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Ref: 10 CFR 50.55a(f)

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Log # TXX-04134

August 2, 2004

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-4465 AND 50-446
TRANSMITTAL OF UNITS 1 AND 2 INSERVICE TESTING PLAN FOR PUMPS AND VALVES, REVISION 0
(ASME OM CODE 1998 EDITION, 1999 AND 2000 ADDENDA, INTERVAL START DATE - AUGUST 3, 2004, SECOND INTERVAL)

Gentlemen:

Enclosed is one copy of Revision 0 to the Units 1 and 2 Inservice Testing (IST) Plan for Pumps and Valves for the second interval to update your manual. The attached Plan Revision 0, Second Interval, replaces the Plan Revision 23, First Interval, in its entirety. This transmittal does not contain a new request for relief from ASME Code requirements.

As indicated in TXU Power Letter dated April 11, 2003, logged TXX-03075, TXU Power opted to incorporate the ASME OM Code 1998 Edition, 1999 and 2000 addenda, as referenced in Federal Register, dated September 26, 2002 (Volume 67, Number 187). A comprehensive review of the Code Edition change was completed and is documented in Engineering Report ER-ME-002. This Engineering Report depicts ASME OM Code changes from the 1989 Edition of the Code up to 2000 Addenda. This report is available at CPSES for your review.

A047

This communication contains no new licensing basis commitments regarding CPSES Units 1 and 2.

If you have any questions or need additional information regarding this matter, please feel free to contact Jack Hicks at (254) 897-6725.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,
Its General Partner

Mike Blevins

By: 
Fred W. Madden
Regulatory Affairs Director

JCH

Enclosure

c - B. S. Mallett, Region IV (clo)
W. D. Johnson, Region IV (clo)
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ENCLOSURE to TXX-04134

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

Rev. 0
August 3, 2004

Prepared By: _____ Date: August 2, 2004
Obaid Bhatty
Inservice Test Engineer

Approved By: _____ Date: August 2, 2004
Sailesh V. Lakdawala
Manager, Engineering Programs

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

TABLE OF CONTENTS

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

1.0 GENERAL INFORMATION

1.1 Introduction

Inservice Testing Plan for Pumps & Valves, hereafter referred to as the IST Plan, has been prepared to summarize the test program for certain pumps and valves pursuant to the requirements of the Code of Federal Regulations, 10CFR50.55a(f)(4); and as modified by Relief Request A-1, "Request for Alternative from 10CFR50.55a(f)(4)(i) and (ii) for Inservice Testing Frequency Under 10CFR50.55a(a)(3)(i)", and by the Nuclear Regulator Commission (NRC) Safety Evaluation Report (SER) on the CPSES RI-IST Program. This testing plan is applicable to CPSES Units 1 & 2. The content and distribution of the IST Plan are controlled and users are cautioned to verify the control status of their copy prior to use. To obtain a copy of this document, contact Distribution Control at the Main Document Control Center.

1.2 Code Edition and Addenda

This IST Plan meets the requirements of the ASME OM Code 1998 Edition, 1999 and 2000 Addenda, except in specifically identified instances where an alternative to the Code requirements is proposed or where it has been determined that conformance with certain Code requirements is impractical. In these instances, a request for relief from the Code requirement(s), including proposed alternatives to the requirement(s), has been prepared for Nuclear Regulatory Commission review and approval pursuant to 10CFR50.55a(a)(3) or (f)(5).

See Section 2.0, "Inservice Pump Testing Plan", and Section 3.0, "Inservice Valve Testing Plan" for a more detailed discussion of Code edition.

1.3 Dates of Test Interval

Implementation of the 1989 Edition IST Plan was completed on CPSES Unit 1 before that unit was returned to power following the third refueling outage and at that time superceded in its entirety the original Unit 1 Inservice Testing Plan for Pumps and Valves developed for the first inspection interval. The original Unit 1 IST Plan was implemented per the requirements of the 1986 Edition of Section XI. This 1989 Edition IST Plan constitutes an update of the original Unit 1 IST Plan to a later approved Code edition as allowed by 10CFR50.55a(f)(4)(iv) and as approved by the NRC staff. This IST Plan was originally to remain in effect for Unit 1 for the 120 month interval following the date of the Unit 1 commercial operation (August 13, 1990). An exemption from regulation 10CFR50.55a(f)(4)(ii) to the ten year test interval for Unit 1 was granted by the NRC on June 21, 1995. The extension allowed Unit 1 to remain under the 1989 Edition until the conclusion of the ten year test interval for Unit 2 (August 3, 2003).

This IST Plan was in effect for Unit 2 for the 120 month interval following the date of the Unit 2 commercial operation (August 3, 1993 to August 2, 2003).

The IST Plan for Unit 1 and 2 first interval end date was extended from August 2, 2003 to not later than August 2, 2004 (see TXX-03075, dated April 11, 2003).

The current start date IST Plan second interval for Unit 1 and 2 is August 3, 2004, and the end date for the second interval is August 2, 2013 (see TXX-04134).

1.4 Approval Status

This IST Plan was submitted to the NRC staff on July 2, 1992 via TXX-92302 requesting:

1. Approval to update the Unit 1 IST program to the requirements of the 1989 Edition of ASME Section XI as described in this IST Plan;
2. Approval of a proposed schedule for phasing in the implementation of this IST Plan for Unit 1; and,
3. Approval of the Relief Requests contained in Appendix A of this IST Plan for use in the testing of Unit 1 and Unit 2.

Relief Request A-1 and V-8 were submitted to the NRC for final approval Via TXX-98153. These relief requests allowed for risk informing IST.

By safety evaluation dated January 29, 1993 for Unit 1 and NUREG-0797, Supplemental Safety Evaluation Report (SSER) No. 26 dated February, 1993 for Unit 2, the NRC staff granted the following approvals.

