT	C-18
F-A		F1.30	B	8-FW-1/PS-FWH-120/FWS-57	PEDESTAL,U-BOLT,RIGID,T/B	C-18
F-A		F1.30	B	8-FW-1/PS-FWH-121	PEDESTAL, U-BOLT	C-18
F-A		F1.30	C	16-RW-10/01-PR	WELDED LUG W/SPRING CAN	C-61
F-A		F1.30	C	16-RW-10/24-PR	TRAPEZE, DUAL SPRING CANS	C-61
F-A	01	F1.30	C	16-RW-2/PR-RWH-112	SPR CAN,ROD,3-BOLT	C-21
F-A		F1.30	C	20-RW-6/PS-RWH-144	PED, SPRING CAN,STRUT,3-BOLT	C-29
F-A		F1.30	C	20-RW-6/PS-RWH-145	PED, SPRING CAN,STRUT,3-BOLT	C-29
F-A		F1.30	C	20-RW-6/PS-RWH-146	PED, SPRING CAN,STRUT,3-BOLT	C-29
F-A		F1.30	C	20-RW-6/PS-RWH-19/RWS-102	STRUT,3-BOLT,SPRG CAN,PEDSTL	C-29
F-A		F1.30	C	20-RW-6/PS-RWH-62/RWS-100	STRUT,3-BOLT,SPRG CAN,PED	C-29
F-A		F1.30	C	20-RW-6/PS-RWH-63/RWS-101	STRUT,3-BOLT,SPRG CAN,PED	C-29
F-A		F1.30	C	2-MS-4/43-PR-2	SPRING CAN	C-53
F-A		F1.30	C	4-FW-2B/PS-FWH-17	SPRING CAN,TRAPEZE,3-BOLT	C-08
F-A		F1.30	C	4-FW-3A/PS-FWH-204	SPRING CAN,3-BOLT	C-09
F-A		F1.30	C	4-FW-3B/PS-FWH-202	SPRING CAN,3-BOLT	C-09
F-A		F1.30	C	4-FW-4/PR-FWH-206	SPRING CAN,3-BOLT	C-09
F-A		F1.30	C	4-FW-4/PS-FWH-205	DUAL SPRINGS,RISER,LUGS	C-09
F-A	01	F1.30	C	4-FW-4/PS-FWH-213	SPRING CAN, WELDED	C-10
F-A		F1.30	C	4-FW-5/PS-FWH-136	SPRING CAN,3-BOLT	C-11
F-A		F1.30	C	4-FW-6/PS-FWH-13	SPRING CAN,3-BOLT	C-08
F-A		F1.30	C	4-FW-6/PS-FWH-15	SPRING CAN,TRAPEZE,3-BOLT	C-08
F-A		F1.30	C	6-AC-5/PS-ACH-34	SPRING CAN,TRUNNION	C-32
F-A		F1.30	C	6-AC-6/PS-ACH-37	SPRING CAN,TRUNNION	C-33

PART 2: CLASS 1, CLASS 2, AND CLASS 3 VALVE TESTS

1.0 Program Summary

The Valve Test Program identifies test requirements for safety related valves and ensures that the valves are tested in accordance with the requirements of Subsection IWV of the ASME Section XI Boiler and Pressure Vessel Code, 1989 Edition, as delineated in O&M Part 1 and Part 10, 1987 Edition up to and including the 1988 Addenda.

The Valve Test Program will be applicable for the 120-month interval, which begins on September 26, 1993. The Valve Test Program will be reviewed and updated as required with that edition of the Code and Addenda in effect not more than 12 months prior to the start of the next 120-month interval (beginning September 26, 2003).

Individual valve test requirements are presented by coded Valve Test Program Matrix, Table 2.1. The codes used for these tables are defined in the "Table Format Fort Calhoun Station Valve Test Program Matrix Table 2.1." The Valve Test Program Matrix (Table 2.1) is arranged in numerical sequence by valve number. Appendix 2A provides justifications for valve test frequencies other than Quarterly. A basis for the test frequency is given as well as the frequency at which the valve will be tested. Appendix 2B provides justifications for exceptions taken to the ASME Section XI/O&M Code test requirements as provided for in 10CFR50.55a(g)(5)(iii). Two types of justifications are provided. The first is general in nature, and pertains to requirements found to be impractical for many valves. The second type is used to justify Code exceptions for specific valves. Code exceptions are numbered and referenced by number on the Valve Test Program Matrix Table 2.1.

2.0 Scope and Responsibility

2.1 The P&IDs listed in Part 4 of the Plan identify the location of each Class 1, Class 2, and Class 3 and other classes of valves "important to safety" as determined by the Fort Calhoun Station (FCS) IST philosophy.

2.2 The Class 1, Class 2, and Class 3 and other classes of valves "important to safety" to be tested under O&M Part 1 and Part 10, the methods of testing for each valve, and exceptions to the tests of O&M Part 1 and Part 10, are found in the Valve Test Program Matrix Table 2.1 and Appendices 2A and 2B.

2.3 Many safety related systems, particularly those with heat exchangers, have been provided with relief valves. These relief valves are thermal relief valves of small capacity intended to relieve pressure due to a thermal expansion of fluid in a "bottled-up" condition (generally occurring only during maintenance), which is considered a self-limiting transient. Experience has shown that failures of these valves will not result in failure of a system to fulfill its safety related function. Thus, most thermal relief valves are not considered to perform a safety function as defined by O&M Part 1 and Part 10, and such

valves have not been included in the ISI Program Plan at the Fort Calhoun Station.

2.4 As a result of regulatory concerns regarding Containment Integrity issues (Reference CID Nos. 883627 and 882025) the following actions are taken and will be required of all future changes/upgrades to applicable surveillance tests required by the FCS ISI Program Plan.

2.4.1 Surveillance Tests for Containment Isolation Valves Leakage (Type C) tests have been upgraded to include detailed drawings of all designated test tees and require procedural signoffs for removal and reinstallation of test tee caps.

2.4.2 A separate documented and double verified checklist of designated swagelock caps has been developed and this check list will be performed by the Operations Department prior to power operation following a Refueling Outage to ensure Containment Integrity (OI-CO-5)

3.0 Inservice Test Frequency

3.1 The inservice test frequency for Class 1, Class 2 and Class 3 valves and other valves "important to safety" is in accordance with O&M Part 1 and Part 10 with exceptions as found in Appendices 2A and 2B.

3.2 Valves identified herein as being tested at Cold Shutdown frequency shall be tested each Cold Shutdown (as defined by FCS Technical Specifications) where the duration of the shutdown is sufficient to accomplish the tests. Valve testing should commence not later than 48 hours after Cold Shutdown and continue until complete or, the plant is ready to return to power. Completion of all valve testing is not a prerequisite to return to power. Any testing not completed at one Cold Shutdown should be performed during subsequent Cold Shutdowns to meet the Code required testing frequency. Where more than one Cold Shutdown occurs within three months, the test frequency need not exceed once per three-month period (92 days).

4.0 Valve Categories

The valve categories for each Class 1, Class 2, Class 3 and other "important to safety" valves have been determined from O&M Part 1 and Part 10 with exceptions as found in Appendices 2A and 2B.

5.0 Test Methods

5.1 The methods to be used to test Class 1, Class 2, Class 3 and "important to safety" valves have been determined from the appropriate sections of O&M Parts 1 and 10. These methods, along with exceptions, are listed in the Valve Test Program Matrix Table 2.1 and Appendices 2A and 2B (of this Program Plan).

5.2 Valves with remote position indicators shall be observed locally, or verified by other positive methods (such as changes in flow or pressure directly attributed to valve movement) at least once every two years in order to verify that valve operation is accurately indicated.

5.3 Valves with safety related failure positions indicated in the valve tables will be tested by observing valve operation upon loss of actuator power at the frequency specified in the valve table.

5.4 Valve stroke times are measured from actuation of valve operating device to end of valve travel as indicated by remote valve position indication lights. The valves will be timed using the lights in the Control Room as applicable.

5.5 Valve stroke times which exceed the acceptance criteria as stated in Paragraph 4.2.1.8 of O&M Part 10 will be immediately retested and corrective action taken as delineated in Paragraph 4.2.1.9 of O&M, Part 10.

5.6 Valve stroke times which exceed the acceptance criteria as determined by guidance using Paragraph 4.2.1.4 of O&M Part 10 and listed in the Surveillance Test or the Acceptance Criteria Basis Document shall be immediately declared inoperable, and not returned to service until corrective action is taken.

6.0 Evaluation of Test Results

6.1 The evaluation of test results shall be in accordance with the appropriate paragraphs in O&M Part 10.

6.2 If test data show that a valve is operating in the "Alert Range", remedies shall be taken as required in accordance with O&M Parts 1 and 10 until corrective action is taken. If the test data shows that the valve is operating in the "Required Action Range", the valve shall be immediately declared inoperable and not returned to service until corrective action is taken. Corrective action is defined as one or more of the following steps:

6.2.1 Recalibrate the applicable instruments and reperform test, or

6.2.2 Repair or replace the component as required, or

6.2.3 Perform an Engineering Analysis to demonstrate that the valve is still able to perform its required safety design function.

7.0 Records and Reports

7.1 Records and reports for the testing of Class 1, Class 2 and Class 3 and other "important to safety" valves shall be made in accordance with Paragraphs 6.2 and 6.3 of O&M Part 10.

7.2 Records of corrective action for Class 1, Class 2, and Class 3 and other "important to safety" valves shall be made and maintained in accordance with Paragraph 6.4 of O&M Part 10.

8.0 Repair Requirements

Tests or examinations required to be performed after completion of valve replacement, repair or maintenance shall be completed as required per ASME, O&M Parts 1 and 10, and Section XI.

9.0 Valve Test Program Matrix

This section provides a tabulation of safety related valves, both those valves that are tested in accordance with the requirements of Part 1 and Part 10 of the O&M, and those valves for which the Code requirements have been found to be impractical. The Valve Test Program Matrix (Table 2.1) is arranged sequentially in numerical order by valve number.

10.0 Additions to Program - Valves

Valves added to the ISI Program Plan as a result of plant/system modifications, engineering changes or re-evaluation of a component eligibility requirement, per the O&M manual, are considered operable based on interim acceptance criteria (established by construction, preservice, post maintenance, or preoperational tests) until a trend is established.

TABLE FORMAT
FORT CALHOUN STATION VALVE TEST PROGRAM MATRIX TABLE 2.1

1. **Valve Number** — Unique number assigned to each valve.

2. **System (SYS)** — Plant system where valve is located. Designated by two (2) or three (3) letters.

   - AFW - Auxiliary Feedwater System
   - CA - Compressed Air System
   - CCW - Component Cooling Water System
   - CH - Charging System
   - CS - Containment Spray
   - DW - Demineralized Water System
   - FO - (Diesel Generator) Fuel Oil System
   - FW - Feedwater System
   - HG - Hydrogen Gas
   - IA - Instrument Air System
   - MS - Main Steam System
   - NG - Nitrogen Gas System
   - RC - Reactor Coolant System
   - RW - Raw Water System
   - SA - (Diesel Generator) Starting Air System
   - SI - Safety Injection System
   - SL - Primary Sample System
   - SW - Service Water System
   - VA - Ventilating Air System
   - WD - Waste Disposal System

3. **Category (CAT)** — Valve category as defined in O&M Part 10.

   a. Category A — Valves for which seat leakage is limited to a specific maximum amount in the closed position to fulfill their required functions.

   b. Category B — Valves for which seat leakage in the closed position is inconsequential for fulfillment of their required functions.

   c. Category C — Valves which are self-actuating in response to some system characteristic, such as pressure (relief valves) or flow direction (check valves) for fulfillment of their required function(s).

   d. Category D — Valves which are actuated by an energy source capable of only one operation, such as rupture disks or explosive-actuated valves.

4. **Class (CL)** — ASME Class (1, 2, 3, 4, or N)

5. **P&ID** — Plant drawing number where valve is found.

6. **Coordinates** — Location of valve on plant drawing.

7. **Valve Type** — The following is a list of the type of valves with the code used in the Valve Test Program Tables.

- BU - Butterfly
- GA - Gate
- BL - Ball
- GL - Globe
- CK - Check
- DI - Diaphragm
- PG - Plug
- RL - Relief

8. **Operator Type (OPER TYPE)**

The following is a list of the types of operators used to change the position of the valve, with the code used in the Valve Test Program Table to reflect the operator type.

- A - Air Operator
- C - Self Actuated
- M - Motor Operator
- S - Solenoid Operator
- R - Relief
- H - Manual (Hand)
- P - Piston Operator

9. **Valve Size** — Nominal diameter of valve in inches.

10. **Normal Position (NOR POS)**

The following is a list of valve positions during normal operation and the code used in the Valve Test Program Table to reflect that position.

- A - Automatic
- NO - Normally Open
- LO - Locked Open
- NC - Normally Closed
- LC - Locked Closed
- - - Valve position determined by other system parameters as in the case of check valves

11. **Fail Position (FAIL POS)**

The following is a list of valve failure positions and the code used in the Valve Test Program Table to reflect that position.

- FC - Fails Closed
- FAI - Fails As Is
- FO - Fails Open
- - - Valve failure position determined by other system parameters as in the case of check valves.

12. **Testing Requirements (TEST REQ)**

This column indicates the position to which the valve is to be tested in order to satisfy the Code test requirements which apply to the valve. The following is a list of the codes used in the Valve Test Program Table.

- O - Valve shall be exercised to the **Open** position
- C - Valve shall be exercised to the **Closed** position
- T - Valve shall be tested to ensure meeting a specific **Trip** position
- L - Valve shall be tested for seat tightness and **Leak** criteria

13. **Type Test** The following is a list of tests required to be performed per ASME O&M Part 1 and Part 10 Code and the code used in the Valve Test Program Table to reflect that test.

- FS - Full-Stroke Test
- PS - Partial-Stroke Test
- LT - Leak Test
- ST - Stroke-Time Test
- SP - Setpoint Trip Test
- SD - Sample Disassembly
- ME - Manual Exercise

14. **Testing Frequency (TEST FREQ)**

The codes used in this column indicate the plant operational status that must be achieved before a particular valve can be safely and practically tested.

- Q - Quarterly

  Valves in this category shall be tested Quarterly during normal plant operation. (Technical Specification Modes 1 through 3)

- CS - Cold Shutdown

  Cold shutdown conditions are defined in the FCS Technical Specifications. (See Part 2 Section 3.2 of this Program Plan for further explanation).

- CS* - Pressure Isolation Valves

  Surveillance of the Reactor Coolant System (RCS) Pressure Isolation Valves (PIV) -Plant Technical Specification 3.3(2) states that periodic leakage testing on each valve listed in Table 2-9 (as a PIV) shall be accomplished:

  (1) prior to entering the power operation mode every time the plant is placed in the Cold Shutdown condition for refueling;

  (2) each time the plant is placed in a Cold Shutdown condition for 72 hours if testing has not been accomplished in the preceding nine months; and

  (3) prior to returning the valve to service after maintenance, repair or replacement work is performed.

- RO - Refueling Outage

  Refueling conditions are defined in the FCS Technical Specifications.

- RO* - Refueling Outage

  The valves in this category will be sample disassembled and inspected at an interval not to exceed once every six (6) years.

- 2YR - Periodic valve leakage rate determination for Category A valves shall be performed at a minimum of two year intervals in accordance with O&M Part 10.

- OM - The relief valves will be tested in accordance with the frequency established by O&M Part 1.

- OM* - The relief valve will be tested once every third refueling outage.

15. **Valve Position Indication Test (VPI TEST)**

This column indicates if a remote Valve Position Indication verification test is required. Valves with remote position indicators, which are used to verify valve exercising or timing, will have their remote position indicators verified in accordance with O&M Paragraph 4.1 of Part 10.

16. **Code Exception (CODE EXPT)**

If the valve is being tested at the Code required frequency (e.g., Quarterly) in accordance with O&M Part 1 or Part 10 requirements, this column will have a "-." However, for valves with impractical O&M Part 1 and Part 10 frequency requirements, this column will have a reference frequency justification number (JXX). This number is addressed in Appendix 2A.

If the valve is being tested in accordance with O&M Part 1 or Part 10 requirements, this column will have a "-." However, for valves which the O&M Part 10 requirements have been found to be impractical, this column will have a reference code exception number (EXX). This reference number is addressed in Appendix 2B with a complete explanation of the specific exception and the justification for that exception.

17. **Remarks**

This column is provided for pertinent information as appropriate. Notes in Column 17 of the Instrument Air (IA) Check Valves refer to Notes 1 through 5 listed below.

NOTE #1 These valves are check valves on Instrument Air accumulators attached to process valves that are specified for testing elsewhere in the ISI Program Plan. The IA check valves will be tested on the same schedule as the process valve to which it is attached.

NOTE #2 These valves are check valves on IA accumulators on bubblers that are part of the level indication/control system for the Safety Injection Refueling Water Tank (SIRWT). The ISI Program Plan speaks only to the testing of the check valve in this system.

NOTE #3 These valves are check valves on IA accumulators attached to HCV-238 and HCV-239 (which are located inside the containment). The process valves are remotely stroke tested Quarterly, but due to inaccessibility accumulator check valves IA-HCV-238-C and IA-HCV-239-C will be tested at Cold Shutdown.

NOTE #4 These valves are check valves on IA accumulators attached to PCV-6680A-1, PCV-6680A-2, PCV-6680B-1, PCV-6680B-2 and PCV-6682. The valves are located in Room 81. The dampers are not required to be tested; however, the IA accumulator check valves are required to be tested at Cold Shutdown.

NOTE #5 These valves are check valves on IA accumulators attached to HCV-480, HCV-484, and HCV-485. The check valves are tested opened and closed quarterly. Reference MR-FC-89-032.

NOTE #6 The valves are check valves on IA accumulators to HCV-2898A/B and HCV-2899A/B. The check valves are tested open and closed Quarterly. Reference MR-FC-94-020.

NOTE #7 These check valves are required to ensure the requirements for closure during Station Blackout (SBO) are ensured and periodically tested/verified. These check valves shall <u>not</u> be removed from the ISI Program Plan without review and evaluation of impact on SBO. (Reference CID 931236/01)

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
SI-100	SI	C	2	210-130-3	C1	CK	C	6	-	-	O	PS	Q	-	J1	OP-ST-SI-3008
SI-100	SI	C	2	210-130-3	C1	CK	C	6	-	-	O	FS	RO	-	J1	OP-ST-SI-3007
AC-101	CCW	C	3	M-10-2	E6	CK	C	12	-	-	O	FS	Q	-	-	OP-ST-CCW-3002
AC-101	CCW	C	3	M-10-2	E6	CK	C	12	-	-	C	FS	Q	-	-	OP-ST-CCW-3012/3022
PCV-102-1	RC	B	1	210-110-1A	E7	GL	S	2.5	NC	FC	C	ST	CS	Y	J2	OP-ST-RC-3004
PCV-102-1	RC	B	1	210-110-1A	E7	GL	S	2.5	NC	FC	O	ST	CS	Y	J2	OP-ST-RC-3004
PCV-102-2	RC	B	1	210-110-1A	E8	GL	S	2.5	NC	FC	O	ST	CS	Y	J2	OP-ST-RC-3004
PCV-102-2	RC	B	1	210-110-1A	E8	GL	S	2.5	NC	FC	C	ST	CS	Y	J2	OP-ST-RC-3004
SI-102	SI	C	2	210-130-3	C4	CK	C	4	-	-	O	FS	RO	-	J3	OP-ST-SI-3007
SI-102	SI	C	2	210-130-3	C4	CK	C	4	-	-	C	FS	RO	-	J3	OP-ST-SI-3007
AC-104	CCW	C	3	M-10-2	D6	CK	C	12	-	-	O	FS	Q	-	-	OP-ST-CCW-3012
AC-104	CCW	C	3	M-10-2	D6	CK	C	12	-	-	C	FS	Q	-	-	OP-ST-CCW-3002/3022
FO-104	FO	C	3	M-262-1	F6	CK	C	1	-	-	C	FS	Q	-	-	OP-ST-FO-3002
FO-104	FO	C	3	M-262-1	F6	CK	C	1	-	-	O	FS	Q	-	-	OP-ST-FO-3002
SI-104	SI	C	2	210-130-3	C4	CK	C	1	-	-	O	FS	Q	-	-	OP-ST-SI-3008
FO-105	FO	C	3	M-262-1	E6	CK	C	1	-	-	C	FS	Q	-	-	OP-ST-FO-3002
FO-105	FO	C	3	M-262-1	E6	CK	C	1	-	-	O	FS	Q	-	-	OP-ST-FO-3002
FO-106	FO	C	3	M-262-1	D6	CK	C	1	-	-	O	FS	Q	-	-	OP-ST-FO-3001
FO-106	FO	C	3	M-262-1	D6	CK	C	1	-	-	C	FS	Q	-	-	OP-ST-FO-3001
AC-107	CCW	C	3	M-10-2	C6	CK	C	12	-	-	O	FS	Q	-	-	OP-ST-CCW-3022
AC-107	CCW	C	3	M-10-2	C6	CK	C	12	-	-	C	FS	Q	-	-	OP-ST-CCW-3002/3012
FO-107	FO	C	3	M-262-1	C6	CK	C	1	-	-	O	FS	Q	-	-	OP-ST-FO-3001
FO-107	FO	C	3	M-262-1	C6	CK	C	1	-	-	C	FS	Q	-	-	OP-ST-FO-3001
SI-108	SI	C	2	210-130-3	D4	CK	C	4	-	-	O	FS	RO	-	J3	OP-ST-SI-3007
SI-108	SI	C	2	210-130-3	D4	CK	C	4	-	-	C	FS	RO	-	J3	OP-ST-SI-3007
SI-110	SI	C	2	210-130-3	E4	CK	C	1	-	-	O	FS	Q	-	-	OP-ST-SI-3008
NG-113	CCW	A/C	3	M42 SH. 1	D7	CK	C	1	-	-	O	FS	Q	-	-	SE-ST-CCW-3003
NG-113	CCW	A/C	3	M42 SH.1	D7	CK	C	1	-	-	C	FS	Q	-	-	SE-ST-CCW-3003
NG-113	CCW	A/C	3	M42 SH. 1	D7	CK	C	1	-	-	L	LT	2YR	-	-	SE-ST-CCW-3003
SI-113	SI	C	2	210-130-3	E1	CK	C	8	-	-	O	PS	Q	-	J1	OP-ST-SI-3008
SI-113	SI	C	2	210-130-3	E1	CK	C	8	-	-	O	FS	RO	-	J1	OP-ST-SI-3007
RW-115	RW	C	3	M-100-1	B4	CK	C	20	-	-	O	FS	Q	-	-	OP-ST-RW-3031
RW-115	RW	C	3	M-100-1	B4	CK	C	20	-	-	C	FS	Q	-	-	OP-ST-RW-3004
SI-115	SI	C	2	210-130-3	E4	CK	C	4	-	-	O	FS	RO	-	J3	OP-ST-SI-3007
SI-115	SI	C	2	210-130-3	E4	CK	C	4	-	-	C	FS	RO	-	J3	OP-ST-SI-3007

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
RW-117	RW	C	3	M-100-1	B5	CK	C	20	-	-	O	FS	Q	-	-	OP-ST-RW-3021
RW-117	RW	C	3	M-100-1	B5	CK	C	20	-	-	C	FS	Q	-	-	OP-ST-RW-3004
SI-117	SI	C	2	210-130-3	F4	CK	C	1	-	-	O	FS	Q	-	-	OP-ST-SI-3008
RW-121	RW	C	3	M-100-1	B6	CK	C	20	-	-	O	FS	Q	-	-	OP-ST-RW-3011
RW-121	RW	C	3	M-100-1	B6	CK	C	20	-	-	C	FS	Q	-	-	OP-ST-RW-3004
SI-121	SI	C	2	210-130-1	A4	CK	C	8	-	-	O	FS	CS	-	J4	OP-ST-SI-3003
SI-121	SI	C	2	210-130-1	A4	CK	C	8	-	-	C	FS	CS	-	J4	OP-ST-SI-3003
RW-125	RW	C	3	M-100-1	B7	CK	C	20	-	-	C	FS	Q	-	-	OP-ST-RW-3004
RW-125	RW	C	3	M-100-1	B7	CK	C	20	-	-	O	FS	Q	-	-	OP-ST-RW-3001
SA-127	SA	C	3	B120F07001-1	E7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
SA-128	SA	C	3	B120F07001-1	E7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
CH-129	CH	C	3	210-121-1	A6	CK	C	3	-	-	O	FS	Q	-	-	CH-4A DISCHARGE OP-ST-CH-3002
CH-129	CH	C	3	210-121-1	A6	CK	C	3	-	-	C	FS	Q	-	-	CH-4A DISCHARGE OP-ST-CH-3002
SA-129	SA	C	3	B120F07001-1	C7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
SI-129	SI	C	2	210-130-1	B4	CK	C	8	-	-	O	FS	CS	-	J4	OP-ST-SI-3003
SI-129	SI	C	2	210-130-1	B4	CK	C	8	-	-	C	FS	CS	-	J4	OP-ST-SI-3003
CH-130	CH	C	3	210-121-1	B7	CK	C	3	-	-	O	FS	Q	-	-	CH-4B DISCHARGE OP-ST-CH-3002
CH-130	CH	C	3	210-121-1	B7	CK	C	3	-	-	C	FS	Q	-	-	CH-4B DISCHARGE OP-ST-CH-3002
SA-130	SA	C	3	B120F07001-1	B7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
SI-135	SI	C	2	210-130-1	C4	CK	C	8	-	-	O	FS	CS	-	J36	OP-ST-SI-3003
SI-135	SI	C	2	210-130-1	C4	CK	C	8	-	-	C	FS	CS	-	J36	OP-ST-SI-3003
SI-139	SI	A/C	2	210-130-1	D2	CK	C	20	-	-	O	SD	RO*	-	E1	SS-ST-SI-3018
SI-139	SI	A/C	2	210-130-1	D2	CK	C	20	-	-	O	PS	Q	-	E1	OP-ST-SI-3008
SI-139	SI	A/C	2	210-130-1	D2	CK	C	20	-	-	L	LT	2YR	-	-	SE-ST-SI-3005
SI-139	SI	A/C	2	210-130-1	D2	CK	C	20	-	-	C	FS	RO	-	-	SE-ST-SI-3005
SI-140	SI	A/C	2	210-130-1	C2	CK	C	20	-	-	O	PS	Q	-	E1	OP-ST-SI-3008
SI-140	SI	A/C	2	210-130-1	C2	CK	C	20	-	-	O	SD	RO*	-	E1	SS-ST-SI-3018
SI-140	SI	A/C	2	210-130-1	C2	CK	C	20	-	-	L	LT	2YR	-	-	SE-ST-SI-3005
SI-140	SI	A/C	2	210-130-1	C2	CK	C	20	-	-	C	FS	RO	-	-	SE-ST-SI-3005
RC-141	RC	C	1	210-110-1A	F6	RL	R	3	-	-	T	SP	RO	-	-	SENT OFFSITE SS-ST-RC-3002
NG-142	NG	A/C	2	M42 SH. 1	E5	CK	C	1	-	-	O	PS	Q	-	-	
NG-142	NG	A/C	2	M42 SH. 1	E5	CK	C	1	-	-	O	FS	CS	-	J43	SE-ST-NG-3002
NG-142	NG	A/C	2	M42 SH. 1	E5	CK	C	1	-	-	C	FS	CS	-	J43	SE-ST-NG-3002
NG-142	NG	A/C	2	M42 SH. 1	E5	CK	C	1	-	-	L	LT	2YR	-	-	SE-ST-NG-3002
RC-142	RC	C	1	210-110-1A	F6	RL	R	3	-	-	T	SP	RO	-	-	SENT OFFSITE SS-ST-RC-3002

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
CH-143	CH	C	2	210-121-2	B5	CK	C	3	-	-	O	FS	CS	-	J5	OP-ST-CH-3006
SI-143	SI	C	2	210-130-1	D4	CK	C	8	-	-	O	FS	CS	-	J36	OP-ST-SI-3003
SI-143	SI	C	2	210-130-1	D4	CK	C	8	-	-	C	FS	CS	-	J36	OP-ST-SI-3003
NG-144	NG	A/C	2	M42 SH. 1	E6	CK	C	1	-	-	O	PS	Q	-	-	
NG-144	NG	A/C	2	M42 SH. 1	E6	CK	C	1	-	-	O	FS	CS	-	J43	SE-ST-NG-3002
NG-144	NG	A/C	2	M42 SH. 1	E6	CK	C	1	-	-	C	FS	CS	-	J43	SE-ST-NG-3002
NG-144	NG	A/C	2	M42 SH. 1	E6	CK	C	1	-	-	L	LT	2YR	-	-	SE-ST-NG-3002
NG-146	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	O	PS	Q	-	-	
NG-146	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	O	FS	CS	-	J43	SE-ST-NG-3002
NG-146	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	C	FS	CS	-	J43	SE-ST-NG-3002
NG-146	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	L	LT	2YR	-	-	SE-ST-NG-3002
SA-147	SA	B	3	B120F07001-1	D3	DI	A	1.5	NC	FO	O	ST	Q	Y	-	DG START ACCEPT OP-ST-DG-0001
SA-147	SA	B	3	B120F07001-1	D3	DI	A	1.5	NC	FO	O	VPI	Q	Y	-	DG START ACCEPT OP-ST-DG-0001
NG-148	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	O	PS	Q	-	-	
NG-148	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	O	FS	CS	-	J43	SE-ST-NG-3002
NG-148	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	C	FS	CS	-	J43	SE-ST-NG-3002
NG-148	NG	A/C	2	M42 SH. 1	E7	CK	C	1	-	-	L	LT	2YR	-	-	SE-ST-NG-3002
SA-148	SA	B	3	B120F07001-1	C3	DI	A	1.5	NC	FO	O	ST	Q	Y	-	DG START ACCEPT OP-ST-DG-0002
SA-148	SA	B	3	B120F07001-1	C3	DI	A	1.5	NC	FO	O	VPI	2YR	Y	-	DG START ACCEPT OP-ST-DG-0002
SI-149	SI	C	2	210-130-1	E4	CK	C	8	-	-	O	FS	CS	-	J36	OP-ST-SI-3003
SI-149	SI	C	2	210-130-1	E4	CK	C	8	-	-	C	FS	CS	-	J36	OP-ST-SI-3003
HCV-150	RC	B	1	210-110-1A	D8	GA	M	2.5	NO	FAI	C	ST	Q	Y	-	OP-ST-RC-3002
HCV-150	RC	B	1	210-110-1A	D8	GA	M	2.5	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3015
CH-151	CH	C	2	210-121-2	C7	CK	C	3	-	-	C	FS	Q	-	-	OP-ST-CH-3002
HCV-151	RC	B	1	210-110-1A	D7	GA	M	2.5	NO	FAI	C	ST	Q	Y	-	OP-ST-RC-3002
HCV-151	RC	B	1	210-110-1A	D7	GA	M	2.5	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3015
SI-153	SI	C	2	210-130-1	E5	CK	C	6	-	-	O	FS	Q	-	-	OP-ST-SI-3008
CH-155	CH	C	2	210-121-2	A5	CK	C	3	-	-	O	FS	CS	-	J5	OP-ST-CH-3006
CH-156	CH	C	2	210-120-1	E3	CK	C	3	-	-	O	FS	CS	-	J5	OP-ST-CH-3006
SI-159	SI	C	2	210-130-3	B6	CK	C	24	-	-	O	SD	RO*	-	E2	SS-ST-SI-3016
SI-160	SI	C	2	210-130-3	B6	CK	C	24	-	-	O	SD	RO*	-	E2	SS-ST-SI-3016
FW-161	FW	C	2	M-253-1	D4	CK	C	16	-	-	C	FS	CS	-	J6	SE-ST-FW-3002
FW-162	FW	C	2	M-253-1	D6	CK	C	16	-	-	C	FS	CS	-	J6	SE-ST-FW-3002
FW-163	AFW	C	2	M-253-4	F7	CK	C	3	-	-	O	FS	CS	-	J7	OP-ST-AFW-3007
AC-164	CCW	C	3	M-10	D6	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3007

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
FW-164	AFW	C	2	M-253-4	F8	CK	C	3	-	-	O	FS	CS	-	J7	OP-ST-AFW-3007
AC-165	CCW	C	3	M-10	C6	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3007
CH-166	CH	C	2	210-120-1	C2	CK	C	4	-	-	C	FS	CS	-	J35	SE-ST-AFW-3006
FW-173	AFW	C	3	M-253-4	C6	CK	C	4	-	-	O	FS	Q	-	-	SE-ST-AFW-3006
FW-173	AFW	C	3	M-253-4	C6	CK	C	4	-	-	C	FS	Q	-	-	SE-ST-AFW-3005/3006
FW-174	AFW	C	3	M-253-4	C5	CK	C	4	-	-	O	FS	Q	-	-	SE-ST-AFW-3005/3006
FW-174	AFW	C	3	M-253-4	C5	CK	C	4	-	-	C	FS	Q	-	-	SE-ST-AFW-3005
SI-175	SI	C	2	210-130-2	B1	CK	C	12	-	-	O	SD	RO*	-	E3	SS-ST-SI-3017 SEE NOTE #7
HCV-176	RC	B	2	D-4078	E5	GL	S	1	NC	FC	O	ST	CS	Y	J8	OP-ST-RC-3005
HCV-176	RC	B	2	D-4078	E5	GL	S	1	NC	FC	C	ST	CS	Y	J8	OP-ST-RC-3005
HCV-176	RC	B	2	D-4078	E5	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-RC-3006
SI-176	SI	C	2	210-130-2	D1	CK	C	12	-	-	O	SD	RO*	-	E3	SS-ST-SI-3017 SEE NOTE #7
HCV-177	RC	B	2	D-4078	D5	GL	S	1	NC	FC	O	ST	CS	Y	J8	OP-ST-RC-3005
HCV-177	RC	B	2	D-4078	D5	GL	S	1	NC	FC	C	ST	CS	Y	J8	OP-ST-RC-3005
HCV-177	RC	B	2	D-4078	D5	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-RC-3006
SA-177	SA	C	3	B120F07001-2	E7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
HCV-178	RC	B	2	D-4078	C5	GL	S	1	NC	FC	O	ST	CS	Y	J8	OP-ST-RC-3005
HCV-178	RC	B	2	D-4078	C5	GL	S	1	NC	FC	C	ST	CS	Y	J8	OP-ST-RC-3005
HCV-178	RC	B	2	D-4078	C5	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-RC-3006
SA-178	SA	C	3	B120F07001-2	E7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
HCV-179	RC	B	2	D-4078	C5	GL	S	1	NC	FC	O	ST	CS	Y	J8	OP-ST-RC-3005
HCV-179	RC	B	2	D-4078	C5	GL	S	1	NC	FC	C	ST	CS	Y	J8	OP-ST-RC-3005
HCV-179	RC	B	2	D-4078	C5	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-RC-3006
SA-179	SA	C	3	B120F07001-2	C7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
HCV-180	RC	B	2	D-4078	E3	GL	S	1	NC	FC	O	ST	CS	Y	J8	OP-ST-RC-3005
HCV-180	RC	B	2	D-4078	E3	GL	S	1	NC	FC	C	ST	CS	Y	J8	OP-ST-RC-3005
HCV-180	RC	B	2	D-4078	E3	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-RC-3006
SA-180	SA	C	3	B120F07001-2	B7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3004
CH-181	CH	C	2	210-120-1	F7	RL	R	1.5	-	-	T	SP	OM	-	-	PE-ST-VX-3002
HCV-181	RC	B	2	D-4078	C3	GL	S	1	NC	FC	O	ST	CS	Y	J8	OP-ST-RC-3005
HCV-181	RC	B	2	D-4078	C3	GL	S	1	NC	FC	C	ST	CS	Y	J8	OP-ST-RC-3005
HCV-181	RC	B	2	D-4078	C3	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-RC-3006
CH-182	CH	C	2	210-120-1	D7	RL	R	1.5	-	-	T	SP	OM	-	-	PE-ST-VX-3002
CH-183	CH	C	2	210-120-1	B7	RL	R	1.5	-	-	T	SP	OM	-	-	PE-ST-VX-3002
SI-183	SI	A	2	210-130-1	E6	GL	H	2	NC	-	L	LT	2YR	-	-	SE-ST-SI-3005

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
SI-184	SI	A	2	210-130-1	D6	GA	H	6	NC	-	L	LT	2YR	-	-	SE-ST-SI-3005
SI-185	SI	A	2	210-130-1	E8	GL	H	2	NC	-	L	LT	2YR	-	-	APPENDIX J
CH-187	CH	C	2	210-120-1	E7	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-CH-3003
CH-187	CH	C	2	210-120-1	E7	CK	C	2	-	-	C	FS	Q	-	-	OP-ST-CH-3003
SI-187	SI	C	2	210-130-2	H5	RL	R	1.5	-	-	T	SP	OM	-	-	PE-ST-VX-3009
CH-188	CH	C	2	210-120-1	C7	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-CH-3003
CH-188	CH	C	2	210-120-1	C7	CK	C	2	-	-	C	FS	Q	-	-	OP-ST-CH-3003
SI-188	SI	C	2	210-130-2	H5	RL	R	1.5	-	-	T	SP	OM	-	-	PE-ST-VX-3009
CH-189	CH	C	2	210-120-1	A7	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-CH-3003
CH-189	CH	C	2	210-120-1	A7	CK	C	2	-	-	C	FS	Q	-	-	OP-ST-CH-3003
SI-189	SI	C	2	210-130-2	H6	RL	R	1.5	-	-	T	SP	OM	-	-	PE-ST-VX-3009
SI-190	SI	C	2	210-130-2	H7	RL	R	1.5	-	-	T	SP	OM	-	-	PE-ST-VX-3009
SI-194	SI	A/C	1	210-130-2A	D7	CK	C	6	-	-	O	FS	CS	-	J9	OP-ST-SI-3003 SEE NOTE #7
SI-194	SI	A/C	1	210-130-2A	D7	CK	C	6	-	-	L	LT	CS*	-	J9	PIV SE-ST-SI-3015 SEE NOTE #7
SI-195	SI	A/C	1	210-130-2A	D8	CK	C	2	-	-	L	LT	CS*	-	J9	PIV SE-ST-SI-3015 SEE NOTE #7
SI-195	SI	A/C	1	210-130-2A	D8	CK	C	2	-	-	O	FS	RO	-	J10	OP-ST-SI-3007 SEE NOTE #7
SI-196	SI	C	1	210-130-2A	D8	CK	C	2	-	-	O	PS	CS	-	J11	OP-ST-SI-3014 SEE NOTE #7
SI-196	SI	C	1	210-130-2A	D8	CK	C	2	-	-	O	FS	RO	-	J11	OP-ST-SI-3007 SEE NOTE #7
SA-197	SA	B	3	B120F07001-2	D3	DI	A	1.5	NC	FO	O	ST	Q	Y	-	DG START ACCEPT OP-ST-DG-0001
SA-197	SA	B	3	B120F07001-2	D3	DI	A	1.5	NC	FO	O	VPI	2YR	Y	-	DG START ACCEPT OP-ST-DG-0001
SI-197	SI	A/C	1	210-130-2A	D6	CK	C	6	-	-	L	LT	CS*	-	-	PIV SE-ST-SI-3015 SEE NOTE #7
SI-197	SI	A/C	1	210-130-2A	D6	CK	C	6	-	-	O	FS	CS	-	J9	OP-ST-SI-3003 SEE NOTE #7
CH-198	CH	C	2	210-120-1A	B2	CK	C	2	-	-	O	PS	Q	-	J12	OP-ST-CH-3003
CH-198	CH	C	2	210-120-1A	B2	CK	C	2	-	-	O	FS	RO	-	J12	SE-ST-CH-3003
CH-198	CH	C	2	210-120-1A	B2	CH	C	2	-	-	C	FS	RO	-	J12	SE-ST-CH-3004
SA-198	SA	B	3	B120F07001-2	C3	DI	A	1.5	NC	FO	O	ST	Q	Y	-	DG START ACCEPT OP-ST-DG-0001
SA-198	SA	B	3	B120F07001-2	C3	DI	A	1.5	NC	FO	O	VPI	2YR	Y	-	DG START ACCEPT OP-ST-DG-0001
SI-198	SI	A/C	1	210-130-2A	D6	CK	C	2	-	-	O	FS	RO	-	J10	OP-ST-SI-3007 SEE NOTE #7
SI-198	SI	A/C	1	210-130-2A	D6	CK	C	2	-	-	L	LT	CS*	-	J10	PIV SE-ST-SI-3015 SEE NOTE #7
SI-199	SI	C	1	210-130-2A	C7	CK	C	2	-	-	O	PS	CS	-	J11	OP-ST-SI-3014 SEE NOTE #7
SI-199	SI	C	1	210-130-2A	C7	CK	C	2	-	-	O	FS	RO	-	J11	OP-ST-SI-3007 SEE NOTE #7
SI-200	SI	A/C	1	210-130-2A	D5	CK	C	6	-	-	L	LT	CS*	-	-	PIV SE-ST-SI-3015 SEE NOTE #7
SI-200	SI	A/C	1	210-130-2A	D5	CK	C	6	-	-	O	FS	CS	-	J9	OP-ST-SI-3003 SEE NOTE #7
SI-201	SI	A/C	1	210-130-2A	D5	CK	C	2	-	-	L	LT	CS*	-	-	PIV SE-ST-SI-3015 SEE NOTE #7
SI-201	SI	A/C	1	210-130-2A	D5	CK	C	2	-	-	O	FS	RO	-	J10	OP-ST-SI-3007 SEE NOTE #7

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
SA-202	SA	C	3	B120F07001-1	C3	CK	C	0.25	-	-	C	FS	Q	-	-	DG START ACCEPT OP-ST-DG-0001
SI-202	SI	C	1	210-130-2A	C5	CK	C	2	-	-	O	PS	CS	-	J11	OP-ST-SI-3014 SEE NOTE #7
SI-202	SI	C	1	210-130-2A	C5	CK	C	2	-	-	O	FS	RO	-	J11	OP-ST-SI-3007 SEE NOTE #7
TCV-202	CH	A	1	210-120-1A	E5	GL	A	2	A	FC	C	ST	CS	Y	J13	OP-ST-CH-3005
TCV-202	CH	A	1	210-120-1A	E5	GL	A	2	A	FC	L	LT	2YR	-	-	APPENDIX J
TCV-202	CH	A	1	210-120-1A	E5	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3009
CH-203	CH	C	1	210-120-1A	C5	CK	C	2	-	-	O	PS	Q	-	J12	OP-ST-CH-3003
CH-203	CH	C	1	210-120-1A	C5	CK	C	2	-	-	O	FS	RO	-	J12	SE-ST-CH-3003
SA-203	SA	C	3	B120F07001-1	C5	CK	C	0.25	-	-	C	FS	Q	-	-	DG START ACCEPT OP-ST-DG-0001
SI-203	SI	A/C	1	210-130-2A	D3	CK	C	6	-	-	L	LT	CS*	-	-	PIV SE-ST-SI-3015 SEE NOTE #7
SI-203	SI	A/C	1	210-130-2A	D3	CK	C	6	-	-	O	FS	CS	-	J9	OP-ST-SI-3003 SEE NOTE #7
CH-204	CH	C	1	210-120-1A	A5	CK	C	2	-	-	O	PS	Q	-	J12	OP-ST-CH-3003
CH-204	CH	C	1	210-120-1A	A5	CK	C	2	-	-	O	FS	RO	-	J12	SE-ST-CH-3003
HCV-204	CH	A	2	210-120-2	A2	GL	A	2	NO	FC	L	LT	2YR	-	E5	APPENDIX J
HCV-204	CH	A	2	210-120-2	A2	GL	A	2	NO	FC	C	ST	CS	Y	J13	OP-ST-CH-3005
HCV-204	CH	A	2	210-120-2	A7	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3009
SI-204	SI	A/C	1	210-130-2A	D3	CK	C	2	-	-	O	FS	RO	-	J10	OP-ST-SI-3007 SEE NOTE #7
SI-204	SI	A/C	1	210-130-2A	D3	CK	C	2	-	-	L	LT	CS*	-	-	PIV SE-ST-SI-3015 SEE NOTE #7
CH-205	CH	C	1	210-120-1A	B6	CK	C	2	-	-	O	PS	Q	-	J14	OP-ST-CH-3006
CH-205	CH	C	1	210-120-1A	B6	CK	C	2	-	-	O	FS	RO	-	J14	SE-ST-CH-3003
SI-205	SI	C	1	210-130-2A	C4	CK	C	2	-	-	O	PS	CS	-	J11	OP-ST-SI-3014 SEE NOTE #7
SI-205	SI	C	1	210-130-2A	C4	CK	C	2	-	-	O	FS	RO	-	J11	OP-ST-SI-3007 SEE NOTE #7
HCV-206	CH	A	2	210-120-1A	E1	GL	A	0.75	NO	FC	C	ST	CS	Y	J15	OP-ST-CH-3005
HCV-206	CH	A	2	210-120-1A	E1	GL	A	0.75	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-206	CH	A	2	210-120-1A	E1	GL	A	0.75	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3009
SI-207	SI	A/C	1	210-130-2A	F7	CK	C	12	-	-	L	LT	CS*	-	-	OP-ST-SI-3008
SI-207	SI	A/C	1	210-130-2A	F7	CK	C	12	-	-	C	FS	CS*	-	E4	OP-ST-SI-3008
SI-207	SI	A/C	1	210-130-2A	F7	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015
SI-208	SI	A/C	1	210-130-2A	C7	CK	C	12	-	-	L	LT	CS*	-	-	PIV OP-ST-SI-3013 SEE NOTE #7
SI-208	SI	A/C	1	210-130-2A	C7	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015 SEE NOTE #7
SI-208	SI	A/C	1	210-130-2A	C7	CK	C	12	-	-	C	FS	CS*	-	E4	OP-ST-SI-3013 SEE NOTE #7
SI-208	SI	A/C	1	210-130-2A	C7	CK	C	12	-	-	O	PS	CS	-	E4	OP-ST-SI-3003 SEE NOTE #7
SI-209	SI	C	2	210-130-2B	E3	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3005
SI-211	SI	A/C	1	210-130-2A	F6	CK	C	12	-	-	L	LT	CS*	-	-	PIV OP-ST-SI-3008
SI-211	SI	A/C	1	210-130-2A	F6	CK	C	12	-	-	C	FS	CS*	-	E4	OP-ST-SI-3008

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
SI-211	SI	A/C	1	210-130-2A	F6	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015
SI-212	SI	A/C	1	210-130-2A	C6	CK	C	12	-	-	C	FS	CS*	-	E4	OP-ST-SI-3013 SEE NOTE #7
SI-212	SI	A/C	1	210-130-2A	C6	CK	C	12	-	-	L	LT	CS*	-	-	PIV OP-ST-SI-3013 SEE NOTE #7
SI-212	SI	A/C	1	210-130-2A	C6	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015 SEE NOTE #7
SI-212	SI	A/C	1	210-130-2A	C6	CK	C	12	-	-	O	PS	CS	-	E4	OP-ST-SI-3003 SEE NOTE #7
SI-213	SI	C	2	210-130-2B	E6	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3005
SI-215	SI	A/C	1	210-130-2A	F4	CK	C	12	-	-	C	FS	CS*	-	E4	OP-ST-SI-3008
SI-215	SI	A/C	1	210-130-2A	F4	CK	C	12	-	-	L	LT	CS*	-	-	OP-ST-SI-3008
SI-215	SI	A/C	1	210-130-2A	F4	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015
SI-216	SI	A/C	1	210-130-2A	C4	CK	C	12	-	-	C	FS	CS*	-	E4	OP-ST-SI-3013 SEE NOTE #7
SI-216	SI	A/C	1	210-130-2A	C4	CK	C	12	-	-	L	LT	CS*	-	-	PIV OP-ST-SI-3013 SEE NOTE #7
SI-216	SI	A/C	1	210-130-2A	C4	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015 SEE NOTE #7
SI-216	SI	A/C	1	210-130-2A	C4	CK	C	12	-	-	O	PS	CS	-	E4	OP-ST-SI-3003 SEE NOTE #7
SI-217	SI	C	2	210-130-2	E6	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3005
FO-218	FO	C	3	M-262-1	B3	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-FO-3001
LCV-218-2	CH	B	2	210-120-1	C2	GA	M	4	NO	FAI	C	ST	CS	Y	J16	OP-ST-CH-3005
LCV-218-2	CH	B	2	210-120-1	C2	GA	M	4	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3009
LCV-218-3	CH	B	2	210-120-1	E3	GA	M	3	NC	FAI	O	ST	CS	Y	J16	OP-ST-CH-3005
LCV-218-3	CH	B	2	210-120-1	E3	GA	M	3	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3009
FO-219	FO	C	3	M-262-1	B3	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-FO-3002
SI-219	SI	A/C	1	210-130-2A	F3	CK	C	12	-	-	C	FS	CS*	-	E4	OP-ST-SI-3008
SI-219	SI	A/C	1	210-130-2A	F3	CK	C	12	-	-	L	LT	CS*	-	-	PIV OP-ST-SI-3008
SI-219	SI	A/C	1	210-130-2A	F3	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015
RW-220	RW	C	3	M-100-1	F3	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3008
SI-220	SI	A/C	1	210-130-2A	C3	CK	C	12	-	-	O	FS	RO	-	E4	SIT DUMP SS-ST-SI-3015 SEE NOTE #7
SI-220	SI	A/C	1	210-130-2A	C3	CK	C	12	-	-	C	FS	CS*	-	E4	PIV OP-ST-SI-3013 SEE NOTE #7
SI-220	SI	A/C	1	210-130-2A	C3	CK	C	12	-	-	L	LT	CS*	-	-	OP-ST-SI-3013 SEE NOTE #7
SI-220	SI	A/C	1	210-130-2A	C3	CK	C	12	-	-	O	PS	CS	-	E4	OP-ST-SI-3003 SEE NOTE #7
RW-221	RW	C	3	M-100-1	E3	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3008
SI-221	SI	C	2	210-130-2	E3	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3005
RW-222	RW	C	3	M-100-1	D3	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3008
RW-223	RW	C	3	M-100-1	C3	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3008
HCV-238	CH	B	1	210-120-1	D5	GL	A	2	NO	FO	C	ST	Q	Y	-	OP-ST-CH-3001
HCV-238	CH	B	1	210-120-1A	D5	GL	A	2	NO	FO	O	ST	Q	Y	-	OP-ST-CH-3001
HCV-238	CH	B	1	210-120-1A	C5	GL	A	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3008

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-239	CH	B	1	210-120-1A	A5	GL	A	2	NO	FO	O	ST	Q	Y	-	OP-ST-CH-3001
HCV-239	CH	B	1	210-120-1A	A5	GL	A	2	NO	FO	C	ST	Q	Y	-	OP-ST-CH-3001
HCV-239	CH	B	1	210-120-1A	A5	GL	A	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3008
HCV-240	CH	B	1	210-120-1A	B5	GL	A	2	NC	FC	C	ST	CS	Y	J17	OP-ST-CH-3005
HCV-240	CH	B	1	210-120-1A	B5	GL	A	2	NC	FC	O	ST	CS	Y	J17	OP-ST-CH-3005
HCV-240	CH	B	1	210-120-1A	B5	GL	A	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3009
SW-240	SW	A/C	3	M-259-2	B4	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-RW-3001
SW-240	SW	A/C	3	M-259-2	B4	CK	C	0.5	-	-	L	LT	2YR	-	-	IC-ST-RW-3001
HCV-241	CH	A	2	210-120-1A	E5	GL	A	0.75	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-241	CH	A	2	210-120-1A	E5	GL	A	0.75	NO	FC	C	ST	CS	Y	J15	OP-ST-CH-3005
HCV-241	CH	A	2	210-120-1A	E5	GL	A	0.75	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3009
SW-241	SW	A/C	3	M-259-2	B5	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-RW-3001
SW-241	SW	A/C	3	M-259-2	B5	CK	C	0.5	-	-	L	LT	2YR	-	-	IC-ST-RW-3001
SW-242	SW	A/C	3	M-259-2	B6	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-RW-3001
SW-242	SW	A/C	3	M-259-2	B6	CK	C	0.5	-	-	L	LT	2YR	-	-	IC-ST-RW-3001
SW-243	SW	A/C	3	M-259-2	B7	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-RW-3001
SW-243	SW	A/C	3	M-259-2	B7	CK	C	0.5	-	-	L	LT	2YR	-	-	IC-ST-RW-3001
HCV-247	CH	B	2	210-120-1A	C5	GL	S	2	NO	FO	C	ST	Q	Y	-	OP-ST-CH-3001
HCV-247	CH	B	2	210-120-1A	C5	GL	S	2	NO	FO	O	ST	Q	Y	-	OP-ST-CH-3001
HCV-247	CH	B	2	210-120-1A	C5	GL	S	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3008
HCV-248	CH	B	2	210-120-1A	A5	GL	S	2	NO	FO	C	ST	Q	Y	-	OP-ST-CH-3001
HCV-248	CH	B	2	210-120-1A	A5	GL	S	2	NO	FO	O	ST	Q	Y	-	OP-ST-CH-3001
HCV-248	CH	B	2	210-120-1A	A5	GL	S	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3008
HCV-249	CH	B	1	210-120-1A	B5	GL	S	2	NC	FC	O	ST	CS	Y	J17	OP-ST-CH-3005
HCV-249	CH	B	1	210-120-1A	B5	GL	S	2	NC	FC	C	ST	CS	Y	J17	OP-ST-CH-3005
HCV-249	CH	B	1	210-120-1A	B5	GL	S	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3009
SA-252	SA	C	3	B120F07001-2	D5	CK	C	0.25	-	-	C	FS	Q	-	-	DG START ACCEPT OP-ST-DG-0002
SA-253	SA	C	3	B120F07001-2	D5	CK	C	0.25	-	-	C	FS	Q	-	-	DG START ACCEPT OP-ST-DG-0002
RW-254	RW	A/C	3	M-100-1	C4	CK	C	0.75	-	-	O	FS	Q	-	-	IC-ST-RW-3001
RW-255	RW	A/C	3	M-100-1	E4	CK	C	0.75	-		O	FS	Q	-	-	IC-ST-RW-3001
RW-256	RW	A/C	3	M-100-1	D4	CK	C	0.75	-		O	FS	Q	-	-	IC-ST-RW-3001
HCV-257	CH	B	2	210-121-1	D7	GL	A	2	NO		C	ST	Q	Y	-	OP-ST-CH-3001
HCV-257	CH	B	2	210-121-1	D7	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3008
RW-257	RW	A/C	3	M-100-1	E5	CK	C	0.75	-	-	O	FS	Q	-	-	IC-ST-RW-3001
HCV-258	CH	B	2	210-121-1	B5	GA	M	3	NC	FAI	O	ST	Q	Y	-	OP-ST-CH-3001

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-258	CH	B	2	210-121-1	B5	GA	M	3	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3008
HCV-264	CH	B	2	210-121-1	D4	GL	A	2	NO	FC	C	ST	Q	Y	-	OP-ST-CH-3001
HCV-264	CH	B	2	210-121-1	D4	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3008
HCV-265	CH	B	2	210-121-1	B3	GA	M	3	NC	FAI	O	ST	Q	Y	-	OP-ST-CH-3001
HCV-265	CH	B	2	210-121-1	B3	GA	M	3	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3008
HCV-268	CH	B	2	210-121-2	B4	GA	M	3	NC	FAI	O	ST	CS	Y	J18	OP-ST-CH-3005
HCV-268	CH	B	2	210-121-2	B4	GA	M	3	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3009
FCV-269	CH	B	2	210-121-1	C7	GL	A	3	A	FC	C	ST	Q	Y	-	OP-ST-CH-3001
FCV-269	CH	B	2	210-121-1	C7	GL	A	3	A	FC	-	VPI	2YR	Y	-	OP-ST-VX-3008
MS-275	MS	C	2	M-252-1	F8	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
MS-276	MS	C	2	M-252-1	F8	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
MS-277	MS	C	2	M-252-1	F7	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
MS-278	MS	C	2	M-252-1	F7	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
MS-279	MS	C	2	M-252-1	E8	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
MS-280	MS	C	2	M-252-1	E7	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
VA-280	VA	A	2	M-1-2	A8	BU	H	4	LC	-	L	LT	2YR	-	-	APPENDIX J
MS-281	MS	C	2	M-252-1	E7	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
MS-282	MS	C	2	M-252-1	E6	RL	R	6	-	-	T	SP	RO	-	-	SS-ST-MS-3003
SA-282	SA	C	3	B120F07001-1	B7	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-SA-3001
AC-283	CCW	C	2	M-40-1	G7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3007
AC-284	CCW	C	2	M-40-1	G7	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3007
AC-285	CCW	C	2	M-40-1	F6	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3007
SA-285	SA	C	3	B120F07001-1	F7	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-SA-3001
AC-286	CCW	C	2	M-40-1	F5	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3007
VA-287	VA	C	3	M-1-2	B6	RL	R	2	-	-	T	SP	OM	-	-	PE-ST-VX-3010
SA-288	SA	C	3	B120F07001-1	B7	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-SA-3001
VA-288	VA	C	3	M-1-2	B5	RL	R	2	-	-	T	SP	OM	-	-	PE-ST-VX-3010
VA-289	VA	A	2	M-1-2	A8	BU	H	4	LC	-	L	LT	2YR	-	-	APPENDIX J
MS-291	MS	C	2	M-252-1	F7	RL	R	2.5	-	-	T	SP	RO	-	-	SS-ST-MS-3004
SA-291	SA	C	3	B120F07001-2	F7	CK	C	0.5	-	-	C	FS	Q	-	-	IC-ST-SA-3001
MS-292	MS	C	2	M-252-1	E7	RL	R	2.5	-	-	T	SP	RO	-	-	SS-ST-MS-3004
SI-298	SI	C	2	210-130-1	D3	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3009
SI-299	SI	C	2	210-130-1	D4	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3009
SI-300	SI	C	2	210-130-1	B4	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-SI-3008
SI-301	SI	C	2	210-130-1	D4	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-SI-3008

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
SI-302	SI	C	2	210-130-1	F4	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-SI-3008
SI-303	SI	C	2	210-130-1	E4	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-SI-3008
SI-304	SI	C	2	210-130-1	A4	CK	C	2	-	-	O	FS	Q	-	-	OP-ST-SI-3008
SI-306	SI	A	2	210-130-1	D7	GA	H	6	LC	-	L	LT	2YR	-	-	SE-ST-SI-3005
HCV-308	SI	B	2	210-130-1	D6	GA	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-308	SI	B	2	210-130-3	D6	GA	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3019
SI-309	SI	C	2	210-130-1	D5	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3009
SI-310	SI	C	2	210-130-1	D3	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3009
HCV-311	SI	B	2	210-130-2A	C3	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-311	SI	B	2	210-130-2A	C3	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-312	SI	B	2	210-130-2A	C4	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-312	SI	B	2	210-130-2A	C4	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-314	SI	B	2	210-130-2A	C5	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-314	SI	B	2	210-130-2A	C5	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-315	SI	B	2	210-130-2A	C5	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-315	SI	B	2	210-130-2A	C5	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-317	SI	B	2	210-130-2A	C8	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-317	SI	B	2	210-130-2A	C8	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-318	SI	B	2	210-130-2A	C8	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-318	SI	B	2	210-130-2A	C8	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-320	SI	B	2	210-130-2A	C6	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-320	SI	B	2	210-130-2A	C6	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-321	SI	B	2	210-130-2A	C7	GL	M	2	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-321	SI	B	2	210-130-2A	C7	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
SI-323	SI	C	2	210-130-3	E6	CK	C	4	-	-	O	FS	RO	-	J20	OP-ST-SI-3007
SI-323	SI	C	2	210-130-3	E6	CK	C	4	-	-	C	FS	RO	-	J20	SE-ST-SI-3010
HCV-327	SI	B	2	210-130-2A	C3	GL	M	4	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-327	SI	B	2	210-130-2A	C3	GL	M	4	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-329	SI	B	2	210-130-2A	C4	GL	M	4	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-329	SI	B	2	210-130-2A	C4	GL	M	4	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-331	SI	B	2	210-130-2A	C7	GL	M	4	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-331	SI	B	2	210-130-2A	C7	GL	M	4	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-333	SI	B	2	210-130-2A	C6	GL	M	4	NC	FAI	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-333	SI	B	2	210-130-2A	C6	GL	M	4	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3018
AC-341	CCW	C	3	M-10-2	C3	RL	R	1	-	-	T	SP	OM	-	-	PE-ST-VX-3001

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
SI-342	SI	A	2	210-130-1	E7	GL	H	1	LC	-	L	LT	2YR	-	-	SE-ST-SI-3005
SI-343	SI	C	2	210-130-3	D6	CK	C	2	-	-	O	FS	RO	-	J11	OP-ST-CH-3006
HCV-344	SI	B	2	210-130-1	D8	BL	A	8	NC	FO	O	ST	CS	Y	J21	OP-ST-SI-3002
HCV-344	SI	B	2	210-130-1	D8	BL	A	8	NC	FO	C	ST	CS	Y	J21	OP-ST-SI-3002
HCV-344	SI	B	2	210-130-1	D8	BL	A	8	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3019
NG-HCV-344-S2	NG	C	2	C-4175-5	E2	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-345	SI	B	2	210-130-1	B8	BL	A	8	NC	FO	O	ST	CS	Y	J21	OP-ST-SI-3002
HCV-345	SI	B	2	210-130 1	D8	BL	A	8	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3019
HCV-347	SI	A	1	210-130-3	F7	GA	M	10	LC	FAI	L	LT	2YR	-	-	APPENDIX J
HCV-347	SI	A	1	210-130-3	F7	GA	M	10	LC	FAI	C	ST	CS	Y	J22	OP-ST-SI-3002
HCV-347	SI	A	1	210-130-3	F7	GA	M	10	LC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3019
HCV-348	SI	A	1	210-130-2A	C2	GA	M	12	LC	FAI	L	LT	2YR	-	-	APPENDIX J
HCV-348	SI	A	1	210-130-2A	C2	GA	M	12	LC	FAI	C	ST	CS	Y	J22	OP-ST-SI-3002
HCV-348	SI	A	1	210-130-2A	C2	GA	M	12	LC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3019
MS-351	MS	C	3	M-252-1	E5	CK	C	2	-	-	O	FS	Q	-	-	SE-ST-AFW-3006
MS-352	MS	C	3	M-252-1	E5	CK	C	2	-	-	O	FS	Q	-	-	SE-ST-AFW-3006
AC-364	CCW	C	3	M-10-2	D4	RL	R	2	-	-	T	SP	OM	-	-	PE-ST-VX-3001
RC-374	RC	A/C	1	210-110-1A	E4	CK	C	4	-	-	C	FS	RO	-	J44	OP-ST-SI-3007
RC-374	RC	A/C	1	210-110-1A	E4	CK	C	4	-	-	L	LT	2YR	-	-	OP-ST-SI-3007
HCV-383-3	SI	A	2	210-130-3	B7	BU	M	24	NC	FAI	O	ST	CS	Y	J40	OP-ST-SI-3002
HCV-383-3	SI	A	2	210-130-3	B7	BU	M	24	NC	FAI	L	LT	2YR	-	-	APPENDIX J
HCV-383-3	SI	A	2	210-130-3	B7	BU	M	24	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-383-4	SI	A	2	210-130-3	B7	BU	M	24	NC	FAI	O	ST	CS	Y	J40	OP-ST-SI-3002
HCV-383-4	SI	A	2	210-130-3	B7	BU	M	24	NC	FAI	L	LT	2YR	-	-	APPENDIX J
HCV-383-4	SI	A	2	210-130-3	B7	BU	M	24	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3018
LCV-383-1	SI	A	2	210-130-1	D1	BU	A	20	NO	FO	C	ST	CS	Y	J40	OP-ST-SI-3002
LCV-383-1	SI	A	2	210-130-1	D2	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3018
LCV-383-1	SI	A	2	210-130-1	D1	BU	A	20	NO	FO	O	ST	CS	Y	J40	OP-ST-SI-3002
LCV-383-1	SI	A	2	210-130-1	D1	BU	A	20	NO	FO	L	LT	2YR	-	-	SE-ST-SI-3005
LCV-383-2	SI	A	2	210-130-1	D2	BU	A	20	NO	FO	O	ST	CS	Y	J40	OP-ST-SI-3002
LCV-383-2	SI	A	2	210-130-1	D2	BU	A	20	NO	FO	C	ST	CS	Y	J40	OP-ST-SI-3002
LCV-383-2	SI	A	2	210-130-1	D2	BU	A	20	NO	FO	L	LT	2YR	-	-	SE-ST-SI-3005
LCV-383-2	SI	A	2	210-130-1	D2	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3018
NG-LCV-383-1-S2	NG	C	3	C-4175-5	E2	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3006
NG-LCV-383-2-S2	NG	C	3	C-4175-5	E2	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3006

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-385	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	O	ST	CS	Y	J34	OP-ST-SI-3006
HCV-385	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	C	ST	CS	Y	J34	OP-ST-SI-3002
HCV-385	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	L	LT	2YR	-	-	SE-ST-SI-3005
HCV-385	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-386	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	C	ST	CS	Y	J34	OP-ST-SI-3002
HCV-386	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	O	ST	CS	Y	J34	OP-ST-SI-3002
HCV-386	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	L	LT	2YR	-	-	SE-ST-SI-3005
HCV-386	SI	A	2	210-130-1	F4	GL	A	4	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3018
AC-391	CCW	A/C	3	M10 SH. 2	B4	CK	C	15	-	-	O	FS	Q	-	-	SE-ST-CCW-3003
AC-391	CCW	A/C	3	M10 SH. 2	B4	CK	C	15	-	-	C	FS	Q	-	-	SE-ST-CCW-3003
AC-391	CCW	A/C	3	M10 SH. 2	B4	CK	C	15	-	-	L	LT	Q	-	-	SE-ST-CCW-3003
HCV-400A	CCW	B	2	M-40-1	C7	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-400A	CCW	B	2	M-40-1	C7	BU	A	8	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-400A	CCW	B	2	M-40-1	C7	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-400A-S2	NG	C	3	C-4175-6	F2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-400B	CCW	B	2	M-40-1	B7	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-400B	CCW	B	2	M-40-1	B7	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-400B-S2	NG	C	3	C-4175-6	F2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-400C	CCW	B	2	M-40-1	D2	BL	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-400C	CCW	B	2	M-40-1	D2	BL	A	8	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-400C	CCW	B	2	M-40-1	D2	BL	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
HCV-400D	CCW	B	2	M-40-1	B2	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-400D	CCW	B	2	N-40-1	B2	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
HCV-401A	CCW	B	2	M-40-1	C7	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-401A	CCW	B	2	M-40-1	C7	BU	A	8	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-401A	CCW	B	2	M-40-1	C7	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-401A-S2	NG	C	3	C-4175-6	F2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-401B	CCW	B	2	M-40-1	B7	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-401B	CCW	B	2	M-40-1	B7	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-401B-S2	NG	C	3	C-4175-6	F2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-401C	CCW	B	2	M-40-1	D3	BL	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-401C	CCW	B	2	M-40-1	D3	BL	A	8	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-401C	CCW	B	2	M-40-1	D3	BL	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
HCV-401D	CCW	B	2	M-40-1	B3	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-401D	CCW	B	2	M-40-1	B3	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-402A	CCW	B	2	M-40-1	C6	BU	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-402A	CCW	B	2	M-40-1	C6	BU	A	6	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-402A	CCW	B	2	M-40-1	C6	BU	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-402A-S2	NG	C	3	C-4175-6	E2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-402B	CCW	B	2	M-40-1	B6	BU	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-402B	CCW	B	2	M-40-1	B6	BU	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-402B-S2	NG	C	3	C-4175-6	E2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-402C	CCW	B	2	M-40-1	D4	BL	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-402C	CCW	B	2	M-40-1	D4	BL	A	6	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-402C	CCW	B	2	M-40-1	D4	BL	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
HCV-402D	CCW	B	2	M-40-1	D4	BU	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-402D	CCW	B	2	M-40-1	D4	BU	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
HCV-403A	CCW	B	2	M-40-1	C5	BU	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-403A	CCW	B	2	M-40-1	C5	BU	A	6	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-403A	CCW	B	2	M-40-1	C5	BU	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-403A-S2	NG	C	3	C-4175-6	E2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-403B	CCW	B	2	M-40-1	B5	BU	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-403B	CCW	B	2	M-40-1	B5	BU	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
NG-HCV-403B-S2	NG	C	3	C-4175-6	E2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-403C	CCW	B	2	M-40-1	D4	BL	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-403C	CCW	B	2	M-40-1	D4	BL	A	6	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3005
HCV-403C	CCW	B	2	M-40-1	D4	BL	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
HCV-403D	CCW	B	2	M-40-1	B4	BU	A	6	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3005
HCV-403D	CCW	B	2	M-40-1	B4	BU	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3007
HCV-425A	CCW	A	2	M-40-3	C6	GL	A	3	NO	FC	C	ST	CS	Y	J23	OP-ST-CCW-3004
HCV-425A	CCW	A	2	M-40-3	C6	GL	A	3	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-425A	CCW	A	2	M-40-3	C6	GL	A	3	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-425B	CCW	A	2	M-40-1	D1	GL	A	3	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-425B	CCW	A	2	M-40-1	D1	GL	A	3	NO	FC	C	ST	CS	Y	J23	OP-ST-CCW-3004
HCV-425B	CCW	A	2	M-40-1	D1	GL	A	3	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-425C	CCW	A	2	M-40-3	B5	GL	A	3	NO	FC	C	ST	CS	Y	J23	OP-ST-CCW-3004
HCV-425C	CCW	A	2	M-40-3	B5	GL	A	3	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-425C	CCW	A	2	M-40-3	B5	GL	A	3	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-425D	CCW	A	2	M-40-3	B5	GL	A	3	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-425D	CCW	A	2	M-40-3	B5	GL	A	3	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-425D	CCW	A	2	M-40-3	B5	GL	A	3	NO	FC	C	ST	CS	Y	J23	OP-ST-CCW-3004
HCV-438A	CCW	A	2	M-40-2	F8	GL	A	6	NO	FO	C	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438A	CCW	A	2	M-40-2	F8	GL	A	6	NO	FO	L	LT	2YR	-	-	APPENDIX J
HCV-438A	CCW	A	2	M-40-2	F8	GL	A	6	NO	FO	O	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438A	CCW	A	2	M-40-2	F8	GL	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-438B	CCW	A	2	M-40-1	A6	GL	A	6	NO	FO	O	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438B	CCW	A	2	M-40-1	A6	GL	A	6	NO	FO	L	LT	2YR	-	-	APPENDIX J
HCV-438B	CCW	A	2	M-40-1	A6	GL	A	6	NO	FO	C	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438B	CCW	A	2	M-40-1	A6	GL	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3006
NG-HCV-438B-S2	NG	C	3	C-4175-6	D2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-438C	CCW	A	2	M-40-2	F2	GL	A	6	NO	FO	C	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438C	CCW	A	2	M-40-2	F2	GL	A	6	NO	FO	L	LT	2YR	-	-	APPENDIX J
HCV-438C	CCW	A	2	M-40-2	F2	GL	A	6	NO	FO	O	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438C	CCW	A	2	M-40-2	F2	GL	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-438D	CCW	A	2	M-40-1	A3	GL	A	6	NO	FO	C	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438D	CCW	A	2	M-40-1	A3	GL	A	6	NO	FO	L	LT	2YR	-	-	APPENDIX J
HCV-438D	CCW	A	2	M-40-1	A3	GL	A	6	NO	FO	O	ST	CS	Y	J24	OP-ST-CCW-3004
HCV-438D	CCW	A	2	M-40-1	A3	GL	A	6	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3006
NG-HCV-438D-S2	NG	C	3	C-4175-6	D2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-467A	CCW	A	2	M-40-3	E3	GL	A	1.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-467A	CCW	A	2	M-40-3	E3	GL	A	1.5	NO	FC	C	ST	Q	Y	-	OP-ST-CCW-3004
HCV-467A	CCW	A	2	M-40-3	E3	GL	A	1.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-467B	CCW	A	2	M-40-1	A3	GL	A	1.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-467B	CCW	A	2	M-40-1	A3	GL	A	1.5	NO	FC	C	ST	Q	Y	-	OP-ST-CCW-3004
HCV-467B	CCW	A	2	M-40-1	A3	GL	A	1.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-467C	CCW	A	2	M-40-3	E1	GL	A	1.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-467C	CCW	A	2	M-40-3	E1	GL	A	1.5	NO	FC	C	ST	Q	Y	-	OP-ST-CCW-3004
HCV-467C	CCW	A	2	M-40-3	E1	GL	A	1.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006
HCV-467D	CCW	A	2	M-40-1	A2	GL	A	1.5	NO	FC	C	ST	Q	Y	-	OP-ST-CCW-3004
HCV-467D	CCW	A	2	M-40-1	A2	GL	A	1.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-467D	CCW	A	2	M-40-1	A2	GL	A	1.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3006
CH-469	CH	C	1	210-120-1A	B5	CK	C	2	-	-	O	PS	CS	-	J11	SE-ST-CH-3003
CH-469	CH	C	1	210-120-1A	B5	CK	C	2	-	-	O	FS	RO	-	J11	OP-ST-CH-3003
HCV-474	CCW	B	3	M-10-3	F8	GL	A	2	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-474	CCW	B	3	M-10-3	F8	GL	A	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3006

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-478	CCW	B	3	M-10-3	D2	BU	A	8	NO	FO	C	ST	Q	Y	-	OP-ST-CCW-3001
HCV-478	CCW	B	3	M-10-3	D2	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-478	CCW	B	3	M-10-3	D2	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-480	CCW	B	3	M-10-3	C6	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-480	CCW	B	3	M-10-3	C6	BU	A	14	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
NG-HCV-480-S2	NG	C	3	C-4175-6	B2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-481	CCW	B	3	M-10-3	B7	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-481	CCW	B	3	M-10-3	B7	BU	A	14	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
NG-HCV-481-S2	NG	C	3	C-4175-6	B2	RL	R	0.25	-	-	T	SP	OM	-	-	PE-ST-VX-3006
HCV-482A	RW	B	3	M-10-3	C5	BU	A	14	NC	FO	O	ST	RO	Y	J41	OP-ST-RW-3003
HCV-482A	RW	B	3	M-10-3	C5	BU	A	14	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-482B	RW	B	3	M-10-3	A4	BU	A	14	NC	FO	O	ST	RO	Y	J41	OP-ST-RW-3003
HCV-482B	RW	B	3	M-10-3	A4	BU	A	14	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-483A	RW	B	3	M-10-3	B7	BU	A	14	NC	FO	O	ST	RO	Y	J41	OP-ST-RW-3003
HCV-483A	RW	B	3	M-10-3	B7	BU	A	14	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-483B	RW	B	3	M-10-3	A5	BU	A	14	NC	FO	O	ST	RO	Y	J41	OP-ST-RW-3003
HCV-483B	RW	B	3	M-10-3	A5	BU	A	14	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-484	CCW	B	3	M-10-3	B4	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-484	CCW	B	3	M-10-3	B4	BU	A	14	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-485	CCW	B	3	M-10-3	A5	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-485	CCW	B	3	M-10-3	A5	BU	A	14	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-489A	CCW	B	3	M-10-3	B2	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-489A	CCW	B	3	M-10-3	B2	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-489B	CCW	B	3	M-10-2	A6	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-489B	CCW	B	3	M-10-2	A6	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-490A	CCW	B	3	M-10-3	B2	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-490A	CCW	B	3	M-10-3	B2	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-490B	CCW	B	3	M-10-2	A6	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-490B	CCW	B	3	M-10-2	A6	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-491A	CCW	B	3	M-10-3	C2	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-491A	CCW	B	3	M-10-3	C2	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-491B	CCW	B	3	M-10-2	B6	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-491B	CCW	B	3	M-10-2	B6	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-492A	CCW	B	3	M-10-3	C2	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-492A	CCW	B	3	M-10-3	C2	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TFST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-492B	CCW	B	3	M-10-2	C6	BU	A	10	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-492B	CCW	B	3	M-10-2	C6	BU	A	10	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-500A	WD	A	2	M-6-2	A6	DI	A	4	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-500A	WD	A	2	M-6-2	A6	DI	A	4	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-500A	WD	A	2	M-6-2	A6	DI	A	4	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-500B	WD	A	2	M-6-2	A6	DI	A	4	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-500B	WD	A	2	M-6-2	A6	DI	A	4	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-500B	WD	A	2	M-6-2	A6	DI	A	4	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-506A	WD	A	2	M-7-1	A6	DI	A	2	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-506A	WD	A	2	M-7-1	A6	DI	A	2	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-506A	WD	A	2	M-7-1	A6	DI	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-506B	WD	A	2	M-7-1	A6	DI	A	2	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-506B	WD	A	2	M-7-1	A6	DI	A	2	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-506B	WD	A	2	M-7-1	A6	DI	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-507A	WD	A	2	M-98-3	F7	DI	A	3	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-507A	WD	A	2	M-98-3	F7	DI	A	3	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-507A	WD	A	2	M-98-3	F7	DI	A	3	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-507B	WD	A	2	M-98-3	F7	DI	A	3	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-507B	WD	A	2	M-98-3	F7	DI	A	3	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-507B	WD	A	2	M-98-3	F7	DI	A	3	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-508A	WD	A	2	M-98-3	C7	DI	A	0.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-508A	WD	A	2	M-98-3	C7	DI	A	0.5	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-508A	WD	A	2	M-98-3	C7	DI	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-508B	WD	A	2	M-98-3	C6	DI	A	0.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-508B	WD	A	2	M-98-3	C6	DI	A	0.5	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-508B	WD	A	2	M-98-3	C6	DI	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-509A	WD	A	2	M-98-3	B7	DI	A	0.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-509A	WD	A	2	M-98-3	B7	DI	A	0.5	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-509A	WD	A	2	M-98-3	B7	DI	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
HCV-509B	WD	A	2	M-98-3	B6	DI	A	0.5	NO	FC	C	ST	Q	Y	-	OP-ST-WDL-3001
HCV-509B	WD	A	2	M-98-3	B6	DI	A	0.5	NO	FC	L	LT	2YR	-	-	APPENDIX J
HCV-509B	WD	A	2	M-98-3	B6	DI	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3025
CA-555	CA	A	2	M-13	F3	GA	H	4	NO	-	L	LT	2YR	-	-	APPENDIX J
FW-658	AFW	C	3	M-254-2	D5	CK	C	1.5	-	-	C	ME	Q	-	-	MANUALLY EXERCISE OP-ST-AFW-3006
FW-658	AFW	C	3	M-254-2	D5	CK	C	1.5	-	-	O	ME	Q	-	-	MANUALLY EXERCISE OP-ST-AFW-3006

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
FW-672	AFW	C	3	M-253-4	B6	CK	C	2	-	-	O	FS	Q	-	-	SE-ST-AFW-3006
A/HCV-742	VA	A	2	M-1-2	D8	DI	A	1	NO	FO	L	LT	2YR	-	-	APPENDIX J
B/HCV-742	VA	A	2	M-1-2	D8	DI	A	1	NO	FO	L	LT	2YR	-	-	APPENDIX J
C/HCV-742	VA	A	2	M-1-2	D8	DI	A	1	NO	FO	L	LT	2YR	-	-	APPENDIX J
D/HCV-742	VA	A	2	M-1-2	C8	DI	A	1	NO	FO	L	LT	2YR	-	-	APPENDIX J
PCV-742A	VA	A	2	M-1-1	D2	BU	A	42	A	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742B	VA	A	2	M-1-2	C7	BU	A	42	A	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742C	VA	A	2	M-1-1	C2	BU	A	42	A	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742D	VA	A	2	M-1-2	B8	BU	A	42	A	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742E	VA	A	2	M-1-1	F2	DI	A	1	A	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742E	VA	A	2	M-1-1	F2	DI	A	1	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
PCV-742E	VA	A	2	M-1-1	F2	DI	A	1	A	FC	C	ST	Q	Y	-	OP-ST-VA-3001
PCV-742F	VA	A	2	M-1-2	E8	DI	A	1	A	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742F	VA	A	2	M-1-2	E8	DI	A	1	A	FC	C	ST	Q	Y	-	OP-ST-VA-3001
PCV-742F	VA	A	2	M-1-2	E8	DI	A	1	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
PCV-742G	VA	A	2	M-1-1	E2	DI	A	1	A	FC	C	ST	Q	Y	-	OP-ST-VA-3001
PCV-742G	VA	A	2	M-1-1	E2	DI	A	1	A	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742G	VA	A	2	M-1-1	E2	DI	A	1	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
PCV-742H	VA	A	2	M-1-2	E8	DI	A	1	NO	FC	C	ST	Q	Y	-	OP-ST-VA-3001
PCV-742H	VA	A	2	M-1-2	E8	DI	A	1	NO	FC	L	LT	2YR	-	-	APPENDIX J
PCV-742H	VA	A	2	M-1-2	E8	DI	A	1	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-746A	VA	A	2	M-1-1	D2	BL	A	2	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-746A	VA	A	2	M-1-1	D2	BL	A	2	NC	FC	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-746A	VA	A	2	M-1-1	D2	BL	A	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-746B	VA	A	2	M-1-2	C7	BL	A	2	NC	FC	C	ST	Q	Y	-	OP-ST-CA-3001
HCV-746B	VA	A	2	M-1-2	C7	BL	A	2	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-746B	VA	A	2	M-1-2	C7	BL	A	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-820A	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-820A	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-820A	VA	A	2	M-1-2	B8	GL	S	1	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-820B	VA	A	2	M-1-1	C2	GL	S	1	NC	FO	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-820B	VA	A	2	M-1-1	C2	GL	S	1	NC	FO	O	ST	Q	Y	-	OP-ST-VA-3001
HCV-820B	VA	A	2	M-1-1	C2	GL	S	1	NC	FO	L	LT	2YR	-	-	APPENDIX J
HCV-820B	VA	A	2	M-1-1	C2	GL	S	1	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-821A	VA	A	2	M-1-2	A8	GL	S	1	NC	FC	C	ST	Q	Y	-	OP-ST-VA-3001

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-821A	VA	A	2	M-1-2	A8	GL	S	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-821A	VA	A	2	M-1-2	A8	GL	S	1	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-821B	VA	A	2	M-1-1	A2	GL	S	1	NC	FO	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-821B	VA	A	2	M-1-1	A2	GL	S	1	NC	FO	O	ST	Q	Y	-	OP-ST-VA-3001
HCV-821B	VA	A	2	M-1-1	A2	GL	S	1	NC	FO	L	LT	2YR	-	-	APPENDIX J
HCV-821B	VA	A	2	M-1-1	A2	GL	S	1	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-881	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-881	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	O	ST	Q	Y	-	OP-ST-VA-3001
HCV-881	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	L	LT	2YR	-	-	APPENDIX J
HCV-881	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-882	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	O	ST	Q	Y	-	OP-ST-VA-3001
HCV-882	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-882	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	L	LT	2YR	-	-	APPENDIX J
HCV-882	VA	A	2	M-1-1	B2	BU	A	4	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-883A	VA	A	2	M-1-1	C2	PG	A	1	NC	FO	L	LT	2YR	-	-	APPENDIX J
HCV-883A	VA	A	2	M-1-1	C2	PG	A	1	NC	FO	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-883A	VA	A	2	M-1-1	C2	PG	A	1	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-883A	VA	A	2	M-1-1	C2	PG	A	1	NC	FO	O	ST	Q	Y	-	OP-ST-VA-3001
HCV-883B	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-883B	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-883B	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-884A	VA	A	2	M-1-1	C2	GL	A	1	NC	FO	O	ST	Q	Y	-	OP-ST-VA-3001
HCV-884A	VA	A	2	M-1-1	C2	GL	A	1	NC	FO	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-884A	VA	A	2	M-1-1	C2	GL	A	1	NC	FO	L	LT	2YR	-	-	APPENDIX J
HCV-884A	VA	A	2	M-1-1	C2	GL	A	1	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-884B	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-884B	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	C	ST	Q	Y	-	OP-ST-VA-3001
HCV-884B	VA	A	2	M-1-2	B8	GL	S	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3024
HCV-1041A	MS	B	2	M-252-1	F6	CK	A	28	NO	FC	C	ST	CS	Y	J26	OP-ST-MS-3002
HCV-1041A	MS	B	2	M-252-1	F6	CK	A	28	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3013
HCV-1041B	MS	C	2	M-252-1	F6	CK	C	28	-	-	C	SD	RO*	-	J39	SE-ST-MS-3003
HCV-1041C	MS	B	2	M-252-1	F6	GL	M	2	NC	FAI	C	ST	CS	Y	J27	OP-ST-MS-3002
HCV-1041C	MS	B	2	M-252-1	F6	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3013
HCV-1042A	MS	B	2	M-252-1	E6	CK	A	28	NO	FC	C	ST	CS	Y	J26	OP-ST-MS-3002
HCV-1042A	MS	B	2	M-252-1	E6	CK	A	28	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3013

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-1042B	MS	C	2	M-252-1	E6	CK	C	28	-	-	C	SD	RO*	-	J39	SE-ST-MS-3003
HCV-1042C	MS	B	2	M-252-1	E6	GL	M	2	NC	FAI	C	ST	CS	Y	J27	OP-ST-MS-3002
HCV-1042C	MS	B	2	M-252-1	E6	GL	M	2	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3013
YCV-1045	MS	B	3	M-252-1	C5	GL	A	2	NC	FO	O	ST	Q	Y	-	SE-ST-AFW-3006
YCV-1045	MS	B	3	M-252-1	C5	GL	A	2	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3001
YCV-1045A	MS	B	2	M-252-1	F5	GL	A	2	NC	FO	O	ST	Q	Y	-	OP-ST-MS-3001
YCV-1045A	MS	B	2	M-252-1	F5	GL	A	2	NC	FO	C	ST	Q	Y	-	OP-ST-MS-3001
YCV-1045A	MS	B	2	M-252-1	F5	GL	A	2	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3012
YCV-1045B	MS	B	2	M-252-1	E5	GL	A	2	NC	FO	O	ST	Q	Y	-	OP-ST-MS-3001
YCV-1045B	MS	B	2	M-252-1	E5	GL	A	2	NC	FO	C	ST	Q	Y	-	OP-ST-MS-3001
YCV-1045B	MS	B	2	M-252-1	E5	GL	A	2	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3012
HCV-1103	FW	B	N	M-253-1	C3	GA	M	16	NO	FAI	C	ST	CS	Y	J28	OP-ST-FW-3002
HCV-1103	FW	B	N	M-253-1	C3	GA	M	16	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1104	FW	B	N	M-253-1	E3	GA	M	16	NO	FAI	C	ST	CS	Y	J28	OP-ST-FW-3002
HCV-1104	FW	B	N	M-253-1	E3	GA	M	16	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1105	FW	B	N	M-253-1	D3	GL	A	6	NC	FC	C	ST	CS	Y	J28	OP-ST-FW-3002
HCV-1105	FW	B	N	M-253-1	D3	GL	A	6	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1106	FW	B	N	M-253-1	E3	GL	A	6	NC	FC	C	ST	CS	Y	J28	OP-ST-FW-3002
HCV-1106	FW	B	N	M-253-1	E3	GL	A	6	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1107A	AFW	B	2	M-253-1	F8	GL	A	3	NC	FO	O	ST	Q	Y	-	OP-ST-AFW-3006
HCV-1107A	AFW	B	2	M-253-1	F8	GL	A	3	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3002
HCV-1107B	AFW	B	2	M-253-4	E8	GL	A	3	NC	FO	O	ST	Q	Y	-	OP-ST-AFW-3006
HCV-1107B	AFW	B	2	M-253-4	E8	GL	A	3	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3002
HCV-1108A	AFW	B	2	M-253-4	F7	GL	A	3	NC	FO	O	ST	Q	Y	-	OP ST-AFW 3006
HCV-1108A	AFW	B	2	M-253-4	F7	GL	A	3	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3002
HCV-1108B	AFW	B	2	M-253-4	E7	GL	A	3	NC	FO	O	ST	Q	Y	-	OP-ST-AFW-3006
HCV-1108B	AFW	B	2	M-253-4	E7	GL	A	3	NC	FO	-	VPI	2YR	Y	-	OP-ST-VX-3002
FCV-1368	AFW	B	3	M-253-4	C6	GL	A	1	A	FO	O	ST	Q	Y	-	OP-ST-AFW-3006
FCV-1368	AFW	B	3	M-253-4	C6	GL	A	1	A	FO	-	VPI	2YR	Y	-	OP-ST-VX-3002
FCV-1369	AFW	B	3	M-253-4	B5	GL	A	2	A	FO	-	VPI	2YR	Y	-	OP-ST-VX-3002
FCV-1369	AFW	B	3	M-253-4	B5	GL	A	2	A	FO	O	ST	Q	Y	-	OP-ST-AFW-3006
HCV-1384	AFW	B	3	M-253-4	D7	GA	M	4	NC	FAI	O	ST	Q	Y	-	OP-ST-AFW-3006
HCV-1384	AFW	B	3	M-253-4	D7	GA	M	4	NC	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3002
HCV-1385	FW	B	2	M-253-1	D3	GA	M	16	NO	FAI	C	ST	CS	Y	J28	OP-ST-FW-3002
HCV-1385	FW	B	2	M-253-1	D3	GA	M	16	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3011

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-1386	FW	B	2	M-253-1	C6	GA	M	16	NO	FAI	C	ST	CS	Y	J28	OP-ST-FW-3002
HCV-1386	FW	B	2	M-253-1	C6	GA	M	16	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1387A	FW	B	2	M-253-1	C3	GL	A	2	NO	FC	C	ST	Q	Y	-	OP-ST-FW-3002
HCV-1387A	FW	B	2	M-253-1	C3	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1387B	FW	B	2	M-253-1	B3	GL	A	2	NO	FC	C	ST	Q	Y	-	OP-ST-FW-3002
HCV-1387B	FW	B	2	M-253-1	B3	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1388A	FW	B	2	M-253-1	C8	GL	A	2	NO	FC	C	ST	Q	Y	-	OP-ST-FW-3002
HCV-1388A	FW	B	2	M-253-1	C8	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3011
HCV-1388B	FW	B	2	M-253-1	B8	GL	A	2	NO	FC	C	ST	Q	Y	-	OP-ST-FW-3002
HCV-1388B	FW	B	2	M-253-1	B8	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3011
FW-1443	FW	C	3	M-253-4	B5	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3003
FW-1444	FW	C	3	M-253-4	B5	RL	R	0.75	-	-	T	SP	OM	-	-	PE-ST-VX-3003
FW-1525	AFW	C	3	M-253-4	B4	RL	R	0.75	-	-	T	SP	OM*	-	E6	PE-ST-VX-3003
HCV-1559A	DW	A	2	M-5-2	E5	DI	A	2.5	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-1559A	DW	A	2	M-5-2	E5	DI	A	2.5	NC	FC	C	ST	Q	Y	-	OP-ST-DW-3001
HCV-1559A	DW	A	2	M-5-2	E5	DI	A	2.5	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3010
HCV-1559B	DW	A	2	M-5-2	E5	DI	A	2.5	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-1559B	DW	A	2	M-5-2	E5	DI	A	2.5	NC	FC	C	ST	Q	Y	-	OP-ST-DW-3001
HCV-1559B	DW	A	2	M-5-2	E5	DI	A	2.5	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3010
HCV-1560A	DW	A	2	M-5-2	A4	DI	A	2	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-1560A	DW	A	2	M-5-2	A4	DI	A	2	NC	FC	C	ST	Q	Y	-	OP-ST-DW-3001
HCV-1560A	DW	A	2	M-5-2	A4	DI	A	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3010
HCV-1560B	DW	A	2	M-5-2	A4	DI	A	2	NC	FC	C	ST	Q	Y	-	OP-ST-DW-3001
HCV-1560B	DW	A	2	M-5-2	A4	DI	A	2	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-1560B	DW	A	2	M-5-2	A4	DI	A	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3010
HCV-1749	CA	A	2	M-13	F4	GL	A	4	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-1749	CA	A	2	M-13	F4	GL	A	4	NC	FC	C	ST	Q	Y	-	OP-ST-CA-3001
HCV-1749	CA	A	2	M-13	F4	GL	A	4	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3003
PCV-1849A	IA	A	2	M-264-1	C8	GL	A	2	NO	FC	L	LT	2YR	-	-	APPENDIX J
PCV-1849A	IA	A	2	M-264-1	C8	GL	A	2	NO	FC	C	ST	CS	Y	J30	OP-ST-CA-3002
PCV-1849A	IA	A	2	M-264-1	C8	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3004
PCV-1849B	IA	A	2	M-264-1	F5	GL	A	2	NO	FC	L	LT	2YR	-	-	APPENDIX J
PCV-1849B	IA	A	2	M-264-1	F5	GL	A	2	NO	FC	C	ST	CS	Y	J30	OP-ST-CA-3002
PCV-1849B	IA	A	2	M-264-1	F5	GL	A	2	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3004
HCV-2504A	SL	A	2	M-12-1	F7	GL	A	0.5	NC	FC	C	ST	Q	Y	-	OP-ST-SL-3001

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-2504A	SL	A	2	M-12-1	F7	GL	A	0.5	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2504A	SL	A	2	M-12-1	F7	GL	A	0.5	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3021
HCV-2504B	SL	A	2	M-12-1	F7	GL	A	0.5	NC	FC	C	ST	Q	Y	-	OP-ST-SL-3001
HCV-2504B	SL	A	2	M-12-1	F7	GL	A	0.5	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2504B	SL	A	2	M-12-1	F7	GL	A	0.5	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3021
HCV-2506A	SL	B	2	M-12-1	D7	GL	A	0.5	NO	FC	C	ST	CS	Y	J31	OP-ST-SL-3002
HCV-2506A	SL	B	2	M-12-1	D7	GL	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3022
HCV-2506B	SL	B	2	M-12-1	D7	GL	A	0.5	NO	FC	C	ST	CS	Y	J31	OP-ST-SL-3002
HCV-2506B	SL	B	2	M-12-1	D7	GL	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3022
HCV-2507A	SL	B	2	M-12-1	C7	GL	A	0.5	NO	FC	C	ST	CS	Y	J31	OP-ST-SL-3002
HCV-2507A	SL	B	2	M-12-1	C7	GL	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3022
HCV-2507B	SL	B	2	M-12-1	C7	GL	A	0.5	NO	FC	C	ST	CS	Y	J31	OP-ST-SL-3002
HCV-2507B	SL	B	2	M-12-1	C7	GL	A	0.5	NO	FC	-	VPI	2YR	Y	-	OP-ST-VX-3022
HCV-2603A	NG	A	2	M-42-1	D8	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2603A	NG	A	2	M-42-1	D8	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-NG-3001
HCV-2603A	NG	A	2	M-42-1	D8	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3014
HCV-2603B	NG	A	2	M-42-1	D8	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-NG-3001
HCV-2603B	NG	A	2	M-42-1	D8	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2603B	NG	A	2	M-42-1	D8	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3014
HCV-2604A	NG	A	2	M-42-1	D5	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-NG-3001
HCV-2604A	NG	A	2	M-42-1	D5	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2604A	NG	A	2	M-42-1	D5	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3014
HCV-2604B	NG	A	2	M-42-1	D5	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2604B	NG	A	2	M-42-1	D5	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-NG-3001
HCV-2604B	NG	A	2	M-42-1	D5	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3014
HCV-2808A	CCW	B	3	M-10-4	E5	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2808A	CCW	B	3	M-10-4	E5	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2808B	CCW	B	3	M-10-4	B5	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2808B	CCW	B	3	M-10-4	B5	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2808C	RW	B	3	M-10-4	D5	GL	A	1.5	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2808C	RW	B	3	M-10-4	D5	GL	A	1.5	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
HCV-2808D	RW	B	3	M-10-4	A5	GL	A	1.5	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2808D	RW	B	3	M-10-4	A5	GL	A	1.5	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
HCV-2809A	CCW	B	3	M-10-4	E4	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2809A	CCW	B	3	M-10-4	E4	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-2809B	CCW	B	3	M-10-4	B4	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2809B	CCW	B	3	M-10-4	B4	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2809C	RW	B	3	M-10-4	D5	GL	A	1.5	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2809C	RW	B	3	M-10-4	D5	GL	A	1.5	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
HCV-2809D	RW	B	3	M-10-4	B4	GL	A	1.5	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2809D	RW	B	3	M-10-4	B4	GL	A	1.5	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
HCV-2810A	CCW	B	3	M-10-4	E3	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2810A	CCW	B	3	M-10-4	E3	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2810B	CCW	B	3	M-10-4	B3	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2810B	CCW	B	3	M-10-4	B3	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2811A	CCW	B	3	M-10-4	E2	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2811A	CCW	B	3	M-10-4	E2	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2811B	CCW	B	3	M-10-4	B2	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2811B	CCW	B	3	M-10-4	B2	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2812A	CCW	B	3	M-10-4	E1	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2812A	CCW	B	3	M-10-4	E1	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2812B	CCW	B	3	M-10-4	B1	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2812B	CCW	B	3	M-10-4	B1	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2813A	CCW	B	3	M-10-4	E6	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2813A	CCW	B	3	M-10-4	E6	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2813B	CCW	B	3	M-10-4	B6	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2813B	CCW	B	3	M-10-4	B6	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2814A	CCW	B	3	M-10-4	E8	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2814A	CCW	B	3	M-10-4	E8	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2814B	CCW	B	3	M-10-4	B8	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2814B	CCW	B	3	M-10-4	B8	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2815A	CCW	B	3	M-10-4	E7	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2815A	CCW	B	3	M-10-4	E7	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2815B	CCW	B	3	M-10-4	B7	GL	A	1.5	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2815B	CCW	B	3	M-10-4	B7	GL	A	1.5	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2850	RW	B	3	M-100-1	B7	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2850	RW	B	3	M-100-1	B7	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2851	RW	B	3	M-100-1	B6	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2851	RW	B	3	M-100-1	B6	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2852	RW	B	3	M-100-1	B5	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-2852	RW	B	3	M-100-1	B5	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2853	RW	B	3	M-100-1	B4	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2853	RW	B	3	M-100-1	B4	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2874A	RW	B	3	M-100-1	C7	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2874A	RW	B	3	M-100-1	C7	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2874A	RW	B	3	M-100-1	C7	BU	A	20	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2874B	RW	B	3	M-100-1	C7	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2874B	RW	B	3	M-100-1	C7	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2874B	RW	B	3	M-100-1	C7	BU	A	20	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2875A	RW	B	3	M-100-1	C6	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2875A	RW	B	3	M-100-1	C6	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2875A	RW	B	3	M-100-1	C6	BU	A	20	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2875B	RW	B	3	M-100-1	C6	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2875B	RW	B	3	M-100-1	C6	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2875B	RW	B	3	M-100-1	C6	BU	A	20	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2876A	RW	B	3	M-100-1	C5	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2876A	RW	B	3	M-100-1	C5	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2876A	RW	B	3	M-100-1	C5	BU	A	20	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2876B	RW	B	3	M-100-1	C5	BU	A	20	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2876B	RW	B	3	M-100-1	C5	BU	A	20	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2876B	RW	B	3	M-100-1	C5	BU	A	20	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2877A	RW	B	3	M-100-1	E4	BU	A	14	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2877A	RW	B	3	M-100-1	E4	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2877A	RW	B	3	M-100-1	E4	BU	A	14	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2877B	RW	B	3	M-100-1	E4	BU	A	14	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2877B	RW	B	3	M-100-1	E4	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2877B	RW	B	3	M-100-1	E4	BU	A	14	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2878A	RW	B	3	M-100-1	D4	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2878A	RW	B	3	M-100-1	D4	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2878A	RW	B	3	M-100-1	D4	BU	A	8	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2878B	RW	B	3	M-100-1	D4	BU	A	8	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2878B	RW	B	3	M-100-1	D4	BU	A	8	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2878B	RW	B	3	M-100-1	D4	BU	A	8	NC	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2879A	RW	B	3	M-100-1	C4	BU	A	14	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2879A	RW	B	3	M-100-1	C4	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-2879A	RW	B	3	M-100-1	C4	BU	A	14	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2879B	RW	B	3	M-100-1	B4	BU	A	14	NO	FO	-	VFI	2YR	Y	-	OP-ST-VX-3017
HCV-2879B	RW	B	3	M-100-1	B4	BU	A	14	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2879B	RW	B	3	M-100-1	B4	BU	A	14	NO	FO	C	ST	Q	Y	-	OP-ST-RW-3002
HCV-2880A	RW	B	3	M-100-1	E3	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2880A	RW	B	3	M-100-1	E3	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2880B	RW	B	3	M-100-1	E1	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2880B	RW	B	3	M-100-1	E1	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2881A	RW	B	3	M-100-1	C3	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2881A	RW	B	3	M-100-1	C3	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2881B	RW	B	3	M-100-1	C1	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2881B	RW	B	3	M-100-1	C1	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2882A	RW	B	3	M-100-1	F3	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2882A	RW	B	3	M-100-1	F3	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2882B	RW	B	3	M-100-1	F1	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2882B	RW	B	3	M-100-1	F1	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2883A	RW	B	3	M-100-1	B3	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2883A	RW	B	3	M-100-1	B3	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2883B	RW	B	3	M-100-1	B1	BU	A	12	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2883B	RW	B	3	M-100-1	B1	BU	A	12	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2893	RW	B	3	M-100-1	B5	BU	A	16	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2893	RW	B	3	M-100-1	B5	BU	A	16	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2894	RW	B	3	M-100-1	C5	BU	A	16	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3017
HCV-2894	RW	B	3	M-100-1	C5	BU	A	16	NO	FO	O	ST	Q	Y	-	OP-ST-RW-3002
HCV-2898A	CCW	B	3	M-10-1	D6	GL	A	2	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2898A	CCW	B	3	M-10-1	D6	GL	A	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2898B	CCW	B	3	M-10-1	D4	GL	A	2	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2898B	CCW	B	3	M-10-1	D4	GL	A	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2898C	RW	B	3	M-10-1	D6	GL	A	2	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2898C	RW	B	3	M-10-1	D6	GL	A	2	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
HCV-2898D	RW	B	3	M-10-1	D6	GL	A	2	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2898D	RW	B	3	M-10-1	D6	GL	A	2	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
HCV-2899A	CCW	B	3	M-10-1	C6	GL	A	2	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001
HCV-2899A	CCW	B	3	M-10-1	C6	GL	A	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2899B	CCW	B	3	M-10-1	C4	GL	A	2	NO	FO	O	ST	Q	Y	-	OP-ST-CCW-3001

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-2899B	CCW	B	3	M-10-1	C4	GL	A	2	NO	FO	-	VPI	2YR	Y	-	OP-ST-VX-3005
HCV-2899C	RW	B	3	M-10-1	C6	GL	A	2	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2899C	RW	B	3	M-10-1	C6	GL	A	2	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
HCV-2899D	RW	B	3	M-10-1	C4	GL	A	2	NC	FO	O	ME	RO	-	J41	OP-ST-RW-3003
HCV-2899D	RW	B	3	M-10-1	C4	GL	A	2	NC	FO	C	ME	RO	-	J41	OP-ST-RW-3003
PCV-2909	SI	A	2	210-130-2	B5	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
PCV-2909	SI	A	2	210-130-2	B5	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
PCV-2909	SI	A	2	210-130-2	B5	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2916	SI	A	2	210-130-2	C5	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2916	SI	A	2	210-130-2	C5	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
HCV-2916	SI	A	2	210-130-2	C5	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
PCV-2929	SI	A	2	210-130-2	B8	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
PCV-2929	SI	A	2	210-130-2	B8	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
PCV-2929	SI	A	2	210-130-2	B8	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-2936	SI	A	2	210-130-2	C7	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
HCV-2936	SI	A	2	210-130-2	C7	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2936	SI	A	2	210-130-2	C7	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
PCV-2949	SI	A	2	210-130-2B	B8	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
PCV-2949	SI	A	2	210-130-2B	B8	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
PCV-2949	SI	A	2	210-130-2B	B8	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-2956	SI	A	2	210-130-2B	C7	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
HCV-2956	SI	A	2	210-130-2B	C7	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2956	SI	A	2	210-130-2B	C7	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
PCV-2969	SI	A	2	210-130-2B	B4	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
PCV-2969	SI	A	2	210-130-2B	B4	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
PCV-2969	SI	A	2	210-130-2B	B4	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-2976	SI	A	2	210-130-2B	C4	GL	A	1	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2976	SI	A	2	210-130-2B	C4	GL	A	1	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
HCV-2976	SI	A	2	210-130-2B	C4	GL	A	1	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-2983	SI	A	2	210-130-1	E8	GL	A	2	NC	FC	L	LT	2YR	-	-	APPENDIX J
HCV-2983	SI	A	2	210-130-1	E8	GL	A	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3018
HCV-2983	SI	A	2	210-130-1	E8	GL	A	2	NC	FC	C	ST	Q	-	-	OP-ST-SI-3001
HCV-2987	SI	B	2	210-130-3	E7	GA	A	4	NO	FO	C	ST	Q	Y	-	OP-ST-SI-3001
HCV-2987	SI	B	2	210-130-3	E7	GA	A	4	NO	FO	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-2987	SI	B	2	210-130-3	E8	GA	A	4	NO	FAI	-	VPI	2YR	Y	-	OP-ST-VX-3019

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
HCV-2988	SI	B	2	210-130-3	D6	GL	S	2	NC	FC	C	ST	Q	Y	-	OP-ST-SI-3001
HCV-2988	SI	B	2	210-130-3	D6	GL	S	2	NC	FC	O	ST	Q	Y	-	OP-ST-SI-3001
HCV-2988	SI	B	2	210-130-3	D6	GL	S	2	NC	FC	-	VPI	2YR	Y	-	OP-ST-VX-3019
IA-HCV-238-C	IA	C	3	C-4175-8	F7	CK	C	0.5	-	-	O	FS	CS	-	J33	NOTE 3 IC-ST-IA-3002
IA-HCV-238-C	IA	C	3	C-4175-8	F7	CK	C	0.5	-	-	C	FS	CS	-	J33	NOTE 3 IC-ST-IA-3002
IA-HCV-239-C	IA	C	3	C-4175-8	F7	CK	C	0.5	-	-	O	FS	CS	-	J33	NOTE 3 IC-ST-IA-3002
IA-HCV-239-C	IA	C	3	C-4175-8	F7	CK	C	0.5	-	-	C	FS	CS	-	J33	NOTE 3 IC-ST-IA-3002
IA-HCV-240-C	IA	C	3	C-4175-8	E7	CK	C	0.5	-	-	C	FS	CS	-	J17	NOTE 1 IC-ST-IA-3002
IA-HCV-240-C	IA	C	3	C-4175-8	E7	CK	C	0.5	-	-	O	FS	CS	-	J17	NOTE 1 IC-ST-IA-3002
IA-HCV-344-C	IA	C	2	C-4175-5	E7	CK	C	0.5	-	-	O	FS	CS	-	J21	NOTE 1 OP-ST-SI-3002
IA-HCV-344-C	IA	C	2	C-4175-5	E7	CK	C	0.5	-	-	C	FS	CS	-	J21	NOTE 1 OP-ST-SI-3002
IA-HCV-345-C	IA	C	2	C-4175-5	E7	CK	C	0.5	-	-	O	FS	CS	-	J21	NOTE 1 OP-ST-SI-3002
IA-HCV-345-C	IA	C	2	C-4175-5	E7	CK	C	0.5	-	-	C	FS	CS	-	J21	NOTE 1 OP-ST-SI-3002
IA-A/FIC-383-C	IA	C	2	M-264-4	D3	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-A/FIC-383-C	IA	C	3	M-264-4	D3	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-B/FIC-383-C	IA	C	3	M-264-4	B3	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-B/FIC-383-C	IA	C	3	M-264-4	B3	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-C/FIC-383-C	IA	C	3	M-264-4	C3	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-C/FIC-383-C	IA	C	3	M-264-4	C3	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-D/FIC-383-C	IA	C	3	M-264-4	A3	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-D/FIC-383-C	IA	C	3	M-264-4	A3	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 2 IC-ST-IA-3001
IA-LCV-383-1-C	IA	C	3	C-4175-5	E7	CK	C	0.375	-	-	O	FS	CS	-	J40	NOTE 1 OP-ST-SI-3002
IA-LCV-383-1-C	IA	C	3	C-4175-5	E7	CK	C	0.375	-	-	C	FS	CS	-	J40	NOTE 1 OP-ST-SI-3002
IA-LCV-383-2-C	IA	C	3	C-4175-5	E7	CK	C	0.375	-	-	C	FS	CS	-	J40	NOTE 1 OP-ST-SI-3002
IA-LCV-383-2-C	IA	C	3	C-4175-5	E7	CK	C	0.375	-	-	O	FS	CS	-	J40	NOTE 1 OP-ST-SI-3002
IA-HCV-385-C	IA	C	3	C-4175-5	E7	CK	C	0.5	-	-	O	FS	CS	-	J34	NOTE 1 IC-ST-IA-3004
IA-HCV-385-C	IA	C	3	C-4175-5	E7	CK	C	0.5	-	-	C	FS	CS	-	J34	NOTE 1 IC-ST-IA-3004
IA-HCV-386-C	IA	C	3	C-4175-5	E7	CK	C	0.5	-	-	O	FS	CS	-	J34	NOTE 1 IC-ST-IA-3004
IA-HCV-386-C	IA	C	3	C-4175-5	E7	CK	C	0.5	-	-	C	FS	CS	-	J34	NOTE 1 IC-ST-IA-3004
IA-HCV-400A-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-400A-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-400B-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-400B-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-400C-TV	IA	C	3	C-4175-6	F3	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-400C-TV	IA	C	3	C-4175-6	F3	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
IA-HCV-400D-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-400D-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401A-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401A-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401B-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401B-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401C-TV	IA	C	3	C-4175-6	F3	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401C-TV	IA	C	3	C-4175-6	F3	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401D-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-401D-C	IA	C	3	C-4175-6	F7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402A-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402A-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402B-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402B-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402C-TV	IA	C	3	C-4175-6	E3	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402C-TV	IA	C	3	C-4175-6	E3	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402D-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-402D-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403A-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403A-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403B-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403B-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403C-TV	IA	C	3	C-4175-6	E3	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403C-TV	IA	C	3	C-4175-6	E3	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403D-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-403D-C	IA	C	3	C-4175-6	E7	CK	C	0.25	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-CCW-3005
IA-HCV-438B-C	IA	C	3	C-4175-6	D7	CK	C	0.5	-	-	C	FS	CS	-	J24	NOTE 1 OP-ST-CCW-3004
IA-HCV-438B-C	IA	C	3	C-4175-6	D7	CK	C	0.5	-	-	O	FS	CS	-	-	NOTE 1 OP-ST-CCW-3004
IA-HCV-438D-C	IA	C	3	C-4175-6	D7	CK	C	0.5	-	-	C	FS	CS	-	J24	NOTE 1 OP-ST-CCW-3004
IA-HCV-438D-C	IA	C	3	C-4175-6	D7	CK	C	0.5	-	-	O	FS	CS	-	-	NOTE 1 OP-ST-CCW-3004
IA-HCV-480-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005
IA-HCV-480-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005
IA-HCV-481-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005
IA-HCV-481-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005
IA-HCV-484-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
IA-HCV-484-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005
IA-HCV-485-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005
IA-HCV-485-C	IA	C	3	C-4175-6	B7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE #5 OP-ST-CCW-3005
IA-YCV-1045A-C	IA	C	3	C-4175-4	B7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-MS-3001
IA-YCV-1045A-C	IA	C	3	C-4175-4	B7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-MS-3001
IA-YCV-1045B-C	IA	C	3	C-4175-4	B7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 1 OP-ST-MS-3001
IA-YCV-1045B-C	IA	C	3	C-4175-4	B7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 1 OP-ST-MS-3001
IA-HCV-1107A-C	IA	C	3	C-4175-8	E7	CK	C	0.5	-	-	C	FS	CS	-	J38	IC-ST-AFW-3002
IA-HCV-1107A-C	IA	C	3	C-4175-8	E7	CK	C	0.5	-	-	O	FS	CS	-	J38	IC-ST-AFW-3002
IA-HCV-1107B-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	C	FS	CS	-	J38	IC-ST-AFW-3002
IA-HCV-1107B-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	O	FS	CS	-	J38	IC-ST-AFW-3002
IA-HCV-1108A-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	C	FS	CS	-	J38	IC-ST-AFW-3002
IA-HCV-1108A-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	O	FS	CS	-	J38	IC-ST-AFW-3002
IA-HCV-1108B-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	C	FS	CS	-	J38	IC-ST-AFW-3002
IA-HCV-1108B-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	O	FS	CS	-	J38	IC-ST-AFW-3002
IA-FCV-1368-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	C	FS	CS	-	J38	IC-ST-AFW-3001
IA-FCV-1368-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	O	FS	CS	-	J38	IC-ST-AFW-3001
IA-FCV-1369-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	C	FS	CS	-	J38	IC-ST-AFW-3001
IA-FCV-1369-C	IA	C	3	C-4175-8	D7	CK	C	0.5	-	-	O	FS	CS	-	J38	IC-ST-AFW-3001
PCV-1849A-20A	IA	A	2	M-264-1	D8	GL	S	0.5	O	FC	L	LT	2YR	-	-	APPENDIX J
PCV-1849A-20B	IA	A	2	M-264-1	D8	GL	S	0.5	O	FC	L	LT	2YR	-	-	APPENDIX J
IA-HCV-2851-C	IA	C	3	C-4175-7	D7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 1 IC-ST-IA-3003
IA-HCV-2851-C	IA	C	3	C-4175-7	D7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 1 IC-ST-IA-3003
IA-HCV-2852-C	IA	C	3	C-4175-7	D7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 1 IC-ST-IA-3003
IA-HCV-2852-C	IA	C	3	C-4175-7	D7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 1 IC-ST-IA-3003
IA-HCV-2853-C	IA	C	3	C-4175-7	D7	CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 1 IC-ST-IA-3003
IA-HCV-2853-C	IA	C	3	C-4175-7	D7	CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 1 IC-ST-IA-3003
IA-HCV-2898A-C	IA	C	3	M-100		CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 6 IA-ST-IA-3008
IA-HCV-2898A-C	IA	C	3	M-100		CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 6 IA-ST-IA-3008
IA-HCV-2898B-C	IA	C	3	M-100		CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 6 IA-ST-IA-3008
IA-HCV-2898B-C	IA	C	3	M-100		CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 6 IA-ST-IA-3008
IA-HCV-2899A-C	IA	C	3	M-100		CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 6 IA-ST-IA-3008
IA-HCV-2899A-C	IA	C	3	M-100		CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 6 IA-ST-IA-3008
IA-HCV-2899B-C	IA	C	3	M-100		CK	C	0.5	-	-	C	FS	Q	-	-	NOTE 6 IA-ST-IA-3008
IA-HCV-2899B-C	IA	C	3	M-100		CK	C	0.5	-	-	O	FS	Q	-	-	NOTE 6 IA-ST-IA-3008

TABLE 2.1 - FORT CALHOUN VALVE TEST PROGRAM MATRIX

VALVE NUMBER	SYS	CAT	CLASS	P&ID	COORD-INATES	VALVE TYPE	OPER TYPE	VALVE SIZE "	NORM POS	FAIL POS	TEST REQ	TYPE TEST	TEST FREQ	VPI TEST	CODE EXPT	REMARKS
IA-HCV-2987-C	IA	C	3	C-4175-5	C7	CK	C	0.375	-	-	O	FS	Q	-	-	NOTE 1 IC-ST-IA-3005
IA-HCV-2987-C	IA	C	3	C-4175-5	C7	CK	C	0.375	-	-	C	FS	Q	-	-	NOTE 1 IC-ST-IA-3005
IA-3092	IA	A	2	M-264-4	B5	GL	H	0.5	-	-	L	LT	2YR	-	-	APPENDIX J
IA-3093	IA	A	2	M-264-4	B5	GL	H	0.5	-	-	L	LT	2YR	-	-	APPENDIX J
IA-3094	IA	A	2	M-264-4	B5	BL	H	0.5	-	-	L	LT	2YR	-	-	APPENDIX J
IA-PCV-6680A-1-C	IA	C	3	P-49323	N/A	CK	C	0.5	-	-	C	FS	CS	-	J38	NOTE 4 IC-ST-IA-3006
IA-PCV-6680A-2-C	IA	C	3	P-49323	N/A	CK	C	0.5	-	-	C	FS	CS	-	J38	NOTE 4 IC-ST-IA-3007
IA-PCV-6680B-1-C	IA	C	3	P-49323	N/A	CK	C	0.5	-	-	C	FS	CS	-	J38	NOTE 4 IC-ST-IA-3007
IA-PCV-6680B-2-C	IA	C	3	P-49323	N/A	CK	C	0.5	-	-	C	FS	CS	-	J38	NOTE 4 IC-ST-IA-3007
IA-PCV-6682-C	IA	C	3	P-49323	N/A	CK	C	0.5	-	-	C	FS	CS	-	J38	NOTE 4 IC-ST-IA-3007

APPENDIX 2A

JUSTIFICATION FOR TESTS FREQUENCIES OTHER THAN CODE PREFERRED

JUSTIFICATION FOR TEST FREQUENCIES OTHER THAN CODE PREFERRED

This section provides justification for alternate frequencies other than those preferred in the Code. Each frequency justification is identified by a unique number and identifies the valve(s) for which the frequency justification is presented. The specific Code test frequency requirement found to be impractical is defined and the justification for an alternative test frequency is given. Frequency justifications are numbered and referenced by number (Jx) on the Valve Test Program Matrix Table 2.1 for specific valves.

1. Frequency Justification Number J1 - Refueling Outage Justification

- Components:

  SI-100, SI-113

- Function:

  High Pressure Safety Injection (HPSI) Pump Suction Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in the Open Direction

- Basis for Justification:

  These valves cannot be full-stroke exercised open Quarterly during plant operation or during Cold Shutdowns, since to do so would require a flow path to the Reactor Coolant System (RCS). That flow path cannot be utilized during power operation because the High Pressure Safety Injection (HPSI) pumps do not develop sufficient discharge pressure to overcome RCS pressure. This same flow path cannot be utilized during Cold Shutdowns because there is insufficient volume in the RCS to accommodate the flow required and a low temperature overpressure condition of the RCS could result.

- Alternate Testing:

  Valves will be partial-stroke exercised open, using the minimum recirculation flow path Quarterly during normal operations, and full-stroke exercised open during Refueling Outages.

  This method of partial-stroke exercising open Quarterly and full-stroke exercising open during Refueling Outages is in accordance with the guidance set forth in Paragraph 4.2.1.2 O&M Part 10.

2. **Frequency Justification Number J2 - Cold Shutdown Justification**

- Components:

  PCV-102-1, PCV-102-2

- Function:

  Power Operated Relief Valves (PORV) for the Pressurizer

- Class:

  1

- Test Requirements:

  Quarterly Stroke-Timing Open and Closed

- Basis for Justification:

  These valves can only be opened or closed when there is a pressure differential across the valve. The valves have solenoid pilot valves that control their actuation. Since valves of this type have a history in the industry of sticking open and the PORVs are not credited in the safety analysis for overpressure protection during power operations, it is impractical to stroke these valves Quarterly during power operation. These valves cannot be partial-stroke tested open because they are either fully opened or fully closed.

- Alternate Testing:

  The PORVs will be stroke-timed in the open and closed direction during the transition to Cold Shutdown (primary plant pressure is between 350 - 450 psia and primary plant temperature is between 300 - 350°F) prior to entering Mode 4. The PORVs will be tested during the transition from Hot Shutdown to Cold Shutdown (as defined by FCS Technical Specifications) whenever practical, i.e., normal plant shutdown. During a Technical Specification mandated shutdown, the PORVs will be tested during plant startup prior to entering Mode 2 (when primary plant pressure is between 350 - 450 psia and primary plant temperature is between 300 - 350°F).

3. **Frequency Justification Number J3 - Refueling Outage Justification**

- Components:

  SI-102, SI-108, SI-115

- Function:

  HPSI Pump Discharge Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in both the Open and Closed Directions

- Basis for Justification:

  These valves cannot be full-stroke or partial-stroke exercised open or closed during plant operation, Quarterly or during Cold Shutdowns, since to do so would require a flow path to the RCS. That flow path cannot be utilized during power operation because the HPSI pumps do not develop sufficient discharge pressure to overcome RCS pressure. This same flow path cannot be utilized during Cold Shutdowns because there is insufficient volume in the RCS to accommodate the flow required, and a low temperature overpressure condition of the RCS could result. Additionally, these valves cannot be exercised during Quarterly pump tests or miniflow because the minimum flow lines branch off upstream of the check valves and no flow occurs through these valves.

- Alternate Testing:

  Valves will be full-stroke exercised open and closed during Refueling Outages when the Reactor Vessel head is removed. This will provide an expansion volume to accommodate the flow required.

4. **Frequency Justification Number J4 - Cold Shutdown Justification**

- Components:

  SI-121, SI-129

- Function:

  Low Pressure Safety Injection (LPSI) Pump Discharge Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full-Stroke Exercising in both the Open and Closed Directions

- Basis for Justification:

  These valves cannot be partial-stroke or full-stroke exercised in the open or closed direction Quarterly during power operation because there is no flow path available except during shutdown cooling. Additionally, these valves cannot be exercised open or closed during Quarterly pump tests or using the miniflow line because the minimum flow lines branch off upstream of the check valves and no flow occurs through these valves.

- Alternate Testing:

  Valves will be full-stroke exercised open and closed during Cold Shutdown.

5. **Frequency Justification Number J5 - Cold Shutdown Justification**

- Components:

  CH-143, CH-155, CH-156

- Function:

  CH-143 - Charging Pump Boric Acid Supply Check Valve
  CH-155 - Charging Pump Boric Acid Gravity Feed Check Valve
  CH-156 - Charging Pump Safety Injection and Refueling Water Tank (SIRWT) Suction Check Valve

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in the Open Direction

- Basis for Justification:

  These check valves serve to permit direct feed of concentrated boric acid solution to the charging pump suction header. These check valves cannot be full-stroke or partial-stroke exercised open Quarterly during power operation. The only flow path through these valves is into the RCS; exercising would result in injecting highly concentrated boric acid into the RCS. Injecting concentrated boric acid into the RCS during power operation could cause an uncontrolled reactivity excursion, a plant shutdown, or a plant trip.

- Alternate Testing:

  Valves will be full-stroke exercised open during Cold Shutdown in accordance with the FCS ISI Program Plan implementing procedures.

6. **Frequency Justification Number J6 - Cold Shutdown Justification**

- Components:

  FW-161, FW-162

- Function:

  Steam Generator Normal Feedwater Inlet Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full-Stroke Exercising in the Closed Direction

- Basis for Justification:

  These check valves function to prevent the loss of inventory of the Steam Generators in the event of a line break upstream between valves HCV-1386 (HCV-1385) and check valve FW-161 (FW-162). These check valves cannot be full-stroke exercised closed Quarterly during power operation because the valves FW-161 and FW-162 are the only feedwater supply flow paths to the Steam Generators. During power operation, the feedwater paths to the Steam Generators must not be isolated as this would remove the "heat sink" for the Reactor Coolant System (RCS).

- Alternate Testing:

  Valves will be full-stroke exercised closed during Cold Shutdown as defined in the FCS Technical Specifications, in accordance with the requirements of the FCS ISI Program Plan implementing procedures.

7. Frequency Justification Number J7 - Cold Shutdown Justification

- Components:

  FW-163, FW-164

- Function:

  Steam Generator Auxiliary Feedwater Injection Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full-Stroke Exercising in the Open Direction

- Basis For Justification:

  These check valves open for auxiliary feedwater (AFW) flow to the Steam Generators. Exercising these valves during power operation would result in cold water injection to a portion of the Steam Generators normally at 400 - 500°F, which would cause unnecessary and possibly damaging thermal stresses in the Steam Generators.

  The check valves are not required to be exercised in the closed direction, as there are two containment isolation valves upstream of each of the check valves which are normally closed. In addition, there is an AFW pump check valve upstream of the containment isolation valves which is exercised closed quarterly in accordance with the FCS ISI Program Plan. As a result of the above mentioned ISI tests, FCS has addressed adequately the concern of "thermal binding" of the AFW pumps and has determined that FW-163 and FW-164 do not provide a safety-related function in the reverse flow direction. It should also be noted that the discharge piping temperature upstream of FW-163 and FW-164 is monitored on a regular basis, further ensuring that the AFW pumps will not experience "thermal binding."

- Alternate Testing:

  These check valves are exercised open during Cold Shutdown. Since failure of these valves to function in the reverse flow direction would **not** interfere with the plant's ability to shutdown or to mitigate the consequences of an accident, these check valves shall be full-stroke exercised only in the open direction.

8. **Frequency Justification Number J8 - Cold Shutdown Justification**

- Components:

  HCV-176, HCV-177, HCV-178, HCV-179, HCV-180, HCV-181

- Function:

  Reactor Vessel Head and Pressurizer Vents

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing Open and Closed

- Basis for Justification:

  These valves are intended to be used to vent the Reactor Pressure Vessel (RPV) head and pressurizer. These valves are Target Rock solenoid valves, which have a history of sticking open when exercised. This could result in a small break Loss of Coolant Accident (LOCA) if these valves are stroke-timed at power. Therefore, partial or full-stroke timing during normal operation is impractical.

- Alternate Testing:

  These valves will be stroke-timed in the open and closed directions during Cold Shutdown, in accordance with the FCS ISI Program Plan implementing procedures.

9. **Frequency Justification Number J9 - Cold Shutdown Justification**

- Components:

  SI-194, SI-197, SI-200, SI-203

- Function:

  Shutdown Cooling Injection Check Valves

- Class:

  1

- Testing Requirements:

  Quarterly Full-Stroke Exercising in the Open Direction and Leakage Test During Cold Shutdown

- Basis for Justification:

  These check valves cannot be full-stroke exercised open or partial-stroke exercised Quarterly during power operation because no flow path is available at operating pressure due to system configuration. Since the Safety Injection (SI) pumps are not able to develop sufficient discharge pressure to overcome RCS pressure, the valves are not able to be exercised. Valves SI-194, SI-197, SI-200 and SI-203 are Pressure Isolation Valves (PIVs)as defined by NRC Generic Letter (GL) 89-04 and as listed in the FCS Technical Specifications.

- Alternate Testing:

  These check valves are full-stroke exercised open during Cold Shutdown when the Shutdown Cooling system is in service. These check valves will be leak tested during Cold Shutdown in accordance with the requirements of FCS Technical Specification 2.1, Table 2-9, and Item 14 of the table format of this Program Plan.

10. Frequency Justification Number J10 - Refueling Outage Frequency

- Components:

  SI-195, SI-198, SI-201, SI-204

- Function:

  High Pressure Safety Injection to Reactor Coolant Loop Check Valves

- Class:

  1

- Test Requirements:

  Quarterly Full-Stroke Exercising in the Open Direction and Leakage Test During Cold Shutdown

- Basis for Justification:

  These check valves cannot be full-stroke or partial-stroke exercised open Quarterly during power operation because the only flow path available is into the RCS. Since the HPSI pumps do not develop sufficient discharge pressure to overcome RCS operating pressure, the valves cannot be exercised during Cold Shutdown because the RCS does not contain an adequate expansion volume and a low temperature overpressurization (LTOP) of the RCS could result. Valves SI-195, SI-198, SI-201 and SI-204 are pressure isolation valves (PIVs) as defined by NRC GL 89-04 and as listed in the FCS Technical Specifications.

- Alternate Testing:

  These check valves will be full-stroke exercised open during Refueling Outages when the RCS is depressurized and the Reactor Pressure Vessel (RPV) Head is removed in order to provide an expansion volume to accommodate the flow required. These check valves will be leak tested during Cold Shutdown in accordance with the requirements of FCS Technical Specification 2.1, Table 2-9, and Item 14 of the table format of this Program Plan.

11. Frequency Justification Number J11 - Refueling Outage Frequency

- Components:

  SI-196, SI-199, SI-202, SI-205, SI-343, CH-469

- Function:

  High Pressure Safety Injection to Reactor Coolant Loop Check Valves

- Class:

  1 - SI-196, SI-199, SI-202, SI-205, CH-469

  2 - SI-343

- Testing Requirements:

  Quarterly Full-Stroke Exercising in the Open Direction

- Basis for Justification:

  Valves SI-196, -199, -202, -205, and CH-469 function to prevent backflow through the Safety Injection (SI) pump discharge headers. These valves cannot be full-stroke or partial-stroke exercised open during power operation utilizing flow because the HPSI pumps do not develop sufficient discharge pressure to overcome RCS pressure. The charging pumps cannot be used during power operation because the flow path from the pumps would bypass the Regenerative Heat Exchanger and result in injecting cold water, causing thermal shock to the injection nozzles and a reactivity transient. This could result in an unnecessary plant trip. Check valve SI-343 cannot be partial-stroke exercised during Cold Shutdowns because using the HPSI pumps without an adequate vent path could cause an overpressurization of the RCS. The HPSI pumps are therefore tagged out to prevent inadvertent operation and potential overpressurization to the RCS.

- Alternate Testing:

  Check valves SI-196, SI-199, SI-202, and SI-205 will be partial-stroke exercised open during Cold Shutdown using the Charging Pumps and full-stroke exercised Open during Refueling Outages when the HPSI pumps are able to be utilized.

  Check valve CH-469 will be partial-stroke exercised open during Cold Shutdown using the charging pumps. Both check valves, CH-469 and SI-343, will be full-stroke exercised open during Refueling Outages using the charging pumps and the HPSI pumps, as necessary.

12. Frequency Justification Number J12 - Refueling Outage Justification

- Components:

  CH-198, CH-203, CH-204

- Function:

  Charging Pump discharge to RCS Check Valve (CH-198)
  Loop Charging Line to RCS Check Valves (CH-203, CH-204)

- Class:

  2 (CH-198)
  1 (CH-203, CH-204)

- Test Requirements:

  Quarterly Full-Stroke Exercising CH-198 in the Open and Closed Directions
  Quarterly full-stroke exercising CH-203 and CH-204 in the Open Direction

- Basis for Justification:

  These check valves cannot be full-stroke exercised open (or closed for CH-198) during plant operations Quarterly or during Cold Shutdowns, since to do so would require the charging and HPSI pumps to be run which would require a flow path to the RCS. That flow path cannot be utilized during power operation because the HPSI pumps do not develop sufficient discharge pressure to overcome RCS pressure. This same flow path cannot be utilized during Cold Shutdowns because there is insufficient volume in the RCS to accommodate the flow required and a low temperature overpressure condition of the RCS could result.

- Alternate Testing:

  The check valves CH-198, CH-203, and CH-204 will be partial-stroke exercised in the open direction Quarterly during power operation using the charging pumps. The check valves will be full-stroke exercised in the open direction during Refueling Outages when the Reactor Pressure Vessel (RPV) head is removed, using the charging pumps and the HPSI pumps. Check valve CH-198 will be full-stroke exercised in the close direction during Refueling Outages.

13. Frequency Justification Number J13 - Cold Shutdown Justification

- Component:

  TCV-202, HCV-204

- Function:

  Letdown Temperature Control Valve, Letdown Isolation Valve

- Class:

  1 - (TCV-202)
  2 - (TCV-204)

- Test Requirements:

  Quarterly Stroke-Timing Closed

- Basis for Justification:

  These valves are used for RCS Loop 2A letdown isolation and temperature regulation. Stroking these valves Quarterly during power operation could result in the termination of letdown flow. This would isolate the RCS purification process and could potentially cause a reactivity excursion. These valves cannot be partial-stroked because the valves are either fully open or fully closed.

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdown in accordance with the FCS ISI Program Plan implementing procedures.

14. Frequency Justification Number J14 - Cold Shutdown Justification

- Component:

  CH-205

- Function:

  Auxiliary Pressurizer Spray Check Valve

- Class:

  1

- Test Requirements:

  Quarterly Full Flow Exercising in the Open Direction

- Basis for Justification:

  This check valve cannot be full-stroke exercised during plant operations Quarterly or during Cold Shutdowns, since to do so would require a flow path to the RCS. That flow path cannot be utilized during power operation because the HPSI pumps do not develop sufficient discharge pressure to overcome RCS pressure. This same flow path cannot be utilized during Cold Shutdowns because there is insufficient volume in the RCS to accommodate the flow required and a low temperature overpressure condition of the RCS could result.

- Alternate Testing:

  The check valves will be partial-stroke exercised in the open direction Quarterly during power operation using the charging pumps. The check valves will be full-stroke exercised in the open direction during Refueling Outages when the RVP head is removed, using the charging pumps and the HPSI pumps.

15. Frequency Justification Number J15 - Refueling Outage Justification

- Component:

  HCV-206, HCV-241

- Function:

  RC Pump Control Bleedoff Isolation Valves

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing Closed

- Basis for Justification:

  The Reactor Coolant Pump (RCP) seals serve as an RCS pressure boundary, therefore, seal failure could result in unisolable coolant leakage from the RCS. Isolation of the RCP seal bleed-off by stroking these valves closed would cause the seal bleed-off line relief valve (CH-208) to lift, directing reactor coolant directly to the Reactor Coolant Drain Tank (RCDT). If the leakage remained unchecked, the RCDT relief valve could lift directing reactor coolant to the Containment floor, causing a Ventilation Isolation Actuation Signal (VIAS). Additionally, the temporary isolation of pump seal flow (until the relief valve lifted) would eliminate the ability of the RCP seal to break down RCS pressure and could potentially cause localized overheating of the seals. The pump seals can be damaged by overheating if seal water flow is stopped while the pumps are running. It is impractical to exercise these valves Quarterly or during any plant conditions that could result in abnormal seal wear. This could lead to failure of the RCP seals, creating unisolable leakage equivalent to a small break LOCA.

- Alternate Testing:

  The valves will be stroke-timed in the closed direction during Cold Shutdown, when the RCS is depressurized and the RCPs are secured.

16. Frequency Justification Number J16 - Cold Shutdown Justification

- Components:

  LCV-218-2, LCV-218-3

- Function:

  Volume Control Tank Outlet Isolation Valve and Charging Pump Suction From Safety Injection and Refueling Water Tank (SIRWT) Isolation Valve

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing Closed for LCV-218-2 and
  Quarterly Stroke-Timing Open for LCV-218-3

- Basis for Justification:

  These valves function to provide Volume Control Tank (VCT) level control and switch charging suction to the Safety Injection and Refueling Water Storage Tank (SIRWT). The valves cannot be stroke-tested Quarterly because doing so would terminate charging flow to the RCS and would have the potential for disrupting pressurizer level regulation or boron concentration regulation. Pressurizer level regulation disruption can lead to RCS pressure transients and disruption of boron concentration could cause reactivity excursions.

- Alternate Testing:

  Valve LCV-218-2 will be stroke-timed in the closed direction and valve LCV-218-3 will be stroke-timed in the open direction during Cold Shutdowns.

17. Frequency Justification Number J17 - Cold Shutdown Justification

- Components:

  IA-HCV-240-C, HCV-240, HCV-249

- Function:

  Instrument Air (IA) Accumulator Check Valve for HCV-240, Auxiliary Pressurizer Spray Isolation Valves

- Class:

  3 (IA-HCV-240-C), Class 1 (HCV-249, HCV-240)

- Test Requirements:

  Quarterly Exercising in the Open and Closed Directions for IA-HCV-240-C,
  Quarterly Exercising Open for HCV-249 and
  Stroke-Testing in the Open and Closed Directions for HCV-240

- Basis for Justification:

  Valves HCV-240 and HCV-249 cannot be stroke-timed Quarterly during power operation because doing so will lead to large scale depressurization of the RCS and thermal shock of the pressurizer spray nozzle. The IA accumulator check valve (IA-HCV-240-C) cannot be full-stroke exercised in the open direction Quarterly during power operation, as exercising of the check valve will cause HCV-240 to cycle. This could cause large scale depressurization of the RCS and thermal shock of the pressurizer spray nozzle. The check valve (IA-HCV-240-C) cannot be partial-stroke exercised for the same reason.

- Alternate Testing:

  Valve IA-HCV-240-C will be exercised in the open and closed directions during Cold Shutdowns. Valves HCV-240 and HCV-249 will be stroke-timed in both the open and closed directions during Cold Shutdowns.

18. Frequency Justification Number J18 - Cold Shutdown Justification

- Components:

  HCV-268

- Function:

  Concentrated Boric Acid to Charging Pump Suction Isolation Valves

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing in the Open Direction

- Basis for Justification:

  These valves serve to isolate concentrated boric acid from the charging pump suction header. These valves cannot be stroke-timed Quarterly during power operation because doing so would allow concentrated boric acid solution to be injected into the RCS. Boration of the primary system during normal power operation would cause reactivity transients and possibly result in a plant shutdown. These valves cannot be partial-stroked for the same reason.

- Alternate Testing:

  Valves will be stroke-timed in the open direction during Cold Shutdown.

19. **Frequency Justification Number J19 - Cold Shutdown Justification**

- DELETED

20. Frequency Justification Number J20 - Refueling Outage Justification

- Component:

  SI-323

- Function:

  High Pressure Safety Injection Header Check Valve

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in the Open and Closed Directions

- Basis for Justification:

  This check valve functions to prevent backflow of charging flow to the lower design pressure HPSI piping when the alternate charging flow path is active. The only flow path available is into the RCS and since the HPSI pumps do not develop sufficient discharge pressure to overcome RCS operating pressure, this valve cannot be exercised Quarterly during power operation. This valve cannot be exercised during Cold Shutdowns because the RCS does not contain an adequate expansion volume and a low-temperature overpressurization of the RCS could result. Additionally, this valve cannot be partial-stroke exercised during pump test or miniflow because the minimum flow lines branch off upstream of the check valve and no flow occurs through this valve.

- Alternate Testing:

  This check valve will be exercised full-open and full-closed during Refueling Outages.

21. Frequency Justification Number J21 - Cold Shutdown Justification

- Components:

  HCV-344, HCV-345
  IA-HCV-344-C, IA-HCV-345-C

- Function:

  Containment Spray (CS) Header Isolation Valves
  Instrument Air Accumulator Check Valve

- Class:

  2 HCV-344, HCV-345
  2 IA-HCV-344-C, IA-HCV-345-C

- Test Requirements:

  Quarterly Stroke-Timing in Both the Open and Closed Directions for HCV-344 and the Open Direction Only for HCV-345. Quarterly Exercising to the Closed Direction for IA-HCV-344-C and IA-HCV-345-C.

- Basis for Justification:

  Valves HCV-344 and HCV-345 serve as CS isolation. These valves cannot be stroke-tested Quarterly during power operation since the potential for spraying down the Containment is greatly increased. Spraying down the Containment could cause equipment damage, electrical grounds and unnecessary corrosion (due to electrical shorts) to equipment and equipment malfunctions and unnecessary plant trips. These valves represent the only boundary between the CS and SI pump headers and the CS nozzles when manual valves SI-177 and SI-178 are open. The valves cannot be partial-stroked for the same reason.

  Valves IA-HCV-344-C and IA-HCV-345-C are the IA accumulator check valves for process valves HCV-344 and HCV-345, and function to allow the valves to be closed on loss of IA, if required. These check valves cannot be exercised Quarterly as required as this would stroke the process valves, HCV-344 and/or HCV-345.

- Alternate Testing:

  Valve HCV-344 shall be stroke-timed in both the open and closed directions during Cold Shutdown. HCV-345 shall be stroke-timed in the open direction during Cold Shutdown. The IA check valves IA-HCV-344-C and IA-HCV-345-C shall be exercised in the closed direction during Cold Shutdown.

22. Frequency Justification Number J22 - Cold Shutdown Justification

- Components:

  HCV-347, HCV-348

- Function:

  Shutdown Cooling from Loop Isolation Valves

- Class:

  1

- Test Requirements:

  Quarterly Stroke-Timing in the Closed Direction

- Basis for Justification:

  These valves cannot be Quarterly stroke-timed closed during power operation because they are interlocked closed to ensure the integrity of the pressure boundary between Class 2501 and Class 301 piping when the RCS pressure is > 250 psia.

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdown prior to initiating Shutdown Cooling (<300°F and <250 psi) while the Steam Generator is still available for removing decay heat from the primary system.

23. Frequency Justification Number J23 - Cold Shutdown Justification

- Components:

  HCV-425A, HCV-425B, HCV-425C, HCV-425D

- Function:

  Inlet and Outlet Isolation Valves to SI Tank Leakage Coolers

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing in the Closed Direction

- Basis for Justification:

  These valves serve to isolate Containment Penetrations M-39 and M-53, Component Cooling Water (CCW) System penetrations. They cannot be Quarterly stroke-timed closed during power operation because failure of these valves in the closed position would terminate cooling flow to Safety Injection Tank leakage coolers. This would have the potential for lifting the relief valve (SI-222) to the Reactor Coolant Drain Tank (RCDT) which could eventually cause reactor coolant to overflow to the Containment floor, causing a Ventilation Isolation Actuation Signal (VIAS). These valves cannot be partial-stroked because they are either fully opened or fully closed.

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdowns.

24. Frequency Justification Number J24 - Refueling Outage Justification

- Components:

  HCV-438A, HCV-438B, HCV-438C, HCV-438D, IA-HCV-438B-C, IA-HCV-438D-C

- Function:

  RCP Cooler Isolation Valves, Instrument Air Supply Check Valves

- Class:

  2 (HCV-438A, HCV-438B, HCV-438C, HCV-438D)
  3 (IA-HCV-438B-C, IA-HCV-438D-C)

- Test Requirements:

  HCV-438A, HCV-438B, HCV-438C and HCV-438D are Required to be Stroke-Timed Both in the Open and Closed Directions Quarterly. IA Accumulator Check Valves (IA-HCV-438B-C and IA-HCV-438D-C) are Required to be Exercised Quarterly in the Open and Closed Directions.

- Basis for Justification:

  These valves serve to isolate Containment Penetrations M-18 and M-19, RCP seal cooling water. Exercising these valves would isolate cooling water flow to the RC Pumps which could damage the pumps if they are operating. RC pump failure during power operation could result in a plant shutdown. Therefore, it is not practical to exercise these valves Quarterly during power operations. During some Cold Shutdowns, Reactor Coolant temperature may be held above 130°F and plant conditions may not allow further cooldown or stopping all RC pumps. Exercising these valves during Cold Shutdowns when RC temperature is greater than 130°F or when any RC pump is running could result in RC pump damage. Therefore, it is not practical to exercise these valves when those plant conditions exist. These valves cannot be partial-stroked because they are either fully opened or fully closed.

  The IA accumulator check valves cannot be exercised Quarterly during power operation as exercising these check valves will cause cycling of the process valves.

24. **Frequency Justification Number J24 - Refueling Outage Justification (Continued)**

- Alternate Testing:

  Valves HCV-438A, HCV-438B, HCV-438C and HCV-438D will be stroke-timed in both the open and closed directions during Cold Shutdown, provided the RCS is depressurized, RCS temperature is less than 130°F, and the RCPs are secured. IA accumulator check valves (IA-HCV-438B-C, IA-HCV-438D-C) will be exercised closed during Cold Shutdown, provided the RCS is depressurized, RCS temperature is less than 130°F and the RCPs are secured.

25. Frequency Justification Number J25 - Cold Shutdown Justification

- DELETED

26. Frequency Justification Number J26 - Cold Shutdown Justification

- Components:

  HCV-1041A, HCV-1042A

- Function:

  Main Steam Isolation Stop Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing in the Closed Direction

- Basis for Justification:

  These valves serve to isolate the Main Steam (MS) headers. They cannot be tested Quarterly during power operation because doing so would isolate steam flow in the Steam Generators and result in a turbine and reactor trip. These valves cannot be partial-stroked because they are either fully opened or fully closed.

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdown.

27. Frequency Justification Number J27 - Cold Shutdown Justification

- Components:

  HCV-1041C, HCV-1042C

- Function:

  Main Steam Isolation Bypass Valves

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing in the Closed Direction

- Basis for Justification:

  These valves serve to provide a pathway from the Steam Generators to the steam dump and bypass valves in the event that the Main Steam Isolation Valves (MSIV) close. Stroke-timing these valves Quarterly during power operation is not acceptable because the valves are interlocked closed when the MSIVs are open. Bypassing this interlock could cause the MSIVs to close, causing the turbine to trip and resulting in a reactor trip. The valves cannot be partial-stroked for the same reason.

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdown.

28. Frequency Justification Number J28 - Cold Shutdown Justification

- Components:

  HCV-1385, HCV-1386
  HCV-1103, HCV-1104, HCV-1105, HCV-1106

- Function:

  Main Feedwater Isolation Valves

- Class:

  2
  N

- Test Requirements:

  Quarterly Stroke-Timing in the Closed Direction

- Basis for Justification:

  Valves HCV-1385, HCV-1386, HCV-1103, HCV-1104, HCV-1105 and HCV-1106 cannot be stroke-timed Quarterly during power operation because doing so would isolate feedwater to Steam Generators resulting in a reactor trip. These valves cannot be partial-stroked because they are either fully opened or fully closed.

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdown.

29. Frequency Justification Number J29 - Cold Shutdown Justification

- DELETED

30. Frequency Justification Number J30 - Refueling Outage Justification

- Components:

  PCV-1849A, PCV-1849B

- Function:

  Instrument Air Containment Isolation Valves

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing in the Closed Direction

- Basis for Justification:

  These valves serve to isolate IA pressure (via Penetration M-73) to containment systems. PCV-1849A (inboard) and PCV-1849B (outboard) were added during the refueling and maintenance outage (Fuel Cycle 12) in 1988 by Modification MR-FC-88-11 (OSAR 87-10). Stroke-timing cannot be performed Quarterly during power operations or Cold Shutdown with RCS temperature greater than 130°F and the RCS is not depressurized. The valves cannot be partial-stroked, because they are either fully opened or fully closed.

  The closing of these valves could:

  (1) cause fluctuations in the pressure control of the pressurizer (PCV-103-1, PCV-103-2),

  (2) result in damage to RCP seals (HCV-241),

  (3) disrupt RCS letdown to the Chemical Volume Control System (CVCS) (TCV-202, LCV-101-1, LCV-101-2),

  (4) damage the Nuclear Detector instrumentation (HCV-467A/C),

  (5) cause level fluctuation in the SI Tank level (HCV-2916, HCV-2936, HCV-2956, HCV-2976), and

  (6) cause loss of the Steam Generator Blowdown (HCV-1387A and HCV-1388A).

  The ripple effect caused by the exercise stroking of PCV-1849A/B would be detrimental during power operation or when in Cold Shutdown with RCS temperature greater than 130°F and not depressurized.

30. **Frequency Justification Number J30 - Refueling Outage Justification (Continued)**

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdown when the RCS temperature is less than 130°F with RCPs off and the RCS depressurized.

31. Frequency Justification Number J31 - Cold Shutdown Justification

- Components:

  HCV-2506A, HCV-2506B, HCV-2507A, HCV-2507B

- Function:

  Steam Generator Blowdown Sample Isolation Valves

- Class:

  2

- Test Requirements:

  Quarterly Stroke-Timing in the Closed Direction

- Basis for Justification:

  These valves serve to isolate Steam Generator Blowdown sampling lines. These valves cannot be Quarterly stroke-timed during power operation because doing so would terminate blowdown sample line flow. The Steam Generator Blowdown activity monitor is on the sample line. Technical Specification 2.9(1)e requires that blowdown activity shall be continuously monitored by the Steam Generator Blowdown Sample Monitoring System when blowdown is occurring. Steam generator blowdown is a continuous function at FCS. Partial-stroking cannot be performed since these valves are either fully opened or fully closed.

- Alternate Testing:

  These valves will be stroke-timed in the closed direction during Cold Shutdown.

32. **Frequency Justification Number J32 - Cold Shutdown Justification**

- DELETED

33. Frequency Justification Number J33 - Cold Shutdown Justification

- Components:

  IA-HCV-238-C, IA-HCV-239-C

- Function:

  Instrument Air Supply Check Valves

- Class:

  3

- Test Requirements:

  Quarterly Full-Stroke Exercising in Both the Open and Closed Directions

- Basis for Justification:

  These valves are check valves on IA accumulators attached to HCV-238 and HCV-239, which are located inside the Containment. The process valves (HCV-238 and HCV-239) are remotely stroke-tested in both the open and closed directions Quarterly, but due to inaccessibility during power operation, the check valves are not able to be tested.

- Alternate Testing:

  These check valves will be full-stroke exercised in the open and closed directions at Cold Shutdown.

34. Frequency Justification Number J34 - Cold Shutdown Justification

- Components:

  IA-HCV-385-C, IA-HCV-386-C
  HCV-385, HCV-386

- Function:

  Instrument Air Supply Check Valves
  SIRWT Minimum Recirculation Isolation Valves

- Class:

  3 (IA-HCV-385-C, IA-HCV-386-C)
  2 (HCV-385, HCV-386)

- Test Requirements:

  Quarterly Full-Stroke Exercising in Both the Open and the Closed Directions.

  Quarterly Stroke Timing in Both the Open and the Closed Directions.

- Basis for Justification:

  These valves (IA-HCV-385-C and IA-HCV-336-C) are check valves on IA accumulators attached to HCV-385 and HCV-386 (Safety Injection Mini Flow Bypass Isolation Valves). The test methodology for the IA accumulator check valves requires the process valves to be closed greater than one hour each. This isolates the SI miniflow recirculation line, which, if the SI pumps start, could cause these pumps to operate at shutoff head. Therefore, the check valves are not able to be tested Quarterly. Running the SI pumps at shutoff head could cause the pumps to overheat and cavitate. Prolonged closure of these valves could cause equipment damage.

  These valves (HCV-385 and HCV-386) are Safety Injection Minimum Recirculation Flow isolation valves to the SIRWT (SI-5). The test methodology for these valves requires these valves to be stroke tested closed which isolates the SI pump minimum recirculation flow path. During the time where one or both minimum-recirculation isolation valves are closed and a real or inadvertent start of a Safety Injection Pump occurs the pump would be deadheaded. This could cause damage to the SI pump and potentially degrade the margin of safety inherent to the SI system. Although the probability that a small Break LOCA would occur at the same time is very remote. Fort Calhoun Station has decided to stroke time HCV-385 and HCV-386 during Cold Shutdown. It is also important to know that during normal operations valves HCV-385 and HCV-386 are Normally Open, Fail Open, and are only required to close during a Recirculation Actuation Signal (RAS).

34. **Frequency Justification Number J34 - Cold Shutdown Justification (Continued)**

Fort Calhoun Station is confident that performing the stroke testing of HCV-385 and HCV-386 during Cold Shutdown, in accordance with the ISI Program Plan, will provide an acceptable alternative test frequency and will provide a reasonable assurance of the ability of the valves to function as required during a design accident condition.

- Alternate Testing:

  These valves (IA-HCV-385-C and IA-HCV-386-C) will be full-stroke exercised in the open and closed directions at Cold Shutdown.

  Valves HCV-385 and HCV-386 will be stroke-timed in both the open and closed directions at Cold Shutdown.

35. Frequency Justification Number J35 - Cold Shutdown Justification

- Component:

  CH-166

- Function:

  Volume Control Tank Outlet Check Valve

- Class:

  2

- Test Requirements:

  Quarterly Full-Stroke Exercising in the Closed Direction

- Basis for Justification:

  This check valve serves to prevent a divergent path from the Boric Acid Injection system to the VCT. A divergent path may reduce the concentration of boric acid required to be injected into the RCS.

  This check valve cannot be full-stroke exercised in the closed direction Quarterly during power operation. The only flow path through this valve is to the RCS, and would result in injecting highly concentrated boric acid into the RCS. Injecting concentrated boric acid into the RCS during power operation could cause an uncontrolled reactivity excursion, a plant shutdown, or a plant trip.

- Alternate Testing:

  Valve will be full-stroke exercised in the closed direction during Cold Shutdown frequency in accordance with the FCS ISI Program Plan.

36. Frequency Justification Number J36 - Refueling Outage Justification

- Components:

  SI-135, SI-143, SI-149

- Function:

  Containment Spray Pump Discharge Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in both the Open and Closed Directions

- Basis for Justification:

  These valves cannot be full-stroke exercised open or close Quarterly during power operation because the only full flow path is into the CS headers. This would result in the spraying down of the equipment in containment, possibly causing equipment damage and requiring extensive cleanup. Also, these valves cannot be partial-stroke exercised during the Quarterly CS pump tests because the minimum flow lines branch off upstream of the check valves and therefore no flow occurs through these valves. Using the discharge tap downstream of the minimum flowlines will overflow the floor drains in the Auxiliary Building potentially creating an increase in radioactive contamination and background radiation levels.

- Alternate Testing:

  Valves will be full-stroke exercised in the open and closed directions during Cold Shutdown when the CS pumps are able to be aligned for shutdown cooling to the Shutdown Cooling Heat Exchangers (< 120°F primary temperature), in accordance with the FCS Technical Specifications.

37. **Frequency Justification Number J37 - Cold Shutdown Justification**

- DELETED

38. Frequency Justification Number J38 - Cold Shutdown Justification

- Components:

  IA-PCV-6680A-1-C, IA-PCV-6680A-2-C, IA-PCV-6680B-1-C,
  IA-PCV-6680B-2-C, and IA-PCV-6682-C
  IA-HCV-1107A-C, IA-HCV-1107B-C, IA-HCV-1108A-C
  IA-HCV-1108B-C, IA-FCV-1368-C, and IA-FCV-1369-C

- Function:

  These check valves are Instrument Air supply header check valves for dampers PCV-6680A-1, PCV-6680A-2, PCV-6680B-1, PCV-6680B-2, and PCV-6682 (Control Room HVAC dampers).

  These check valves are Instrument Air (IA) supply header check valves for Auxiliary Feedwater (AFW) isolation valves HCV-1107A/B and HCV-1108A/B and for the AFW pumps FW-6 and FW-10 recirculation isolation valves.

  Class:

  3

- Test Requirements:

  Quarterly Full Flow Exercising in the Closed Direction

- Basis for Justification:

  These valves (IA-PCV-6680A-1-C/-2-C, -6680B-1-C/-2-C and IA-PCV-6682-C) cannot be exercised Quarterly during power operation, as exercising these check valves will cause isolation of the Control Room (CR) air filtration dampers. Failure of the CR air filtration dampers in a non-conservative position would cause the CR filtration system to be inoperable. This would require the plant to be in Cold Shutdown per Technical Specification (TS) 2.12. Failure of the dampers in the OPEN position would not allow the CR to be isolated during a toxic gas release. This would result in entry into Technical Specification 2.0.1.

  Check valves IA-HCV-1107A/B-C, -1108A/B-C, and FCV-1368-C/1369-C cannot be exercised Quarterly during power operation as exercising these check valves will cause possible isolation of AFW and render the AFW system inoperable for an extended period of time, possibly requiring the plant to be in Cold Shutdown per Technical Specification 2.5. Failure of the isolation valves in the open direction would not allow the required flow rate to the Steam Generator assuming loss of FW-10. This would result in entry into Technical Specification 2.0.1, i.e., Notification of Unusual Event (NOUE).

38. **Frequency Justification Number J38 - Cold Shutdown Justification (Continued)**

- Alternate Testing:

  Check valves IA-PCV-6680A-1-C, IA-PCV-6680A-2-C, IA-PCV-6680B-1-C, IA-PCV-6680B-2-C, and IA-PCV-6682-C will be full-stroke exercised in the closed direction during Cold Shutdown. Check valves IA-HCV-1107A-C, IA-HCV-1107B-C, IA-HCV-1108A-C, IA-HCV-1108B-C, IA-FCV-1368-C, and IA-FCV-1369-C will be full-stroke exercised in both the open and closed directions during cold shutdown.

39. Frequency Justification Number J39 - Refueling Outage Justification

- Components:

  HCV-1041B, HCV-1042B

- Function:

  Main Steam Stop Check (Reverse Flow) Valve

- Class:

  2

- Test Requirements:

  Quarterly Reverse Full Flow Test Exercise

- Basis for Exception from O&M Part 10, Subsection 4.3.2.4:

  These check valves are swing type check valves which are installed to provide a positive isolation of the Steam Generators. If Main Steam (MS) header pressure is greater than Steam Generator pressure, the check valves prevent reverse back flow into a faulted Steam Generator. The corrective maintenance history of these two check valves has been limited to gasket/bolt/nut replacements since installation. In addition, the check valves are 28 inch carbon steel Ametek, Inc. type check valves which see flow during normal operations. OPPD has previously disassembled and inspected each of these check valves once and the check valves were acceptable. "Like new" is defined as a condition of the component that has visible indication of wear, but the valve is able to function as required. In order to assess the condition of the check valves during sample disassembly and inspection and to provide a consistent and precise method of gauging the check valves physical and mechanical condition, a check list was developed and incorporated into the surveillance tests used for sample disassembly and inspection. An example of items evaluated on the check list are:

  1) Whether valve discs are initially seated
  2) A determination of obstructions
  3) Cracking or linear indications
  4) Loose/missing/broken parts
  5) Whether obstruction to moving parts
  6) Wear/Corrosion/Erosion
  7) Presence of foreign material
  8) Misalignment (if any) and effect on valve operation
  9) Mechanical damage
  10) Hinge Pin condition
  11) Disc/seat condition
  12) Perform manual exercise of discs.

  Each check valve has been disassembled and inspected in the previous outages. The assessment of the valves' mechanical and

39. **Frequency Justification Number J39 - Refueling Outage Justification (Continued)**

physical condition is performed by FCS Inspectors qualified to VT-3 in accordance with ASME Section XI. In addition, the review/evaluation of any observed deficiencies/indications is performed by Engineering for a final acceptance of the valves condition. In addition a review of the installation of each check valve has been addressed using the "EPRI Applications Guideline for Check Valves in Nuclear Power Plants" and appropriate actions have been taken (i.e., Preventive Maintenance (PM) inspections) as a result of the completion of the design application for the check valves. Disassembly and reassembly of both valves (i.e., every Refueling Outage) introduces unnecessary potential for valve failure due to damage caused by maintenance without providing a commensurate increase in plant safety or check valve reliability. These check valves cannot be exercised Quarterly during power operation because doing so would cause steam to be isolated to the Main Steam header, causing the turbine to trip and resulting in a reactor trip. It is impractical to reverse flow test these check valves during Cold Shutdown; to do so would require the downstream side of the valves to have reverse flow sufficient to close the ~600 pound, 28-inch disks. To close these disks would require extensive modifications to the secondary side of the Main Steam system to permit sufficient ΔP to close the valve disks. Another method would be to fill the downstream side of the valve disks with fluid. To do this would require extensive piping and support modifications because of excessive loading on the Main Steam piping. To perform any type of successful reverse flow test on these check valves would require extensive plant modifications and manpower, and would subject the Main Steam system to potentially detrimental conditions, without providing a commensurate increase in public safety or check valve reliability.

- Alternate Testing:

  Check Valves HCV-1041B and HCV-1042B will be alternately disassembled and inspected one each Refueling Outage. Sample disassembly of these check valves is in accordance with O&M Part 10 and the NRC guidelines established in Generic Letter 89-04, Attachment 1, Position 2. For an 18-month refueling cycle, this method of sample disassembly and inspection ensures that each check valve is disassembled and inspected at least once every three years.

40. Frequency Justification Number J40 - Cold Shutdown Justification

- Components:

  LCV-383-1, LCV-383-2, HCV-383-3, HCV-383-4
  IA-LCV-383-1-C, IA-LCV-383-2-C

- Functions:

  LCV-383-1, LCV-383-2; SIRWT Isolation Valves
  HCV-383-3, HCV-383-4: Containment Sump Isolation Valves
  LCV-383-1-C, LCV-383-2-C; Instrument Air Supply Check Valves

- Class:

  2 (LCV-383-1, LCV-383-2, HCV-383-3, HCV-383-4)
  3 (IA-LCV-383-1-C, IA-LCV-383-2-C)

- Test Requirements:

  LCV-383-1, LCV-383-2; Quarterly stroke timing in both the Open and the Closed directions

  HCV-383-3, HCV-383-4; Quarterly stroke timing in the Open directions

  LCV-383-1-C, LCV-383-2-C: Quarterly full-flow exercising in both the Open and Closed directions

- Basis for Justification:

  <u>Tech Spec Implications</u>

  OP-ST-SI-3001, Attachment 5, prior to PC 42612 contained a caution stating that "Closing LCV-383-1 renders LPSI Pump SI-1B, HPSI Pump SI-2B, and CS pumps SI-3C and 3B INOPERABLE." The applicable Limiting Conditions for Operation (LCO) action statements of Technical Specifications 2.1.1, 2.3, 2.4 and 2.7 must be implemented.

  Technical Specification 2.3(2) specifically states that during power operation, the Minimum Requirements may be modified to allow **one** of the following conditions to be true at any one time. If the system is not restored to meet the minimum....

  ...a. One low-pressure safety injection pump may be inoperable provided the pump is restored to operable status within 24 hours.

  ...b. One high-pressure safety injection pump may be inoperable provide[illegible] pump is restored to operable status within 24 ho[illegible].

40. **Frequency Justification Number J40 - Cold Shutdown Justification (Continued)**

By performing this test at power, two provisions of Tech Spec 2.3(2) are violated concurrently, requiring entry into Technical Specification 2.0.1.

Safeguards Implications

Operations reviewed the possibility of utilizing a dedicated operator during performance of this surveillance test. Using the guidance of the NRC Generic Letter 91-18, Operations Memo 93-11, and Standing Order G-100 (approved and issued), the following conclusions can be drawn. The Generic Letter information is explicit in stating that, generally, equipment is inoperable during surveillance. The use of a dedicated operator must be reviewed to ensure that the operator and his necessary actions would result in a configuration where the system did not need to be considered inoperable. In the case of LCV-383-1 and -2, this determination cannot be made. Even if a dedicated operator were stationed at the valve and were to immediately return the valve to an open condition in the event of an accident signal, the open travel time of the valves is roughly 30 seconds. The sequencer timer for a HPSI pump is approximately 3 seconds, with LPSI pumps following shortly in less than 15 seconds. Adding in reaction time of the operator, even a few seconds, there is a high probability that more than one SI pump would start without a suction source. Practically speaking, the most prudent action to prevent equipment damage would be to place the respective pumps in pull-out. This, however, renders the pumps inoperable and the Tech Specs noted above apply. Thus, no positive operability determination can be made; instead, Tech Spec 2.0.1 again applies.

Testing of HCV-383-3 and -383-4 is performed in conjunction with the testing of LCV-383-1 and -383-2 (during the time frame when these valves are closed) because of the possibility that the check valves in the recirculation lines may not hold. If the check valve did not hold, and LCV-383-1 or -2 was left open, cycling HCV-383-3 or -4 to the open position could result in backing the SIRWT up into the containment sump. Among possible consequences of this, violating the Technical Specification on SIRWT level is one possibility. Consequently, it is preferable to close LCV-383-1/2 during cycling of HCV-383-3 or -4. Closing LCV-383-1/2 during power operation results in entry to Tech Spec LCO 2.0.1 (see discussion for LCV-383-1/2, above).

40. **Frequency Justification Number J40 - Cold Shutdown Justification (Continued)**

Testing of LCV-383-1-C and -383-2-C is performed to demonstrate the ability of the instrument air check valve to isolate instrument air and continue to hold the valve closed with backup nitrogen. The purpose of the test is to demonstrate the ability of nitrogen to hold the valve closed, and thus must be performed with LCV-383-1/2 in the closed condition. The closure of LCV-383-1/2 during power operation results in entry to Tech Spec 2.0.1 (see discussion for LCV-383-1/2, above). Therefore, testing of these check valves must be deferred to a Cold Shutdown/Refueling condition.

- Alternate Testing

Valves (LCV-383-1, LCV-383-2) shall be stroke-timed in both the open and closed directions at cold shutdown frequency.

Valves (HCV-383-3, HCV-383-4) shall be stroke-timed in the open direction at Cold Shutdown frequency.

Valves (LCV-383-1-C, LCV-383-2-C) shall be exercised in the open and closed directions at Cold Shutdown frequency.

41. Frequency Justification Number J41 - Refueling Outage Justification

- Components:

  HCV-482A, HCV-482B, HCV-483A, HCV-483B, HCV-2808C, HCV-2808D, HCV-2809C, HCV-2809D, HCV-2898C, HCV-2898D, HCV-2899C, HCV-2899D

- Functions:

HCV-482A, HCV-482B:	Shutdown Cooling (SDC) Heat Exchanger (HX), AC-4A, Backup Raw Water Inlet and Outlet Valves.
HCV-483A, HCV-483B:	Shutdown Cooling Heat Exchanger, AC-4B, Backup Raw Water Inlet and Outlet Valves.
HCV-2808C, HCV-2808D:	Low Pressure Safety Injection (LPSI) Pump SI-1A Bearing Cooling Backup Raw Water Inlet and Outlet Valves.
HCV-2809C, HCV-2809D:	Low Pressure Safety Injection (LPSI) Pump SI-1B Bearing Cooler Backup Raw Water Inlet and Outlet Valves.
HCV-2898C, HCV-2898D:	Control Room VA Unit VA-46A Backup Raw Water Inlet and Outlet Valves.
HCV-2899C, HCV-2899D:	Control Room VA Unit VA-46B Backup Raw Water Inlet and Outlet Valves.

- Class:

  3

- Test Requirements:

  Quarterly exercising in the Open and Closed directions.

- Basis for Justification:

  The subject valves are locally operated by air and provide backup Raw Water (RW) for cooling plant loads such as Control Room HVAC, LPSI Bearing Coolers, SDC HX normally cooled by Component Cooling Water (CCW) in the event of a loss of CCW for an extended period of time. The valves cannot be exercised quarterly or during Cold Shutdown because the performance of this test requires a complete RW outage and securing CCW so as to not allow nitrates to contaminate the river water, (which is an environmental concern), nor to contaminate the CCW system with sand from the RW system. The RW system must be secured and drained as much as practical and the CCW system pressure must be low so as not to contaminate the RW system. Securing CCW and RW during every Cold Shutdown may not be practical due to the high decay heat experienced during Cold Shutdowns of short duration.

41. **Frequency Justification Number J41 - Refueling Outage Justification (Continued)**

- Alternate Testing:

  These valves will be manually exercised in both the open and closed directions during Refueling Outages.

42. Frequency Justification Number J42 - Cold Shutdown Stroke Test Frequency

DELETED

43. Frequency Justification Number J43 - Cold Shutdown Frequency

- Components:

  NG-142, NG-144, NG-146, NG-148

- Function:

  Nitrogen supply to the Safety Injection (SI) tanks (SI-6A, SI-6B, SI-6C, and SI-6D) check valves.

- Class:

  3

- Testing Requirements:

  Quarterly full-stroke exercising in the Close direction.

- Basis for Justification:

  Check valves NG-142, NG-144, NG-146 and NG-148 function to prevent backflow through the check valves and the nitrogen (N_2) supply to the SI Tanks during an accident condition. The check valves prevent loss of N2 from the SI Tanks during an accident condition. These check valves cannot be full-stroke exercised Quarterly, as the containment would be inaccessible during power operation and the SI Tanks would be required to be made inoperable in order to perform this test. The SI Tanks are required to function in order to provide adequate protection to the plant personnel and the general public during a postulated loss of coolant accident (LOCA). Check valves will be partial-stroke exercised quarterly, during normal plant operations or using a PMO procedure as required in order to ensure that the check valves are partially stroke exercised at least quarterly.

- Alternate Testing:

  Check valves, NG-142, NG-144, NG-146 and NG-148 will be partial-stroke exercised quarterly during power operation in the open and close directions using normal plant operations/logs. The check valves will be full-stroke exercised open and closed during Cold Shutdowns.

44. Frequency Justification Number J44 - Refueling Outage Justification

- Component:

  RC-374

- Functions:

  Pressurizer RC-4 Spray Line Check Valve

- Class:

  1

- Test Requirements:

  Quarterly exercising in the Closed direction.

- Basis for Justification:

  The subject check valve RC-374, functions to prevent or minimize a loss of flow through the Pressurizer Spray Line from the Pressurizer Auxiliary Spray Line to the Reactor Coolant System Cold Legs when Auxiliary Spray is required (i.e., during Hot Leg injection).

  The check valve cannot be full-stroke exercised closed during plant operations Quarterly or during Cold Shutdowns, since to do so would require a flow path to the RCS using the Auxiliary Pressurizer Spray Line. That flow path cannot be utilized during power operation as it could cause a cold water injection event to the Pressurizer resulting in a large fluctuation of power due to the decreased temperature and could cause an uncontrolled reactivity addition. The increased reactivity could cause an increase in power and/or reactivity addition and ultimately a plant/reactor trip. The flow path)Pressurizer Auxiliary Spray) cannot be utilized during power operation or Cold Shutdown since to test RC-374 closed requires the High Pressure Safety Injection (HPSI) Pumps to be run. The HPSI pumps cannot be run during power operations as the pumps do not have enough suction pressure to overcome RCS pressure. In addition, the check valve is not able to be tested during Cold Shutdown because using the HPSI pumps without an adequate vent path could cause an overpressurization of the RCS. Using the Charging Pumps only to quantify leakage would not provide a sufficient flow to adequately verify check valve closure.

- Alternate Testing:

  Check valve RC-374 will be exercised in the open direction during power operation (whenever Pressurizer Spray is actuated) and full-stroke exercised in the closed direction during Refueling Outages using the HPSI Pumps.

APPENDIX 2B

JUSTIFICATION FOR EXCEPTION TO ASME SECTION XI/O&M MANUAL PARTS 1 AND 10, CODES FOR VALVES

JUSTIFICATION FOR EXCEPTION
TO ASME SECTION XI/O&M PARTS 1 AND 10 CODES FOR VALVES

This section provides justification for the exceptions taken to Code test requirements as allowed for in 10CFR50.55a(g)(5)(iii). Each Code exception is identified by a unique number and identifies the valve(s) for which the Code exception is being taken. The specific Code test requirement found to be impractical is defined and the basis for exclusion from Code requirements is presented. Any testing performed in lieu of Code requirements is specified. Two types of justifications are provided. The first is general in nature and pertains to Code requirements found to be impractical for numerous valves. The second type is used to justify Code exceptions for specific valves. Code exceptions for specific valves are numbered (Ex) and referenced by number on the Valve Test Program Matrix Table 2.1 for specific valves.

General: Code Exception Number G1

- Components:

  Category C Thermal Relief Valves

- Function:

  Thermal relief valves on safety-related systems

- Class:

  1, 2, and 3

- Test Requirements:

  O&M Part 1 Subsection 1.1 Scope

- Basis for Exception from O&M Part 1, Subsection 1.1:

  The O&M Code Part 1 provides general requirements for periodic performance testing and monitoring of pressure relief devices utilized in nuclear power plant systems which are required to perform a specific function in shutting down a reactor or in mitigating the consequences of an accident. Thermal relief valves will not be tested in accordance with O&M Part 1 guidance as part of the FCS ISI Program Plan, as FCS has determined that the thermal relief valves do not fully meet the intent of the scope of O&M Part 1. Many safety-related systems, particularly those with heat exchangers, have been provided with relief valves. These relief valves are thermal relief valves of small capacity intended to relieve pressure due to a thermal expansion of fluid in a "bottled-up" condition, which is considered a self-limiting transient. Experience has shown that failure of these valves will not result in a failure of the system to fulfill its safety function. Thus, most thermal relief valves are not considered to perform a function "important to safety", and as such have not been included in the FCS ISI Program Plan.

General: Code Exception Number G1 (Continued)

Further clarification was provided in the NRC SER (Reference 7), for applicability to the Section XI Code. Thermal relief valves installed to protect portions of safety-related systems against overpressure may be included in this expanded scope. The relief valves that may be involved are those that meet the following criteria:

a. The relief valve protects a portion of a safety-related system,

b. The protected piping and/or component may be isolated during a plant operating mode where credit is taken for operation of the safety-related system,

c. The protected section is subjected to a mechanism that could over pressurize the system/component when isolated,

d. The integrity of the protected section is required for the system to meet its safety function, (i.e., stuck open relief valve).

A safety-related valve is defined as an active or passive valve which is required to perform a specific function in shutting down the reactor to cold shutdown condition, in maintaining the Cold Shutdown condition, or in mitigating the consequences of an accident. Relief valves which protect over-pressurization of portions of systems/components that perform a safety related function are included.

Because some thermal relief valves at FCS may be included in the expanded scope discussed above, general relief was not granted as requested for all thermal relief valves. A request was made that the licensee provide further justification for exclusion of relief valves from the Section XI Program based on the criteria mentioned above.

An engineering review was completed for all Critical Quality Element (CQE) (Class 1, 2, and 3) relief valves at Fort Calhoun Station with the provided guidance in addition to the OM-1 Code guidance. The thermal relief valves which have been excluded from the Section XI program were excluded for the following reasons.

Justification:

1. The relief valve protects Class 1, 2, or 3 (Class Code) systems/components that are not required to shutdown the plant/reactor, maintaining the plant/reactor in a shutdown condition or mitigate an accident.

OR

2. The relief valve is installed on safety related systems/components which are not isolated during the operating cycle and are therefore not subjected to a mechanism that could cause over pressure. In addition, the integrity of the protected section (i.e., stuck open relief valve) is not required for the system to meet its safety function, nor will loss of integrity render the system inoperable.

OR

3. The relief valve is installed on safety related systems/components, which are not subjected to any overpressure mechanism due to system design.

Justification for Exclusion from the FCS ISI Program Plan:

AC-166, AC-167, AC-168, AC-169, AC-291, AC-292, AC-293, and AC-294

RCP RC-3A/B/C&D Seal Cooler CCW Inlet Relief Valves
RCP RC-3A/B/C&D Lube Oil Cooler CCW Inlet Relief Valves

Justification: 1

The Reactor Coolant Pumps (RCPs) are not required for safe shutdown of the plant. The USAR assumes that only natural circulation is available for the RCS to cool down. Hence, the portion of the CCW system protected by these relief valves is not required. Although this portion of the CCW system is isolable, this portion of the CCW system is never isolated with the RCPs in operation.

AC-170 and AC-183

Sample Heat Exchanger SL-8A and SL-8B CCW Inlet Relief Valve (Secondary)
Sample Heat Exchanger SL-3 CCW Inlet Relief Valve (Primary)

Justification: 1 & 2

These sample heat exchangers are not required for safe shutdown of the plant nor do they protect equipment which mitigate an accident. The inlet and outlet isolation valves are administratively controlled open during the operating cycle.

AC-173 and AC-178

Waste Gas Compressor WD-28A & B Seal Water Heat Exchanger CCW Inlet Relief Valves

Justification: 1 & 2

The Waste Gas Compressors are not required for safe shutdown of the plant nor do they protect equipment which mitigate an accident. The inlet and outlet isolation valves are administratively controlled open during the operating cycle.

AC-258

Letdown Heat Exchanger CH-7 CCW Inlet Relief Valve

Justification: 1 & 2

The Letdown Heat Exchanger is not required for safe shutdown of the plant nor is it utilized in mitigation of an accident. In addition, the portion of the system remains in service during the operating cycle and therefore is not subjected to an overpressurization mechanism.

AC-336, AC-337, and AC-338

Charging Pump CH-1A, B, & C Oil Cooler CCW Inlet Relief Valves

Justification: 2

This portion of the CCW system remains inservice during the operating cycle. Hence this section of the CCW system are administratively controlled open on the inlet and outlet piping of the cooler to the rest of the CCW system. This section of piping is not subjected to an overpressurization mechanism.

AC-1026, AC-1027 and AC-1059

Shutdown Cooling Heat Exchanger AC-4A & B CCW Relief Valves
Spent Fuel Pool Heat Exchanger AC-8 CCW Relief Valve

Justification: 3

Due to the design of the isolation/flow control valves, these components and piping are not subjected to an overpressurization mechanism. The inlet isolation/flow control valves are Fisher Model 7620 series valves. The type 7600 series butterfly valve is a heavy-duty valve suitable for general control applications where

extreme low leakage rates are not required. This valve design is not equipped with a valve seat.

CH-178, CH-179, and CH-180

Charging Pump CH-1A, B & C Suction Relief Valves

Justification: 2

This portion of the CVCS Charging system remains inservice during the operating cycle. If the charging pump is not inservice at the time, then the charging pumps remain unisolated and in the standby condition. These pumps are taken out of service routinely for maintenance due to the nature of positive displacement charging pumps. However, when the charging pump is isolated to be tagged out of service, the tagout requires that the system be drained and vented. Reference Computerized Tagging System for tagout of a charging pump. Hence this section of the CVCS Charging system remains open on the inlet and outlet piping of the charging pumps to the rest of the CVCS system. This section of piping is not subjected to an overpressurization mechanism.

CH-202

Reactor Coolant System Loop Charging System Bypass Valve/Thermal Relief

Justification: 2

CH-202 is the Bypass valve around CH-238. The Charging system loop injection headers into loop 1A and 1B are open during the operating cycle with at least 40 gpm charging flow. This system is not taken out of service. Hence, there is no overpressurization mechanism which requires CH-202 to open. Failure of this spring loaded check valve to the open position would not prevent this system from performing it's design function.

CH-219

Charging Pumps Suction Relief Valve on Common Suction Header from VCT

Justification: 2

This piping is continually in service during the operating cycle. There is no overpressurization mechanism which will challenge this relief valve.

CH-159, CH-223, and CH-224

VCT CH-14 Outlet Relief Valve
Regenerative Heat Exchanger CH-6 Letdown Relief Valve
Letdown Heat Exchanger CH-7 Letdown Relief Valve

Justification: 1

The letdown portion of the CVCS system is not required to shutdown the plant, maintain the plant shutdown, or mitigate an accident. Therefore, these thermal relief valves do not meet the requirements of Section XI.

JW-4-1 and JW-4-2

Expansion Tank JW-1-1 and JW-2-1 Pressure Caps

Justification: 3

These caps were not installed until 1988. There is no operational significance for these caps. The jacket water system runs at atmospheric pressure. These caps were installed to prevent the jacket water from burping onto the floor after the diesel generator is shutdown. If these caps would stick in the open or closed position, there would be no effect on the operation/operability of the cooling system. Based on this lack of safety significance and affect these caps have of the jacket water system, there is no applicability to the Section XI Program.

SI-222 and SI-311

Safety Injection Tanks Fill/Drain Line Relief Valve
SIRWT SI-5 Return Line Relief Valve

Justification: 1

These portions of the Safety Injection system are not required to shutdown the plant, maintain the plant shutdown, or mitigate an accident. Therefore, these relief valves do not meet the requirements of Section XI.

SI-278, SI-279, SI-280, and SI-281

Safety Injection Tank (SIT) SI-6A/B/C & D Outlet Relief Valves

Justification: 3

These relief valves have a setpoint of 395 psig and are located on the discharge piping downstream of the Safety Injection Tanks (SIT) outlet isolation valves, (HCV-2914, HCV-2934, HCV-2954 and

HCV-2974). The SIT valves are locked open during the operating cycle. Therefore overpressure protection is provided by the SIT relief valves (SI-209, SI-213, SI-217, and SI-221) which are set at a lower pressure of 275 psig. These relief valves are tested in the Section XI Program. There is no overpressure mechanism that subjects this portion of outlet piping to exceed the design pressure.

- Alternate Testing:

  Tests and test frequency for thermal relief valves not included will be controlled under the FCS Preventive Maintenance (PM) Program and be conducted in a similar manner as the FCS ISI Program Plan.

1. **Code Exception Number E1 - Relief Request**

- Components:

  SI-139, SI-140

- Function:

  SIRWT Discharge Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in the Open Direction and Leakage Testing Once Every Two Years

- Basis for Exception from O&M Part 10, Subsection 4.2.1.2:

  These check valves function to prevent backflow to the Safety Injection and Refueling Water Tank (SIRWT). These check valves are located in the lines leading from the SIRWT to the suctions of the Containment Spray (CS) pumps, the Low Pressure Safety Injection (LPSI) pumps and the High Pressure Safety Injection (HPSI) Pumps. The check valves under certain accident conditions must open sufficiently to provide design basis flow to all of these pumps. Because of this system design requirement, the full-stroke exercising of these check valves Quarterly or during Cold Shutdowns cannot be performed. During power operation, no full flow path exists for the combination of pumps because the HPSI and LPSI pumps cannot overcome the RCS pressure, and the CS system cannot be permitted to spray down the Containment. No full flow path is available during Cold Shutdowns because operating the HPSI pumps could create a low-temperature overpressurization condition in the RCS. CS cannot be used because the Containment would be sprayed down. Additionally, it is not possible to achieve the maximum design accident flow through the check valves during full flow exercising.

  The corrective maintenance history of these two check valves has been limited to gasket/bolt/nut replacements since installation. In addition, the check valves are 20 inch stainless steel Mission-Duochek type valves which see very little flow during normal operations. OPPD has previously disassembled and inspected each of these check valves once and these check valves were "like new." "Like new" is defined as a condition of the component that has little or no visible indication of wear, as if the valve was just installed from the factory. In order to assess the condition of the check valves during sample disassembly and inspection and, to provide a consistent and precise method of gauging the check

valves physical and mechanical condition, a checklist was developed and incorporated into the Surveillance Tests used for sample disassembly and inspection. An example of items evaluated on the check list are:

1. Whether valve discs are initially seated
2. A determination of obstructions
3. Cracking or linear indications
4. Loose/missing/broken parts
5. Whether obstruction to moving parts
6. Wear/Corrosion/Erosion
7. Presence of foreign material
8. Misalignment (if any) and effect on valve operation
9. Mechanical damage
10. Hinge pin condition
11. Disc/seat condition
12. Perform manual exercise of discs

Each check valve has been disassembled and inspected in previous outages. The assessment of the valves mechanical and physical condition is performed by FCS Inspectors qualified to VT-3 in accordance with ASME Section XI. In addition, the review/evaluation of any observed deficiencies/indications is performed by engineering for a final acceptance of the condition of the valve. In addition, a review of the installation of each check valve has been addressed using the "EPRI Applications Guidelines for Check Valves in Nuclear Power Plants" and appropriate actions have been taken (i.e., PM inspections) as a result of the completion of the design application review for the check valves. The industry has experienced no failures with this type of check valve in similar applications at other facilities. The disassembly and subsequent inspection of these valves requires unnecessary radiation exposure as well as creating significant (i.e., > 50 gallons) liquid radwaste requiring disposal. Also, frequent disassembly and reassembly of the valves (i.e., every Refueling Outage) introduces unnecessary potential for valve failure due to damage caused by maintenance without providing a commensurate increase in plant safety or check valve reliability.

1. **Code Exception Number E1 - Relief Request (Continued)**

- Alternate Testing:

  OPPD will require check valves SI-139 and SI-140 to be alternately disassembled and inspected every other Refueling Outage. This sample disassembly of these check valves is in accordance with the NRC guidelines established in Generic Letter 89-04, Attachment 1, Position 2. In addition, the check valves will be partial-stroke exercised in the open direction Quarterly and after reassembly during Refueling Outages. The check valves will be full-stroke exercised in the closed direction during each Refueling Outage. This method of sample disassembly and inspection will ensure that each check valve is disassembled and inspected at least once every six years and will help to maintain personnel exposure ALARA, while at the same time providing reasonable assurance that integrity, quality and the ability to detect component degradation are maintained.

2. Code Exception Number E2 - Relief Request

- Components:

  SI-159, SI-160

- Function:

  Containment Recirculation Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in the Open Direction

- Basis for Exception from O&M Part 10, Subsection 4.2.1.2:

  These valves function to prevent backflow to the Containment lower level. These valves are backed up by motor operated isolation valves HCV-383-3 and HCV-383-4 which are normally closed, fail-as-is, and open only upon receipt of a containment Recirculation Actuation Signal (RAS). Due to system design, these valves cannot be partial-stroke or full-stroke exercised open during power operation, Cold Shutdown or Refueling Outage because the Containment sump is normally dry and there is no flow path available for testing. Full-stroke exercising these valves open requires that the Containment sump be filled with water and provided with a source of makeup water in addition to operating the CS pumps and the HPSI pumps at rated capacity. Therefore, system configuration renders flow testing of these valves impractical.

  The corrective maintenance history of these two check valves has been limited to gasket/bolt/nut replacements since installation. In addition, the check valves are 24-inch stainless steel Mission-Duochek type valves which see no flow during normal operations. OPPD has previously disassembled and inspected each of these check valves and these check valves were "like new." "Like new" is defined as a condition of the component that has little or no visible indication of wear, as if the valve was just installed from the factory. In order to assess the condition of the check valves during sample disassembly and inspection and, to provide a consistent and precise method of gauging the check valves physical and mechanical condition, a checklist was developed and incorporated into the Surveillance Tests used for sample disassembly and inspection. An example of items evaluated on the check list are:

  1. Whether valve discs are initially seated

2. **Code Exception Number E2 - Relief Request (Continued)**

2. A determination of obstructions

3. Cracking or linear indications

4. Loose/missing/broken parts

5. Whether obstruction to moving parts

6. Wear/Corrosion/Erosion

7. Presence of foreign material

8. Misalignment (if any) and effect on valve operation

9. Mechanical damage

10. Hinge pin condition

11. Disc/seat condition

12. Perform manual exercise of discs

Each check valve has been disassembled and inspected in previous outages. The assessment of the valves mechanical and physical condition is performed by FCS Inspectors qualified to VT-3 in accordance with ASME Section XI. In addition, the review/evaluation of any observed deficiencies/indications is performed by engineering for a final acceptance of the condition of the valve. In addition, a review of the installation of each check valve has been addressed using the "EPRI Applications Guidelines for Check Valves in Nuclear Power Plants" and appropriate actions have been taken (i.e., PM inspections) as a result of the completion of the design application review for the check valves. The industry has experienced no failures with this type of check valve in similar applications at other facilities. The disassembly and subsequent inspection of these valves requires unnecessary radiation exposure as well as creating significant (i.e., > 50 gallons) liquid radwaste requiring disposal, with minimal benefits. Also, frequent disassembly and reassembly of the valves (i.e., every Refueling Outage) introduces unnecessary potential for valve failure due to damage caused by maintenance without providing a commensurate increase in plant safety or check valve reliability.

2. **Code Exception Number E2 - Relief Request (Continued)**

- Alternate Testing:

  OPPD will require check valves SI-159 and SI-160 to be alternately disassembled and inspected every other Refueling Outage. This sample disassembly of these check valves is in accordance with the NRC guidelines established in Generic Letter 89-04, Attachment 1, Position 2 with the exception of partial-stroke exercising. This method of sample disassembly and inspection will ensure that each check valve is disassembled and inspected at least once every six years and will help to maintain personnel exposure ALARA, while at the same time providing reasonable assurance that the integrity, quality and the ability to detect component degradation is maintained.

3. Code Exception Number E3 - Relief Request

- Components:

  SI-175, SI-176

- Function:

  Containment Spray Header Check Valves

- Class:

  2

- Test Requirements:

  Quarterly Full Flow Exercising in the Open Direction

- Basis for Exception from O&M Part 10, Subsection 4.2.1.2:

  These check valves are located inside Containment. These valves cannot be full-stroke or partial-stroke exercised open using system flow during any plant operating conditions because the only flow path is into the CS headers and would result in spraying down the Containment, causing equipment damage and requiring extensive cleanup.

  The corrective maintenance history of these two check valves has been limited to gasket/bolt/nut replacements since installation. In addition, the check valves are 12-inch stainless steel Mission-Duochek type valves which see no flow during normal operations. OPPD has previously disassembled and inspected each of these check valves and these check valves were "like new." "Like new" is defined as a condition of the component that has little or no visible indication of wear, as if the valve was just installed from the factory. In order to assess the condition of the check valves during sample disassembly and inspection and, to provide a consistent and precise method of gauging the check valves physical and mechanical condition, a checklist was developed and incorporated into the Surveillance Tests used for sample disassembly and inspection. An example of items evaluated on the check list are:

  1. Whether valve discs are initially seated
  2. A determination of obstructions
  3. Cracking or linear indications
  4. Loose/missing/broken parts
  5. Whether obstruction to moving parts
  6. Wear/Corrosion/Erosion

3. **Code Exception Number C3 - Relief Request (Continued)**

7. Presence of foreign material

8. Misalignment (if any) and effect on valve operation

9. Mechanical damage

10. Hinge pin condition

11. Disc/seat condition

12. Perform manual exercise of discs

Each check valve has been disassembled and inspected in previous outages. The assessment of the valves mechanical and physical condition is performed by FCS Inspectors qualified to VT-3 in accordance with ASME Section XI. In addition, the review/evaluation of any observed deficiencies/indications is performed by Engineering for a final acceptance of the condition of the valve. In addition, a review of the installation of each check valve has been addressed using the "EPRI Applications Guidelines for Check Valves in Nuclear Power Plants" and appropriate actions have been taken (i.e., PM inspections) as a result of the completion of the design application review for the check valves. The industry has experienced no failures with this type of check valve in similar applications at other facilities. The disassembly and subsequent inspection of these valves requires unnecessary radiation exposure with minimal benefits. Also, frequent disassembly and reassembly of the valves (i.e., every Refueling Outage) introduces unnecessary potential for valve failure due to damage caused by maintenance without providing a commensurate increase in plant safety or check valve reliability.

- Alternate Testing:

Check valves SI-175 and SI-176 will be alternately disassembled every other refueling outage. The sample disassembly of these check valves is in accordance with the NRC guidelines established in Generic Letter 89-04, Attachment 1, Position 2. In addition, the check valves will be partial-stroke exercised in the open direction during Refueling. This method of sample disassembly and inspection will ensure that each check valve is disassembled and inspected at least once every six years and will help to maintain personnel exposure ALARA, while at the same time providing reasonable assurance that the integrity, quality and the ability to detect component degradation is maintained.

4. **Code Exception Number E4 - Relief Request**

- Components:

  SI-207, SI-208, SI-211, SI-212, SI-215, SI-216, SI-219, SI-220

- Function:

  Safety Injection Tank (SIT) Check Valves

- Class:

  1

- Test Requirements:

  Quarterly Full Flow Exercising in the Open Direction
  Quarterly Full Flow Exercising in the Closed Direction and Leak Testing during Cold Shutdown

- Basis for Exception from O&M Part 10, Subsection 4.2.1.2:

  These valves cannot be exercised during power operation because a flow path does not exist due to the higher RCS pressure. The Safety Injection Tank pressure is less than RCS pressure during power operation. Also, these check valves cannot be exercised during Cold Shutdowns because the RCS does not contain sufficient volume to accept the flow required and a low temperature overpressure condition of the RCS could result.

- Alternate Testing:

  Check Valves will be full-stroke exercised in the open direction during Refueling Outages by "dumping" the Safety Injection Tanks to the Reactor Vessel. Test parameters such as SI tank level decrease vs. time, SI tank pressure. valve differential pressure, flow rate etc. are used to determine a flow coefficient. The minimum flow coefficient was determined using the safety analysis data provided by the NSSS vendor. Comparing this minimum flow coefficient as acceptance criteria to the flow coefficient determined by testing, assures FCS the valve is able to perform its safety function. This method of testing the check valves complies with the guidance provided in Generic Letter 89-04, Attachment 1, Position 1. Additionally, valves SI-208, SI-212, SI-216 and SI-220 will be partial-stroke exercised at Cold Shutdown frequency in the open direction using Shutdown Cooling flow.

5. **Code Exception Number E5 - Relief Request**

- DELETED

6. Code Exception Number E6 - Periodic Testing of Relief Valves

- Components:

  FW-1525

- Function:

  Auxiliary Feedwater Pump Oil Cooler Relief Valve

- Class:

  3

- Test Requirements:

  A Minimum of 20% of Each Type and Manufacture Shall be Tested Within any 48 Months.

- Basis for Exception from O&M Part 1 Subsection 1.3.5(b):

  The relief valve is the only one of its type and manufacturer in its respective group. The intent of the Code is that all Class 3 relief valves be tested at least once every ten years (Reference O&M Part 1, Subsection 1.3.5(b)). This intent will be met. The current Refueling Outage frequency is 18 months. A review of historical maintenance records reveals that there have been no maintenance problems which justify testing the relief valve every other refueling outage. The scope of O&M Part 1 is to verify valve operability and detect any degradation in valve performance.

- Alternate Testing:

  The relief valve will be tested every third refueling outage.

PART 3: CLASS 1, CLASS 2, AND CLASS 3 PUMP TESTS

1.0 Program Summary

The Inservice Testing (IST) Program for ASME Class 1, 2 and 3 pumps was developed in accordance with and meets the requirements of ASME Operation and Maintenance of Nuclear Power Plants (O&M) 1987 Edition, 1988 Addenda. The IST for pumps will remain in effect for the remainder of the 120-month interval which began on September 26, 1993. The Program will be reviewed and updated, as appropriate, with that Edition of the Code in effect not more than 12 months prior to the start of the next 120-month interval.

The function of each pump in the Program is described in Section 3.8. Section 3.9 contains individual pump test requirements and exceptions to the Code (Table 3.1), as well as the codes used in the Table. Appendix 3A contains justifications for exceptions taken to the Code test requirements as provided for in 10CFR50.55a(g)(5)(iii). Justifications are general in nature and pertain to requirements found to be impractical. Code exceptions are numbered and referenced by number on the Pump Test Program Table 3.1.

2.0 Scope and Responsibility

2.1 The P&IDs of Part 4 identify the location of each Class 1, Class 2, and Class 3 pump.

2.2 Class 1, Class 2, and Class 3 pumps are to be tested in accordance with Part 6 of the O&M Manual. The test methods for each pump, and exceptions to the tests of O&M Part 6, are found in Appendix 3A.

3.0 Inservice Test Frequency

The inservice test frequency for Class 1, Class 2, and Class 3 pumps are in accordance with Part 6 of the O&M Manual, with exceptions as found in Table 3.1 and Appendix 3A.

4.0 Test Methods

The methods to be used to test Class 1, Class 2, and Class 3 pumps have been determined from Part 6 of the O&M manual. These methods, along with exceptions, are listed in Table 3.1 and Appendix 3A.

5.0 Evaluation of Test Results

The allowable ranges of test results shall be in accordance with Table 3 of Part 6 of the O&M Manual, as appropriate. All test data shall be analyzed within 96 hours after completion of a test in accordance with Part 6 of the O&M Manual.

If test data show that a pump is operating in the "Alert Range", remedies shall be taken, as required in accordance with O&M Part 6, until corrective action is taken. If the test data show that a pump is operating in the "Required Action Range," the pump shall be declared inoperable until corrective action is taken. Corrective action is defined as one or more of the following steps:

5.1 Recalibrate the applicable instruments and reperform the test, or

5.2 Repair or replace the component as required, or

5.3 Perform an Engineering Analysis to demonstrate that the pump is still able to perform its required safety design function.

6.0 Records and Reports

Records and reports for the testing of Class 1, Class 2, and Class 3 pumps shall be made in accordance with Part 6, Subsection 7, of the O&M Manual.

7.0 Repair Requirements

Tests, after pump replacement, repair or servicing, shall be made as required by O&M Part 6, Subsection 4.4.

8.0 Function of Pumps in the Program

8.1 Auxiliary Feedwater (AFW) Pumps

FW-6 and FW-10 are the motor driven and the steam driven AFW pumps, respectively. They supply makeup water to the Steam Generators during startup/shutdown conditions. Subsequent to an automatic initiation signal when normal feedwater flow is unavailable, they supply water to the Steam Generators.

8.2 Component Cooling Water (CCW) Pumps

AC-3A, AC-3B and AC-3C are the three CCW Pumps. They supply cooling water to safety-related components in the Containment and Auxiliary Buildings, including components containing radioactive or potentially radioactive fluids. They provide cooling water to Containment air coolers and the Control Room air conditioning units during both normal and accident conditions. In the event of a design basis accident, these pumps provide sufficient cooling water to the Engineered Safeguards equipment. Additionally, they supply cooling water to components to support normal plant operation, and to remove heat from the RCS via the Shutdown Cooling Heat Exchangers during normal plant cooldowns.

8.3 Raw Water Pumps

AC-10A, AC-10B, AC-10C and AC-10D are the four Raw Water Pumps. They supply cooling water to the CCW Heat Exchangers. They also supply cooling water directly to select safety related components in the event the CCW System is unavailable. Additionally, they supply water to the Demineralized Water System.

8.4 Safety Injection Pumps

SI-1A and SI-1B are the two LPSI Pumps. They inject borated water into the reactor coolant system following a LOCA. Additionally, they serve as Shutdown Cooling pumps by supplying water to the Shutdown Cooling Heat Exchangers for removal of residual heat during normal plant cooldown.

SI-2A, SI-2B and SI-2C are the three HPSI Pumps. They inject borated water into the reactor coolant system following a LOCA. Additionally, they are used to maintain the required water level in the Safety Injection Tanks.

SI-3A, SI-3B and SI-3C are the three CS Pumps. They spray borated water into the Containment to remove energy from the Containment vapor space after the initiation of a pressurization event in containment. Although there is a possibility of physically aligning the CS Pumps for Shutdown Cooling, that alignment should only be considered when the RCS is below 120°F and the RCS is vented to the Containment atmosphere with the vent area equivalent to a twelve-inch diameter pipe.

8.5 Chemical Volume and Control Pumps

CH-1A, CH-1B and CH-1C are the three Charging Pumps. CH-4A and CH-4B are the two Boric Acid Pumps. These five pumps inject concentrated borated water into the RCS under emergency conditions. These pumps also serve several non-safety related functions.

8.6 Diesel Generator Fuel Oil Transfer Pumps

FO-4A-1, FO-4A-2 and FO-4B-1, FO-4B-2 are the four Diesel Generator Fuel Oil Transfer Pumps. They take suction from the underground fuel oil storage tank and transfer fuel oil to the wall mounted auxiliary tanks.

9.0 Pump Test Program Table (Table 3.1)

This section provides a tabulation of all safety related pumps, both those pumps that are tested in accordance with the requirements of O&M Manual Part 6, and those pumps for which the Code requirements have been found to be impractical.

10.0 Additions to Program - Pumps

Pumps added to the ISI Program Plan as a result of plant/system modifications, engineering changes or re-evaluation of component eligibility requirements as per O&M Manual, Part 6, are considered operable based on interim acceptance criteria (established by construction or preoperational tests) until a reference value is able to be established.

PUMP TABLES

TABLE FORMAT
FORT CALHOUN STATION PUMP TEST PROGRAM MATRIX TABLE 3.1

The Pump Test Program Table has been coded to provide the following information:

1. **System and Drawing Number** - System the pump is in and the P&ID number.

2. **Coordinates** - Location on the P&ID where the pump is found.

3. **Pump Number** - Unique number assigned to each pump.

4. **Speed n** - This parameter is addressed with one of the following entries, which indicate test applicability, interval, or Code exception number, respectively.

   - NR - Not Required
   - Q - Quarterly Test
   - E1, E2, E3, E4 - Code Exception Number

5. **Inlet Pressure P_1** - Same as number 4.

6. **Differential Pressure ΔP** - Same as number 4.

7. **Flow Rate Q** - Same as number 4.

8. **Vibration Amplitude V** - Same as number 4.

   V_d - Displacement (peak-peak)
   V_v - Velocity (peak)

9. **Discharge Pressure (P)** - Same as number 4.

10. **Code Exceptions** - If the pump is being tested in accordance with O&M Part 6 requirements, this column will be blank. However, for pumps which the O&M Part 6 requirements have been found to be impractical, a reference number is entered in this column. The reference number is addressed in Appendix 3A with a complete explanation of the specific exception and justification for that exception.

FORT CALHOUN NUCLEAR POWER STATION UNIT NO.1
PUMP TEST PROGRAM TABLE 3.1

SYSTEM & DRAWING NUMBER	COORDINATES	PUMP NUMBER	SPEED n*	INLET PRESSURE (P_1)	DIFFERENTIAL PRESSURE (ΔP)	FLOW RATE (Q)	VIBRATION DISPLACEMENT (V_d) Velocity (V_v)+	DISCHARGE PRESSURE (P) **	CODE EXCEPTIONS
AUX. FEEDWATER **	C-6	FW-6	NR	Q	Q	Q	Q	Q	
11405-M-253	B-5	FW-10	Q	Q	Q	Q	Q	Q	
SHEET 4									
COMPONENT **	E-6	AC-3A	NR	Q	Q	Q	Q	Q	E4
COOLING WATER	D-6	AC-3B	NR	Q	Q	Q	Q	Q	E4
11405-M-10	C-6	AC-3C	NR	Q	Q	Q	Q	Q	E4
SHEET 2									
RAW WATER **	A-7	AC-10A	NR	E1	E1	Q	Q	Q	E1, E4
11405-M-100	A-6	AC-10B	NR	E1	E1	Q	Q	Q	E1, E4
	A-5	AC-10C	NR	E1	E1	Q	Q	Q	E1, E4
	A-4	AC-10D	NR	E1	E1	Q	Q	Q	E1, E4
SAFETY **	B-3	SI-1A	NR	E1	E1	E2	Q	Q	E1, E2
INJECTION	A-3	SI-1B	NR	E1	E1	E2	Q	Q	E1, E2
E-23866-210-130	E-3	SI-2A	NR	E1	E1	E2	Q	Q	E1, E2
SHEETS 1 AND 3	C-3	SI-2B	NR	E1	E1	E2	Q	Q	E1, E2
	D-5	SI-2C	NR	E1	E1	E2	Q	Q	E1, E2
	C-3	SI-3A	NR	E1	E1	E2	Q	Q	E1, E2
	D-3	SI-3B	NR	E1	E1	E2	Q	Q	E1, E2
	E-3	SI-3C	NR	E1	E1	E2	Q	Q	E1, E2
CHEMICAL VOLUME	A-6	** CH-1A	NR	NR	NR	E3	Q	Q	
AND CONTROL **/**	C-6	** CH-1B	NR	NR	NR	E3	Q	Q	
E-23866-210-120	E-6	** CH-1C	NR	NR	NR	E3	Q	Q	
SHEET 1 OF 2	A-3	** CH-4A	NR	E1	E1	Q	Q	Q	E1
E-23866-210-121	B-6	** CH-4B	NR	E1	E1	Q	Q	Q	E1
DIESEL GENERATOR	D-6	FO-4A-1	NR	NR	NR	Q	Q	Q	
FUEL OIL **	C-6	FO-4B-1	NR	NR	NR	Q	Q	Q	
11405-M-262	F-6	FO-4A-2	NR	NR	NR	Q	Q	Q	
SHEET 1	E-6	FO-4B-2	NR	NR	NR	Q	Q	Q	

* SYNCHRONOUS OR INDUCTION MOTORS DO NOT REQUIRE SPEED CHECK (O&M PART 6, SUBSECTION 4.6.3)
** REQUIRED FOR POSITIVE DISPLACEMENT PUMPS (O&M PART 6, SUBSECTION 5.2 TABLE 2)

\+ VIBRATION DISPLACEMENT (P-P) FOR < 600 RPM, VIBRATION VELOCITY (PEAK) FOR ≥ 600 RPM (O&M PART 6, SUBSECTION 4.6.4, TABLE 3A)
++ PUMP SPEED ≥ 600 RPM
*+ PUMP SPEED < 600 RPM

APPENDIX 3A

JUSTIFICATION FOR EXCEPTION TO O&M MANUAL PART 6 FOR PUMPS

APPENDIX 3A

JUSTIFICATION FOR EXCEPTION
TO O&M MANUAL PART 6 FOR PUMPS

1. **Code Exception Number E1 - Relief Request**

- Components:

  Raw Water Pumps AC-10A, AC-10B, AC-10C, AC-10D
  Low Pressure Safety Injection Pumps SI-1A, SI-1B
  High Pressure Safety Injection Pumps SI-2A, SI-2B, SI-2C
  Containment Spray Pumps SI-3A, SI-3B, SI-3C
  Boric Acid Pumps CH-4A, CH-4B

- Class:

  2
  3

- Test Requirements:

  Measurement of Pump Inlet Pressure and Differential Pressure

Raw Water Pumps

- Basis for Exception O&M Part 6, Subsection 4.6.2.2, 5.2 and Table 2:

  System design does not include instrumentation for direct measurement of inlet and differential pressure.

- Alternate Testing:

  The pump inlet pressure will be calculated based on the river level and the elevation of the pump suction bells. The pump differential pressure will then be calculated based on the measured discharge pressure and the calculated inlet pressure. Since (1) the river provides the required positive pressure at the suction of the pumps, (2) the river level does not change when a pump is started, and (3) at least one pump is usually in service, the calculated inlet pressure prior to starting a pump is the same as with a pump running.

LPSI, HPSI and Containment Spray Pumps

- Basis for Exception from O&M Part 6, Subsections 4.6.2.2, 5.2 and Table 2:

  System design does not include instrumentation for direct measurement of inlet and differential pressure.

1. **Code Exception Number E1 - Relief Request (Continued)**

- Alternate Testing:

  The LPSI, HPSI and CS pumps take their suction directly from the Safety Injection and Refueling Water Tank and have inlet pressures due to the level of water in the tank above the pump inlets. The pump inlet pressures will be calculated based on the tank level and the difference in elevation between the tank and the pump inlets. Pump differential pressures will then be calculated by subtracting the calculated inlet pressure from the measured discharge pressures. Since the Safety Injection and Refueling Water Tank provides the required positive pressure at the suction of the pumps and since the tank level does not significantly change when a pump is started, the calculated pump inlet pressure prior to starting a pump is the same as with a pump running. Flow losses through the suction piping of these pumps are negligible. Since the losses would be the same from test to test, not including them in the test would still enable pump degradation to be identified.

Boric Acid Pumps

- Basis for Exception for O&M Part 6, Subsections 4.6.2.2, 5.2 and Table 2:

  System design does not include instrumentation for direct measurement of inlet and differential pressure.

- Alternate Testing:

  The Boric Acid Pumps take their suction directly from the Boric Acid Tanks and have an inlet pressure due to the level of acid in the tanks above the pump inlet. The pump inlet pressure will be calculated based on the Boric Acid Storage Tank level and the elevation difference between the tank level and the pump inlet. Pump differential pressure will then be calculated by subtracting the calculated inlet pressure from the measured discharge pressure.

2. **Code Exception Number E2 - Relief Request**

- Components:

  Low Pressure Safety Injection Pumps SI-1A, SB
  High Pressure Safety Injection Pumps SI-2A, B, C
  Containment Spray Pumps SI-3A, B, C

- Class:

  2

- Test Requirements:

  Measurement of Flow Rate Quarterly

Low Pressure Safety Injection Pumps

- Basis for Exception from O&M Part 6, Subsection 5.1 and Table 2:

  The flow rate of the LPSI pumps cannot be measured while they are operating on the minimum flow recirculation line because flow measurement instrumentation is not installed on this line. The pump minimum flow recirculation line must be used when testing these pumps Quarterly during power operation, because the only other flow path is into the RCS. This flow path cannot be utilized because the pump discharge pressure cannot overcome the RCS pressure.

- Alternate Testing:

  In addition to the Quarterly mini-flow test, pump flow rate will be measured on a Cold Shutdown frequency when an instrumented flow path to the RCS is available. This is in accordance with Position 9 (Pump Testing Using Minimum Flow Line With or Without Flow Measuring Devices) of Attachment 1 to the Generic Letter 89-04.

2. **Code Exception Number E2 - Relief Request (Continued)**

Containment Spray Pumps

- Basis for Exception from O&M Part 6, Subsection 5.1 and Table 2:

  The flow rate of the CS Pumps cannot be measured while they are operating on the minimum flow recirculation line because the flow measurement instrumentation is not installed on this line. The pump minimum flow recirculation line must be used when testing these pumps Quarterly during power operation, because the only other flow path is into the Containment spray headers which would result in water damage to equipment in Containment. Additionally, as approved by Amendment 136, Technical Specifications 2.1.1 states that the CS pumps will not be lined up on the shutdown cooling flow path until RCS temperature is below 120°F and a vent path is available. This is due to the fact that the suction side piping is designed to DBA conditions (60 psig) and valves on the suction piping are designed to 150 psig.

- Alternate Testing:

  In addition to the Quarterly mini-flow test, pump flow rate will be measured on a refueling outage frequency when an instrumented flow path to the RCS is available. This is in accordance with Item 9 (Pump Testing Using Minimum Flow Line With or Without Flow Measuring Devices) of Attachment 1 to Generic Letter 89-04.

High Pressure Safety Injection Pumps

- Basis for Exception from O&M Part 6, Subsection 5.1 and Table 2:

  The flow rate of the HPSI pumps cannot be measured while they are operating on the minimum flow recirculation line because the flow measurement instrumentation is not installed on this line. The pump minimum flow recirculation line must be used when testing these pumps Quarterly during power operation, because the only other flow path is into the RCS which cannot be utilized because the pump discharge pressure cannot overcome the RCS pressure.

- Alternate Testing:

  In addition to the Quarterly mini-flow test, pump flow rate will be measured on a refueling outage frequency when an instrumented flow path to the RCS is available. This is in accordance with Position 9 (Pump Testing Using Minimum Flow Line With or Without Flow Measuring Devices) of Attachment 1 to Generic Letter 89-04.

3. **Code Exception Number E3 - Relief Request**

- DELETED

4. Code Exception Number E4 - Relief Request

- Components

  Component Cooling Water Pumps AC-3A, AC-3B, AC-3C
  Raw Water Pumps AC-10A, AC-10B, AC-10C, AC-10D

- Class

  3

- Test Requirements

  Section 5.2 of OM-6 requires that the system resistance be varied until either the measured differential pressure or measured flow rate equals the corresponding reference value. The quantities listed in Table 2 of OM-6 are then measured or observed and compared to the corresponding reference value. Rather than set the applicable pumps at a reference value, the licensee proposes to establish a range of values (pump curves) and test the pumps in the as-found operating condition.

- Basis for Exception from O&M Part 6, Subsection 5.2 Table 2:

  The Raw Water (RW) and Component Cooling Water (CCW) systems at Fort Calhoun Station (FCS) are designed such that the total pump flow cannot be adjusted to one specific value for the purpose of testing without adversely affecting the system flow balance and technical specification operability requirements. Therefore, the RW and CCW pumps must be tested in a manner that the RW and CCW loops remain properly flow balanced during and after the testing. In addition, certain supplied loads (e.g. cooling of Control Element Drive Mechanisms) must remain fully operable per Technical Specifications to maintain the required level of plant safety during power operation.

  The RW and CCW systems loops are not designed with full flow test lines with single throttle valves. Therefore, the flow cannot be throttled to a fixed reference value every time a pump test is performed. Total pump flow rate can only be measured using the total flow indication as installed and read on the supply headers. There are no valves available in any of the loops, on either the supply or return lines, for the purpose of throttling total RW or CCW system flows. Only the flow of the served components are able to be individually throttled. The main loops of RW and CCW are piped in parallel with each other. Many loads are throttled to flow ranges specified in the FCS Design Basis Documents (DBD). All loads are aligned in parallel, and receive RW/CCW flow when the RW/CCW pumps are running regardless of

which served components are in service. During power operation, certain loops of RW/CCW are required to be operable per Technical Specifications. Specific loops/components of RW/CCW cannot be taken out of service for testing without entering an action statement for a Limiting Condition for Operation (LCO). Also, exceeding certain individual component flows/temperatures (e.g., reactor coolant pump seals) can require plant shutdown in two hours, depending on the load in question.

Certain RW/CCW loops are flow balanced during each refueling outage (at a nominal 18-month frequency) to ensure that all loads are adequately supplied. Flow ranges are specified for these loads in order to balance flows against each other. Once properly flow balanced, minimal flow adjustment can be made for any one particular load without adversely impacting the operability of the remaining loads (i.e., increasing flow for one load reduces flow for all of the others). Each time the system is flow balanced, proper individual component flows are produced, but this in turn does not necessarily result in one specific value for total flow. Because certain loads have an acceptable flow range, overall system full flow (the sum of the individual component flows) also has a range. Consequently, the Code requirements to quarterly adjust RW/CCW loop flow to one specific flow value for the performance of inservice testing conflicts with FCS system design and component operability requirements (i.e., flow balance) as required by Technical Specifications.

- Alternate Testing

As discussed above in the Test Requirements section, it is extremely difficult to return to a specific value of flow rate or differential pressure for testing of these pumps. Multiple reference points could be established according to the Code, but obtaining reference values at every possible point, even over a small range is not feasible. An alternative to the testing requirements of OM Part 6, Section 5.2, is to base the acceptance criteria on a reference pump curve. Flow rate and differential pressure are measured/calculated during inservice testing and compared to an established baseline reference curve. In addition, trending is accomplished by taking the ratio of the reference curve differential pressure versus flow and the actual differential pressure versus flow.

The following elements are used in developing and implementing the reference pump curves:

4. **Code Exception Number E4 - Relief Request (Continued)**

1. A reference pump curve (differential pressure vs. flow) has been established for RW pumps AC-10A, AC-10B, AC-10C, and AC-10D, and for CCW pumps AC-3A, AC-3B, and AC-3C from data taken on these pumps when they were known to be operating acceptably. These pump curves represent pump performance close to the original manufacturer's pump test data.

2. Pump curves are based on four or more test points whenever possible. Rated capacities of these pumps are 6,000 - 7,000 gpm for the RW pumps and 4,500 - 5,500 gpm for the CCW pumps.

3. To reduce the uncertainty associated with the pump curves and to ensure the adequacy of the acceptance criteria, all instruments used in establishing the baseline reference pump curves either meet or exceed the Code required accuracy.

4. The reference baseline pump curves are compared to the manufacturer's pump curves which were validated during plant preoperational testing.

5. Review of the pump hydraulic data trend plots indicates close correlation with established pump reference curves, thus validating the accuracy of the pump curves to assess the pumps' operational readiness.

6. The reference pump curves are based on differential pressure vs. flow. See the attached sample AC-3A and AC-10A pump acceptance criteria sheets. Areas for Required Action are as required per OM-6. Areas for Acceptable, Alert, and Required Action are as required per OM-6. These acceptance criteria limits do not conflict with operability criteria (minimum operability).

7. Only a small portion of the established reference curve is being used to accommodate flow rate variance due to flow balancing of various system loads.

8. Review of recent vibration data trend plots indicates that the change in vibration readings over the range of the pump curves being used is insignificant; therefore, only one fixed reference value has been assigned for each vibration measurement location.

9. After maintenance or repair that may affect the existing baseline reference pump curves, a new reference pump curve is determined or the existing pump curve revalidated by an inservice test. The design of the FCS RW and CCW systems and the Technical Specification requirements make it impractical to adjust system flows to a fixed reference value for inservice testing without adversely affecting the system flow balance and Technical specification operability

requirements. Proposed alternate testing using a reference pump curve for each pump provides adequate assurance and accuracy in monitoring pump condition to assess pump operational readiness and will adequately detect pump degradation. The proposed alternate testing will have no adverse impact on plant or public safety.

- Conclusion

Relief to use pump curves for testing the RW and CCW pumps is granted pursuant to 10CFR50.55a(f)(6)(i) based on the impracticality of performing testing in accordance with the Code requirements to test pumps at a reference value of either differential pressure and measure flow, or flow and measure differential pressure. The granting of relief is in consideration of the adequacy of an alternative method of testing and the burden if the Code requirements were imposed.

PART 4 REFERENCES

1. Fort Calhoun Station Technical Specifications.

2. ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition.

3. ASME/ANSI Operation and Maintenance of Nuclear Power Plants, 1987 Edition, 1988 Addenda.

4. NRC Generic Letter No. 89-04, "*Guidance on Developing Acceptable Inservice Testing Programs*".

5. NRC's Safety Evaluation Report on Revisions 3 and 4 of the Fort Calhoun Station's Inservice Inspection/Testing Program Plan (1983-1993), dated December 22, 1988 and July 3, 1989, respectively.

6. NRC's Safety Evaluation Report on Revision 5 of the Fort Calhoun Station's Inservice Inspection/Testing Program Plan (1983-1993), dated March 13, 1990.

7. NRC's Safety Evaluation Report on Revision 0 of the Fort Calhoun Station's Inservice Testing Program Plan Third Ten Year Interval (1993 - 2003), dated June 21, 1994.

8. Letter from NRC (W. H. Bateman) to OPPD (T. L. Patterson), dated April 6, 1995 (NRC 95-071).

9. ASME Code Cases Incorporated into the FCS ISI Program Plan

   Code Case N-416* Alternative Rules for Hydrostatic Testing of Repair or Replacement of Class 2 Piping Section XI Division 1.
   Approval Date: December 5, 1984

   Code Case N-416-1 Alternative Pressure Test Requirement for Welded Repairs on Installation of Replacement Items by Welding, Class 1, 2, and 3, Section XI Division 1.

   Code Case N-461* Alternative Rules for Piping Calibration Block Thickness.
   Approval Date: November 30, 1988

   Code Case N-481* Alternative Examination Requirements for Cast Austenitic Pump Casings.
   Approval Date: March 5, 1990

   Code Case N-491* Alternative Rules for Examination of Class 1, 2, 3 and MC Component Supports of Light-Water Cooled Power Plants.
   Approval Date: March 14, 1991

Code Case N-498-1** Alternative Rules for Ten-year System Hydrostatic Pressure Testing for Class 1, 2, and 3 Systems. Approval Date: May 11, 1994

* Code cases approved by NRC-Reference NRC Regulatory Guide 1.147.
** Code cases approved by NRC-Refer to NRC Letter dated January 30, 1995 (NRC 95-017)

9. The following OPPD Piping and Instrumentation Drawings:

Number	**Title**
11405-M-1	*Containment Heating Cooling & Ventilating System*
11405-M-5	*Demineralized Water System*
11405-M-6	*Waste Disposal System*
11405-M-7	*Waste Disposal System*
11405-M-10	*Auxiliary Coolant Component Cooling System*
11405-M-12	*Primary Plant Sampling System*
11405-M-13	*Plant Air System*
11405-M-40	*Auxiliary Coolant Component Cooling System Flow*
11405-M-42	*Nitrogen, Hydrogen, Methane, Propane & Oxygen Gas System*
11405-M-98	*Waste Disposal System*
11405-M-100	*Raw Water System*
11405-M-252	*Steam System*
11405-M-253	*Steam Generator Feedwater & Blowdown System*
11405-M-254	*Condensate System*
11405-M-262	*Fuel Oil System*
11405-M-264	*Instrument Air System*
E-23866-210-110	*Reactor Coolant System*
E-23866-210-120	*Chemical & Volume Control System*
E-23866-210-121	*Chemical & Volume Control System*
E-23866-210-130	*Safety Injection & Containment Spray System*
B120F07001	*Diesel Generator Starting Air System*
C-4175	*Control Valve Air Source Valve Lineup/Listing*
D-4078	*Reactor Coolant Gas Vent System*

ATTACHMENT 2

FCS Station Engineering Instruction SEI-27
"Inservice Inspection and Test Program"

Record of Revision

Page 1 of 1

Document Number: PED-SEI-27
Title: Inservice Inspection and Test Program

Revision	Description of Revision	Prepared By
0	Initial Issue.	C. Bloyd
1	Add Appendix A.	P. Hamer
2	Update to later editions of ASME Section XI and the FCS ISI Program Plan for the third 10-year interval. Incorporate PCN-SEI-27-01-01, PCN-SEI-27-01-02, and PCN-SEI-27-01-03.	R. C. Lippy
3	To incorporate a revised philosophy for marking identification numbers on ISI pipe weld into Attachment 1.	R. C. Lippy

TABLE OF CONTENTS

1.0 SCOPE

This procedure describes the activities to be performed by Station Engineering to implement the ASME Section XI Inservice Inspection and Test (ISI/IST) Program required by 10CFR50.55a and FCS Technical Specification 3.3.

2.0 APPLICABILITY

Station Engineering is responsible for planning ISI/IST Program activities, assuring that these program activities are scheduled and properly assigned in the Surveillance Test Program, and reporting program results as assigned in PED-QP-33.

3.0 REFERENCES/COMMITMENTS

3.1 ASME Section XI, 1989 Edition

3.2 ANSI/ASME Operation and Maintenance of Nuclear Power Plants Parts 1, 6, and 10, 1987 Edition, 1988 Addenda.

3.3 Title 10 Code of Federal Regulations, Part 50

3.4 FCS Technical Specifications

3.5 Operational Safety Team Inspection, IER-88-201

3.6 Quality Assurance Plan for Fort Calhoun Station

3.7 SO-O-1, "Conduct of Operations"

3.8 SO-G-3, "Special Procedures"

3.9 SO-G-23, "Surveillance Test Program"

3.10 SO-G-30, "Setpoint/Procedure Change and Generation"

3.11 SO-G-36, "Operating Manuals Review Documentation"

3.12 SO-G-73, "Fort Calhoun Station Procedure Writer's Guide"

3.13 SO-M-100, "Conduct of Maintenance"

3.14 PED-QP-00, "PED Manual Control Procedure"

3.15 PED-QP-6, "Procurement Requirements - Materials and Services"

3.16 PED-QP-27, "ASME Section XI Repair/Replacement Program"

3.17 PED-QP-33, "Inservice Inspection and Test Program"

3.18 PED-GEI-36, "QA Records Instruction"

3.19 PED-GEI-55, "Instructions for ASME Section XI Repair/Replacement Plans"

3.20 PED-SEI-11, "Trend Monitoring and Analysis"

3.21 PED-SEI-14, "Surveillance Testing"

3.22 QCP-201, Review of Vendor Procedures, Materials, Personnel and Equipment Certifications

3.23 NOD-QP-9, "Processing of Regulatory Correspondence and Other Pertinent Licensing Documents"

4.0 GENERAL REQUIREMENTS

4.1 Discussion

The Inservice Inspection and Test program requirements are outlined in ASME Section XI. Implementation of these requirements is required by 10CFR50.55a. The program consists of the non-destructive inspection/examination of safety related components (ISI) and the performance testing of pumps and valves and hydrostatic/leak testing of piping and components (IST).

4.2 ASME Section XI

Fort Calhoun Station is committed to the requirements of ASME Section XI. 10CFR50.55a, as amended effective September 8, 1992; incorporates the 1989 ASME Section XI Edition by reference.

4.3 Inservice Inspection (ISI)

ASME Section XI Articles IWA, IWB, IWC, IWD, IWE, and IWF describe the rules and requirements for inservice inspection of Class 1, 2, and 3 pressure retaining components and their supports. These rules and requirements are detailed in the Ten Year Inservice Examination Plan, and computer database and Attachment 1 of this procedure (ISI Weld Identification).

4.4 Inservice Testing (IST)

ASME Section XI Articles IWA,IWB, IWC, and IWD, and the ANSI/ASME OM Manual Part 1, 6, 10 describe the rules and requirements for system leak tests, hydrostatic tests, and inservice testing of Class 1, 2, and 3 pumps and valves (as accomplished by the ISI Surveillance Tests).

4.5 Deviations

4.5.1 Deviations from the inspection requirements of ASME Section XI, Article IWA, IWB, IWC, IWD, IWE and IWF inspection requirements are not allowed without NRC approved exemptions or relief requests.

4.5.2 Deviations from the test requirements of the OM Manual Parts 1, 6, and 10 are not allowed without NRC approved exemptions or relief requests.

4.6 Definitions

Definitions of the terms used in this procedure are included in ASME Section XI Article IWA-9000.

4.7 ISI/IST Coordinator

The ISI/IST Coordinator is assigned to the Special Services Engineering Department.

4.8 Surveillance Test Coordinator

The Surveillance Test Coordinator is assigned to the System Engineering Department.

5.0 INSTRUCTIONS

5.1 Fort Calhoun Station Inservice Inspection Program Plan (FCS-ISI Program Plan)

The ISI/IST Coordinator shall prepare and revise, as necessary the Fort Calhoun Station Inservice Inspection Program Plan to document the exams, tests, exemptions, and relief requests that constitute the ISI Program Plan for Fort Calhoun Station. This plan identifies, in general terms, the Inservice Inspection requirements for FCS, and specifically identifies Inservice Testing requirements, exemptions from ASME Section XI, relief requests from specific test and inspection requirements and justification for deviations from test frequencies specified in ASME/ANSI OM Manual. This plan is prepared in accordance with the applicable edition of ASME Section XI and must be approved by the Nuclear Regulatory Commission in accordance with 10CFR 50.55a.(g)(4)(iv).

5.1.1 The ISI/IST Coordinator shall prepare a new Fort Calhoun Station Inservice Inspection Program Plan at the beginning of each 10 year inspection interval in accordance with the most recent edition of ASME Section XI that is approved by the NRC and Title 10CFR 50.55a.

5.1.2 The ISI/IST Coordinator shall ensure NRC approval of the Fort Calhoun Station Inservice Inspection Program Plan prior to implementation.

5.1.3 The ISI/IST Coordinator shall ensure NRC approval of the FCS-ISI Program Plan revisions that involve exemptions or relief from the requirements of the applicable edition of ASME Section XI.

5.1.4 ISI of Steam Generator tubes is performed in accordance with Technical Specification 3.17, in accordance with ASME XI Article IWB-2413 in lieu of Article IWA-2233.

5.1.5 ISI of snubbers is performed in accordance with Technical Specification 3.14, in lieu of ASME XI Article IWF-5000.

5.2 Inservice Inspection (ISI)

The ISI/IST Coordinator shall plan the inservice inspection activities for each ten year interval as described in ASME Section XI, Article IWA-2420 and as required by Article IWA-6210(a). Component examination requirements for Class 1, 2, and 3 components are described in ASME Section XI, Articles IWB-2500, IWC-2500, and IWD-2500, respectively. Component support examination requirements are described in ASME Section XI, Article IWF-2500.

5.2.1 Examinations of Class 1 and 2 components required to be completed within the interval shall be performed throughout the interval within periods as described in ASME Section XI, Articles IWB-2412 and IWC-2412, respectively. Examinations of Class 3 components shall be completed within each period or interval as described in ASME Section XI, Article IWD-2410. Examinations of component supports shall be performed as described in ASME Section XI, Article IWF-2410.

5.2.2 The Ten Year Inservice Examination Plan (TYP) shall list the components and supports to be inspected.

5.2.3 The TYP shall list all relevant components covered by ASME Section XI, components selected for examination, the types of examinations to be performed on each inspected component, and when the exam is scheduled to be performed.

5.2.4 The TYP shall schedule the planned inspections for the entire ten year inspection interval.

5.2.5 The ISI/IST Coordinator (or his designee) shall update the TYP after each refueling outage to show exams completed, exams remaining, supplemental or alternate exams added, exams deferred or rescheduled and other relevant items.

5.2.6 ISI may be performed during plant outages (ASME Section XI, Articles IWB-2410, IWC-2410, and IWF-2410).

5.2.7 Examination boundaries between component supports and pressure boundaries shall be as described in ASME Section XI, Article IWF-1300.

5.2.8 Flaw indications shall be evaluated and characterized in accordance with ASME Section XI, Articles IWA-3000, IWB-3000, IWC-3000, IWD-3000, and IWF-3000.

A. Flaw indications in Class 1 components, Class 2 components, and Class 1, 2, and 3 component supports within acceptable limits shall be evaluated to be inspected more frequently as described in ASME Section XI, Articles IWB-2420, IWC-2420, and IWF-2420, respectively. Alternatively, flaws within acceptable limits may be repaired in order to avoid more frequent exam requirements.

B. Flaw indications in Class 1 components, Class 2 components, and Class 1, 2, and 3 component supports exceeding allowable standards require a larger inspection population (additional examinations) as described in ASME Section XI, Articles IWB-2430, IWC-2430, and IWF-2430, respectively.

5.2.9 ISI examinations and evaluation of results shall be performed under the cognizance of the ISI/IST Coordinator (or designee).

A. SSED should contract VT, UT, MT, and PT examination services for ISI in accordance with PED-QP-6.

B. The ISI/IST Coordinator (or designee) shall ensure that QC has reviewed the applicable vendor's procedures, materials, personnel and equipment certifications.

C. SSED shall contract the services of an Authorized Nuclear Inservice Inspector (ANII) for ISI in accordance with PED-QP-6 and as required by ASME XI, Articles IWA-4140, IWA-2100 and IWB-2100.

D. The ISI/IST Coordinator shall ensure that the ANII is qualified in accordance with ASME Section XI Article IWA-2130.

E. SSED ISI contractors shall provide examination equipment, procedures, personnel certifications, and standards that meet the requirements of ASME Section XI. SSED shall obtain acceptance of all such procedures, personnel certifications, and standards by the ANII before use.

F. Acceptance standards for examinations for Class 1, 2, and 3 components and for component supports shall be in accordance with IWB-3000, IWC-3000, IWD-3000, and IWF-3000, respectively.

5.2.9 G. The ISI/IST Coordinator (or designee) shall update the ISI isometric drawings and forward the revisions to PED - Design Drafting.

5.3 Inservice Testing (IST)

The ISI/IST Coordinator shall ensure that the inservice testing of pumps and valves complies with ASME/ANSI OM Manual Parts 1, 6, and 10 and that the hydrostatic/leak testing of piping and components complies with ASME Section XI Articles IWA, IWB, IWC, and IWD in accordance with the current revision of the Fort Calhoun Station Inservice Inspection Plan. The Surveillance Test Coordinator shall schedule IST surveillance tests in accordance with PED-SEI-14.

5.3.1 The Surveillance Test Coordinator shall schedule tests of pumps and valves in accordance with the frequency requirements of the surveillance tests, the FCS Technical Specifications, and Station Engineering Instruction PED-SEI-14.

5.3.2 The Surveillance Test Coordinator shall maintain the current test schedule status and past test completion history.

5.3.3 The Surveillance Test Coordinator shall trend and monitor the pump and valve results in accordance with PED-SEI-11 and PED-SEI-14.

5.3.4 The ISI/IST Coordinator shall establish the limits for pump and valve performance applicable to ASME Section XI, and shall maintain a file documenting the bases for these limits.

5.3.5 Pump test acceptance criteria shall be based on OM Part 6, Table 3.

5.3.6 Valve test acceptance criteria shall be based on OM Parts 1 and 10.

5.3.7 The ISI/IST Coordinator shall review new or revised pump and valve surveillance tests to ensure compliance to ASME Section XI Articles IWA, IWB, IWC, IWD, and to OM Parts 1, 6, and 10 for pump, valve, leak and hydrostatic tests in accordance with SO-G-30.

5.3.8 Class 1, 2, and 3 component pressure tests shall be performed in accordance with ASME Section XI, Articles IWB-5000, IWC-5000, and IWD-5000, respectively, and IWA-5000.

5.3.9 Pump and valve testing shall be performed by FCS Nuclear Operations Division personnel in accordance with Standing Orders SO-G-23 and SO-O-1 and approved Surveillance Test procedures.

5.3.10 The ISI/IST Coordinator shall review and approve the results of pump and valve surveillance tests to ensure compliance to FCS ISI Program Plan in accordance with Standing Order SO-G-23.

5.3.11 The ISI/IST Coordinator shall review new or revised 40 month leak test or 10 year hydrostatic test procedures to ensure compliance with ASME Section XI, Articles IWA-5000, IWB-5000, IWC-5000, and IWD-5000.

5.3.12 FCS Maintenance personnel shall perform hydrostatic testing in accordance with Standing Order SO-M-100 and approved Surveillance Test procedures.

5.4 Procedures

5.4.1 ISI contractors shall provide VT, UT, MT, and PT procedures as required by their contract.

5.4.2 FCS QC shall provide inspection procedures, as required, in accordance with the Fort Calhoun Station Quality Assurance Plan.

5.4.3 The ISI/IST Coordinator shall prepare, change, and review relevant surveillance test procedures in accordance with Standing Orders SO-G-73, SO-G-30, SO-G-36, and SO-G-95 respectively.

5.5 Reports

5.5.1 The ISI/IST Coordinator shall prepare reports in accordance with ASME Section XI, Article IWA-6000.

5.5.2 The ISI/IST Coordinator shall report Inservice Inspections on Form NIS-1, "Owners Data Report for Inservice Inspections" in accordance with ASME Section XI, Article IWA-6220. The ISI/IST Coordinator shall obtain ANII signed approval of Form NIS-1 before submittal.

5.5.3 The ISI/IST Coordinator shall report ASME Section XI Repairs and Replacements on Form NIS-2 in accordance with PED-QP-27 and PED-GEI-55.

5.5.4 The Supervisor - SSED shall review ISI/IST reports.

5.5.5 The Manager, Station Engineering, shall approve NIS-1 and NIS-2 reports prior to NRC submittal.

5.5.6 Reports shall be submitted to the Licensing Department for transmittal to the NRC in accordance with NOD-QP-9. Refueling outage inservice inspection reports shall be submitted to the NRC within 90 days of inservice inspection completion in accordance with ASME Section XI, Article IWA-6230.

5.6 Records

5.6.1 The Surveillance Test Coordinator shall ensure that the records retention required by ASME Section XI, Article IWA-6300 is executed in accordance with PED-GEI-36.

5.7 Repairs and Replacements (See also Reference 6 and 7)

5.7.1 Repairs shall be made in accordance with ASME Section XI, Articles IWA-4000, IWB-4000, IWC-4000, IWD-4000, and IWF-4000.

5.7.2 Replacements shall be made in accordance with ASME Section XI, Article IWA-7000.

5.7.3 Replacement records shall be retained as construction records in accordance with ASME Section XI, Article IWA-6330.

5.7.4 Documentation of repairs and replacements shall be performed in accordance with PED-QP-27 and PED-GEI-55.

5.7.5 The ISI/IST Coordinator shall review all Repair or Replacement Packages prepared in accordance with PED-GEI-55 to ensure appropriate changes are made in the FCS-ISI Program Plan, TYP, and ISI isometric drawings.

Attachment 1

Identification of Class 1, 2 and 3 Piping Welds
Examined per the Inservice Inspection (ISI) Program

1.0 SCOPE

1.1 This procedure describes the method by which OPPD identifies and marks all Class 1, 2 and 3 piping welds in the ISI Program.

2.0 APPLICABILITY

2.1 This procedure will apply to all Class 1, 2 and 3 piping welds examined per the ISI Program.

2.2 This procedure must be read and signed (Attachment 2) by all personnel performing Class 1, 2 and 3 piping weld inspections for ISI.

2.3 This procedure is performed in lieu of ASME Section XI, 1989 Edition, IWA-2600.

3.0 REFERENCES

3.1 PED-QP-00, Manual Control Procedure

3.2 ASME Section XI, 1989 Edition. IWA-2600

3.3 Fort Calhoun Station/Inservice Inspection Program Plan

3.4 SO-G-48, Station Equipment Labeling

3.5 LIM-95-038, Minutes of NRC meeting dated May 10, 1995. (amends requirements of IWA-2600)

4.0 GENERAL REQUIREMENTS

4.1 This procedure will be used by all personnel performing Class 1, 2 and 3 piping weld inspections for ISI.

4.2 This procedure will be maintained by the Special Services Engineering Department.

4.3 Special Services Engineering Department will verify that all personnel have read and signed the log sheet (Attachment 2) prior to performing Class 1, 2 and 3 piping weld inspections for ISI.

5.0 INSTRUCTIONS

5.1 Personnel shall use the ISI isometric drawings provided by Special Services Engineering Department to identify all Class 1, 2 and 3 piping welds prior to inspection.

5.2 Positive identification shall be made by the Inspector by referencing adjacent or nearby valves, pumps or supports as delineated on the ISI isometric drawings.

5.2.1 If positive identification cannot be determined by the Inspector, they should contact their Supervisor who shall assist in identifying the proper weld.

5.2.2 If the Supervisor is unable to determine the positive identification of the proper weld, they shall contact the OPPD ISI Administrator who will make the final determination of the proper weld.

5.3 Marking of the Piping shall be made for the following reasons:

- Piping welds shall be marked with the system number and weld number as identified on the ISI Isometric drawing when the weld is selected for examination to the extent practical

  A. The marking will be performed near the weld by the ISI NDE Technician using low stress stamps or a vibrating etching tool

  B. The ISI Administrator or designee shall independently verify the weld identification agrees with the Isometric drawing and identifies the correct weld

  C. By virtue of their preparation to perform ISI exams, the ISI Weld Examination Technicians are qualified to identify and mark ISI Pipe welds in accordance with this procedure

- The Ultrasonic (UT) Inspector shall use a low stress "period" to identify the weld centerline at any point where a reportable UT indication (non-geometric) is located.

  A. The "period" will be the reference point for all UT measurements of the indication.

  B. The location of the "period" shall be noted on the UT report.

  C. The "period" will be the reference point for any future UT measurements to monitor the indications size.

Attachment 2

Personnel Signature Sheet

I have read and understand Attachment 1.

NAME	SIGNATURE	INITIALS	DATE

ATTACHMENT 3

Request for Relief No. 1

OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION UNIT NO. 1
THIRD 10-YEAR INTERVAL
REQUEST FOR RELIEF NO. 1

I. System/Component(s) for Which Relief is Requested: Five RPV Welds

Examination Category B-A

Component ID	Component Description	Item No.
RPV-SC-C-11	RPV Lower Shell to Middle Shell	B1.10
RPV-SL-A-3	RPV Lower Shell Longitudinal	B1.10
RPV-SL-B-3	RPV Lower Shell Longitudinal	B1.10
RPV-SL-C-3	RPV Lower Shell Longitudinal	B1.10
RPV-A-11	RPV Upper Shell-to-Flange	B1.30

II. Code Requirement

Section XI, 1989 Edition, Table IWB-2500-1, Examination Category B-A, Item B1.10, requires a volumetric examination of all Reactor Pressure Vessel (RPV) shell welds. Section XI, 1989 Edition, Table IWB-2500-1, Examination Category B-A, Item B1.30, requires a volumetric examination of the RPV shell-to-flange weld.

III. Code Requirement from Which Relief is Requested

Relief is requested from performing the Code-required volumetric examination on the non-accessible portion of the above identified shell and shell-to-flange welds. The Code requires that "essentially 100% of the weld length" of Items B1.10 and B1.30 welds be examined. In 10CFR50.55a(g)(6)(ii)(A)(2) "essentially 100%" is defined as more than 90% of the examination volume of each weld. This relief applies to welds whose practical examination volume is 90% or less.

IV. Basis for Relief

The subject shell weld, identified as RPV-SC-C-11 (Item B1.10), is located on the RPV (see Attachment 3A, Figure 1). This weld is examined from the inside of the RPV using an automated ultrasonic test (UT) device. The exams are limited due to the proximity of the permanently attached surveillance capsule holders on the inside of the RPV at 45°, 85°, 95°, 225°, 265° and 275° positions (see Attachment 3A, Figure 1). The percentages of the Code required volumes obtainable with the automated UT device are shown in Attachment 3A.

The subject shell welds identified as RPV-SL-A-3, RPV-SL-B-3 and RPV-SL-C-3 (Item B1.10) are also located on the RPV (Attachment 3A, Figure 1). These welds are also examined from the inside of the RPV using an automated UT device. The exams are limited due to the proximity of the permanently attached flow skirt support lugs on the inside of the RPV at 20°, 60°, 100°, 140°, 180°, 220°, 260°, 300° and 340° positions. The percentages of the Code required volumes obtainable with the automated UT device are shown in Attachment 3A.

The subject shell-to-flange weld identified as RPV-A-11 (Item B1.30) is located on the RPV. It is examined manually from the flange surface of the RPV and the remaining accessible Code-required volume is examined from the inside of the RPV using an automated UT device. The automated exam is limited due to the circumferential proximity of the flange taper and the permanently attached core barrel support ledge, as shown in Attachment 3A, Figure 1.

The examination percentages possible for all B1.10 welds and the B1.30 weld are shown in Attachment 3A. These percentages are shown for all scans performed by the automated UT device. As indicated above, these limitations are due to permanent obstructions which partially shield the areas not completely examined. During previous inspections of the RPV, no recordable indications have been noted in the examinations of the subject welds.

Examination of the remainder of the Code-required volume on the B1.10 and B1.30 welds would necessitate removal of insulation to gain access into the high radiation environment in order to examine the welds from the exterior of the RPV. OPPD estimates the radiation level would be in excess of 15 R/hr at the exterior examination areas, and that a cumulative exposure of 150 Person-Rem would be necessary to complete the Code-required volumetric examination of the shell welds, Item B1.10 and shell-to-flange weld, Item B1.30.

The beltline region of the RPV receives a larger radiation fluence and is expected to be more susceptible to radiation induced weld deterioration. Based on weld stress, the limiting welds in the beltline region of the RPV are the axial welds. Relief is being requested for three axial welds (A-3, B-3 and C-3), however, the inaccessible portions of these welds are outside of the beltline region of the RPV. Thus, the inaccessible portions of these welds would receive less radiation and would be less likely to experience the weld deterioration that the UT examinations are attempting to detect. There are inaccessible portions of the beltline circumferential weld (C-11), but this is not a limiting weld. In summary, the portions of the limiting welds that are within the beltline region of the RPV are accessible for UT examination.

V. Alternate Examinations

No alternate examinations are proposed at this time by OPPD. Technological improvements are continually evaluated for incorporation into the FCS ISI Program, as applicable.

VI. Justification for the Granting of Relief

Examination of 100 percent of the RPV weld volumes noted above is not practical. The UT examinations of the accessible portions of the FCS RPV shell welds provide reasonable assurance that public safety is not impaired by the examination limitations described above. This is supported by the following circumstances:

1. All the subject RPV weld areas that are not completely examined are partially shielded by their limiting obstructions; therefore, the inaccessible weld volume should be somewhat less susceptible to deterioration.

2. None of the RPV shell welds that were examined have had any recordable indications during their most recent examinations, so it is reasonable to expect that the inaccessible weld volumes are equally free of recordable indications.

3. The inaccessible portions of the axial welds (A-3, B-3 and C-3) are outside of the beltline region of the RPV. The inaccessible portions of these welds would receive less radiation and be less likely to experience the weld deterioration that the UT examinations are attempting to detect. The beltline circumferential weld (C-11) is not a limiting weld. In summary, the portions of the limiting welds that are within the beltline region of the RPV are accessible for UT examination.

4. Excessive radiation levels make examinations from the RPV exterior impractical.

VII. Implementation Schedule

This Relief Request applies to the augmented RPV shell weld examinations performed during the FCS 1992 Refueling Outage and the RPV examinations to be performed during the last 40-month period of the third ten-year interval.

ATTACHMENT 3A

Supplemental Information for Ultrasonic Examination Area Limitations for FCS Reactor Pressure Vessel Welds

SUPPLEMENTAL INFORMATION FOR ULTRASONIC EXAMINATION AREA LIMITATIONS FOR FORT CALHOUN STATION REACTOR PRESSURE VESSEL WELDS (ITEM B1.10 AND B1.30)

This attachment describes the ultrasonic examination coverage obtained and examination limitations encountered during the 1992 inservice examination (ISI) of the Fort Calhoun Station reactor pressure vessel (RPV). The examination was performed by Southwest Research Institute (SwRI) personnel using automated ultrasonic (AUT) scanning equipment, data recording and analysis systems in accordance with a Scan Plan and procedures. Omaha Public Power District approved the plan and procedures, which complied with requirements of the 1980 Edition of the American Society of Mechanical Engineers (ASME) Code, Section XI with Addenda through Winter 1980, and with NRC Regulatory Guide 1.150, Revision 1, Appendix A.

The scope of the AUT examinations included 100 percent of the accessible weld lengths of the RPV shell welds (Item B1.10) and shell-to-flange weld (Item B1.30) as well as a manual examination of the shell-to-flange weld from the flange surface. The examination coverage obtained was compared to the weld and base metal volumes identified as the examination areas in Section XI, IWB-3500 figures. The ASME Code-specified techniques for RPV examination were augmented by special SwRI-qualified techniques to obtain complete and highly sensitive coverage of the underclad and near-surface material volumes.

The surveillance tube holders, the flange taper, the flow skirt support lugs, and the core barrel support lugs limited scanning accessibility to the full length and/or width of some areas from the inside surface. The size and location of the flange surface limited the scanning area as well as the angles used in the manual examination.

The examination coverage table in this attachment quantifies the volume of material examined. The table shows the volume scanned as a percentage of the total volume. This percentage is derived from adding together the percentages from the clockwise (CW), counter clockwise (CCW), up and down scans, and dividing by four.

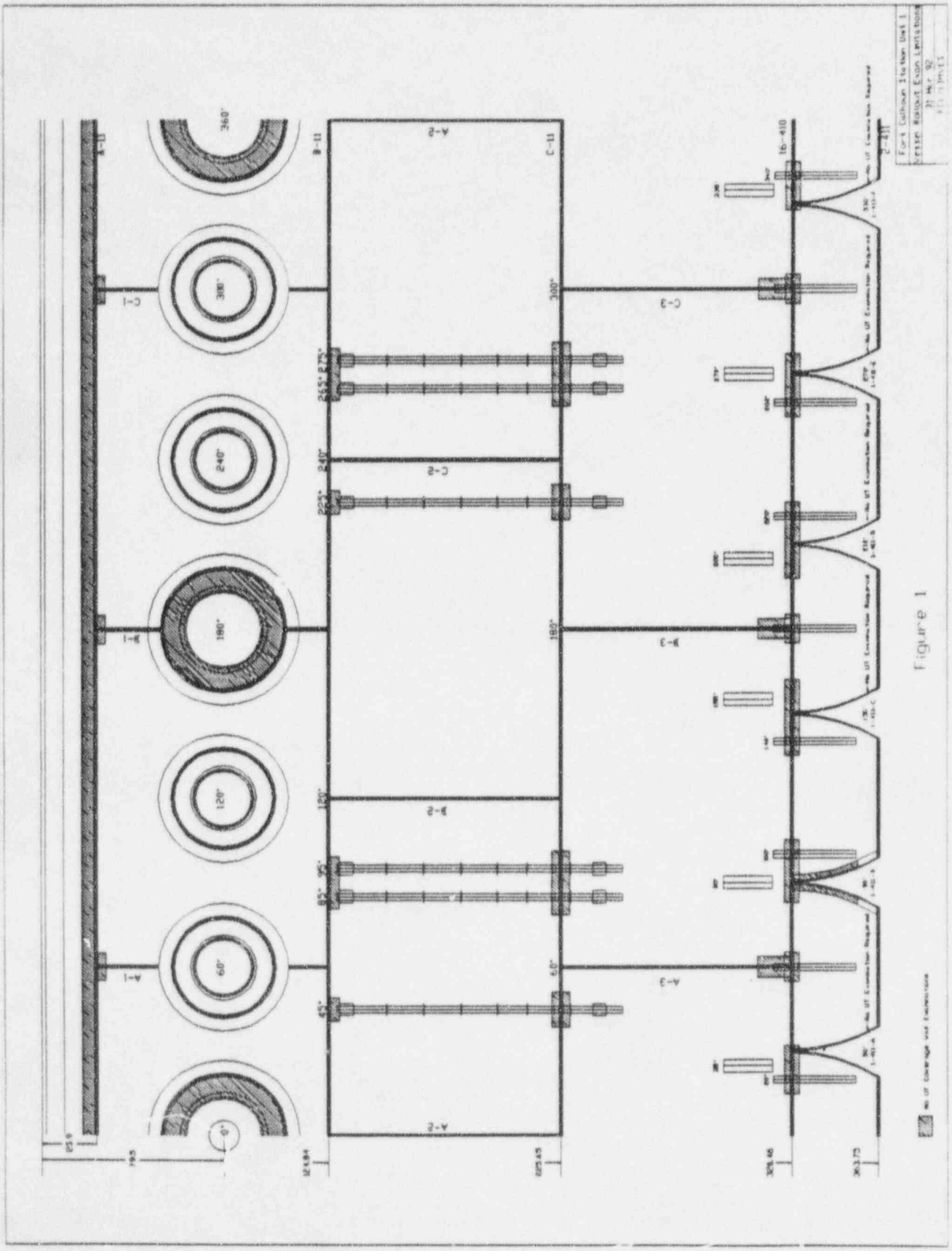
The maximum credited percentage for the 0°, 45° or 60° automated examination is 75%, although sound passed through 100% of the thickness. The near 25% of the required volume for automated examinations is credited to the 50°/70° scan as it is more sensitive to near surface anomalies.

Welds RPV-SC-C-11, RPV-SL-A-3, RPV-SL-B-3, RPV-SL-C-3 and RPV-A-11 have less than 90% of the total volume scanned (see Figure 1).

An illustration of weld RPV-A-11 depicting the coverage obtained from the manual examination from the flange surface is also included (see Figure 2).

TABLE A

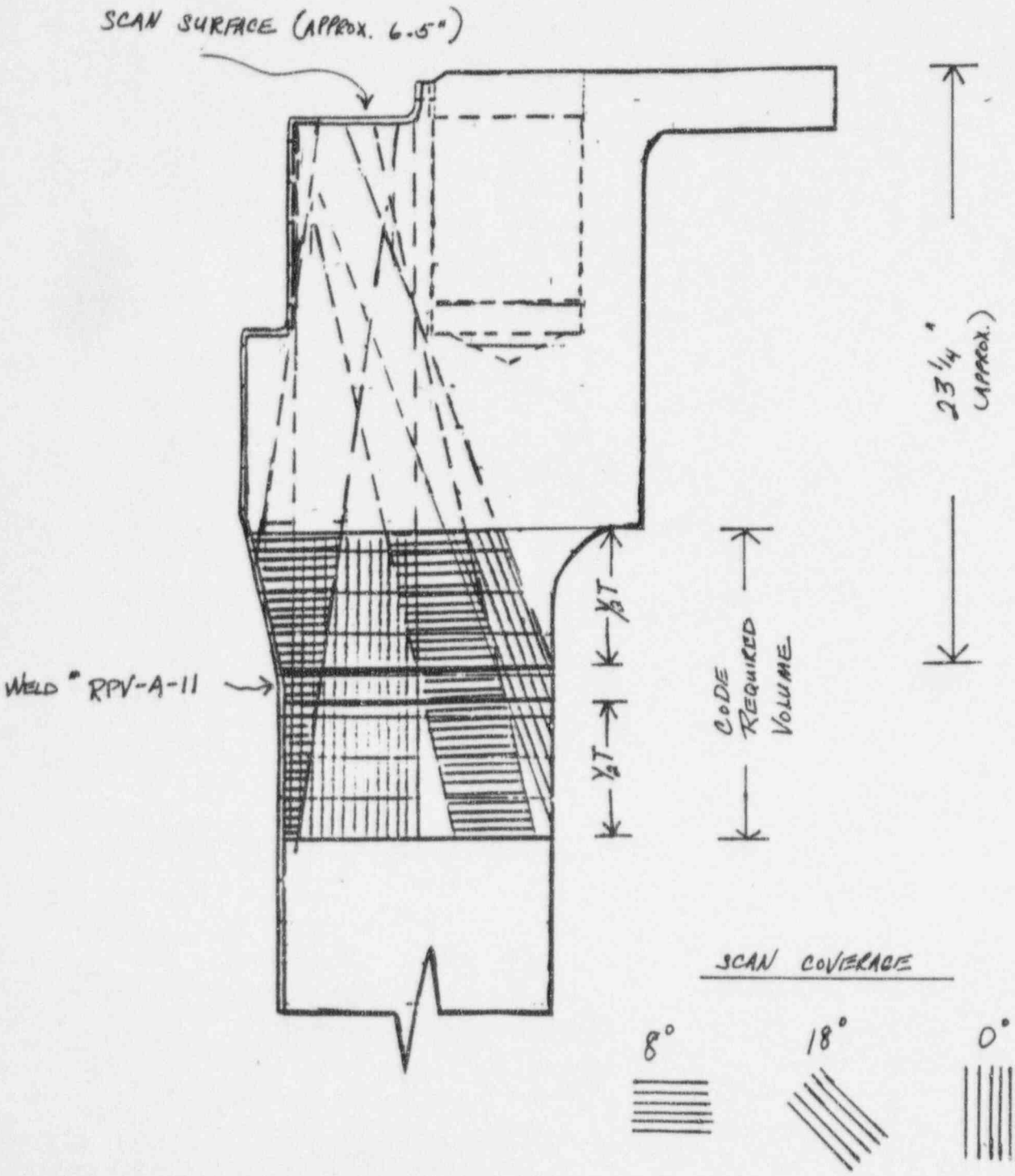
WELD IDENTIFICATION	TOTAL PERCENT OF COVERAGE
RPV-SC-B-11	91.05
RPV-SC-C-11	80.73
RPV-SL-A-1	93.20
RPV-SL-B-1	93.20
RPV-SL-C-1	93.20
RPV-SL-A-2	100
RPV-SL-B-2	100
RPV-SL-C-2	100
RPV-SL-A-3	86.12
RPV-SL-B-3	86.12
RPV-SL-C-3	86.12
RPV-A-11	64.20


Fort Calhoun Station Unit 1
Crane Report Exon Limitations
31 Mar 92
Figure 1

Raytheon Sketch Sheet

CODE REQUIRED VOLUME COVERAGE FOR WELD # RPV-A-11 USING 0°, 8° RL, AND 18° RL

FIGURE #2



90.8% COVERAGE
stokes PEH

Inspector/Level Ronald P. Stokes II

Date: 3/07/95