1. Approval to update the Unit 1 IST program to the requirements of the 1989 Edition of ASME Section XI and approval to test Unit 2 to the requirements of the Code. (Approval had not specifically been requested to test Unit 2 to the requirements of the 1989 Code since regulation 10CFR50.55a already seemed to permit it; approval was granted nonetheless.)

2. Approval of the schedule described in Section 1.3 above for phasing in the implementation of this IST Plan for Unit 1.

3. Approval of the Relief Requests contained in Appendix A of this IST Plan for use in the testing of Unit 1 and Unit 2 with the exception of Relief Request V5 which was denied. (See Appendix A for specific information.)

As pointed out in the safety evaluation and SSER, the NRC staff review of this IST Plan did not include verification that all pumps and valves within the scope of 10CFR50.55a and ASME Section XI are contained in the IST program. Additionally, for the components included in the IST program, all applicable testing requirements were not verified.

1.5 References

1. Code of Federal Regulations, 10CFR50.55a, "Codes and Standards".

2. ASME OM Code 1998 Edition, 1999 and 2000 Addenda "Code for Operation and Maintenance of Nuclear Power Plants".

3. USNRC Generic Letter No. 89-04, "Guidance on Developing Acceptable Inservice Testing Programs", April 3, 1989.

4. USNRC, "Minutes of the Public Meetings on Generic Letter 89-04", October 25, 1989.

5. USNRC Staff Guidance Letter, "NRC Staff Guidance for Complying with Certain Provisions of 10CFR50.55a(g), Inservice Inspection Requirements", November 1976.

6. USNRC Staff Guidance Letter, "NRC Staff Guidance for Preparing Pump and Valve Testing Program Descriptions and Associated Relief Requests Pursuant to 10CFR50.55a(g)", January 1978.

7. NUREG-0800, "USNRC Standard Review Plan", July 1981. (Section

3.9.6, Inservice Testing of Pumps and Valves)

8. Karassik, Igor J., et al. Pump Handbook, second edition. New York: McGraw-Hill Book Company, 1986.

9. NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants", April 1995.

2.0 INSERVICE PUMP TESTING PLAN

2.1 Pump Testing Code

As mentioned in Section 1.0, this IST Plan has been developed to the requirements of the ASME OM Code 1998 Edition, 1999 and 2000 Addenda. Specifically, the pump testing plan meets the applicable requirements of Subsection ISTB unless noted otherwise.

2.2 Scope

The scope of the Inservice Pump Testing Plan is derived from the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, as modified by 10CFR50.55a(f)(4) and Relief Request A-1. The pumps selected for inclusion in this testing plan are those ASME Class 1, 2 and 3 pumps which are provided with an emergency power source and are:

a) required in shutting down a reactor to the cold shutdown condition, or

b) required in maintaining the cold shutdown condition, or

c) required in mitigating the consequences of an accident.

Excluded from this testing plan are:

a) drivers, except where the pump and driver form an integral unit and the pump bearings are in the driver, and

b) pumps that are supplied with emergency power solely for operating convenience.

The pumps in the scope of this testing plan are described in the CPSES Final Safety Analysis Report (FSAR), Section 3.9N.3.2 and 3.9B.3.2, "Pump and Valve Operability Assurance" and are tabulated in FSAR Tables 3.9N-9 and 3.9B-8, "Active Pumps". This same listing of pumps can be found in Table 0 of this IST Plan.

2.3 Pump Testing Table Format

Detailed information and testing requirements for the pumps included in this IST Plan are summarized in Table 0. The guidance presented in References 1.5.2, 1.5.8 and 1.5.9 was used to the greatest extent possible in formatting this table. Following is a discussion of the types of information presented in Table 0.

1. Pump Identification - The pump identification field includes the pump name (system name) and pump number. The pump name is the common noun name for the pump and conveys some sense of the pump function. The pump number is a unique identifier applied to each pump. Pumps are listed in Table 0 in alphabetical order by system name. See Flow Diagram M1-0200, "Mechanical Symbols and Notes", for a discussion of

pump numbering conventions and abbreviations. The pump names and pump numbers shown in Table 0 are the same names and numbers used on the respective flow diagrams to identify the pumps.

2. Flow Diagram Number - The flow diagram number field indicates on which drawing the pump may be found. The flow diagram numbers are prefixed by "M1" to indicate a Unit 1 drawing and by "M2" to indicate a Unit 2 drawing. The suffix (if any) indicates the drawing sheet number.

3. Code Class - The code class field indicates the ASME Boiler and Pressure Vessel Code, Section III classification for the pump.

4. Pump Type - The pump type field indicates the classification of the pump. The pumps are classified for the purpose of determining the Code required test parameters to be measured as well as for determining the Code limits for those test parameters. The pump classifications are taken from the Code itself. Some of the terminology used to describe the various pump types are taken from Reference 1.5.11.

   Two basic pump classifications are used: centrifugal and positive displacement. Centrifugal pumps are further classified by the pump/driver arrangement and positive displacement pumps are further classified by the mechanical construction of the machine. The pump type acronyms are listed below along with their meanings.

   C/DC (Centrifugal pump direct coupled to its driver): This is the most common centrifugal pump arrangement in which the pump and driver are mounted independent of each other (usually horizontally) and are connected by a flexible coupling. In this pump type, the pump and driver bearings are separate.

   C/VLS (Centrifugal vertical line shaft pump): This arrangement is a special case of the direct coupled centrifugal pump. As the name suggests, the pump and driver are arranged vertically. However, unlike the typical direct coupled centrifugal pump, the vertical line shaft pump has a pumping element suspended at the end of a very long line shaft and has bearings which are inaccessible. Also, the vertical line shaft pump shares bearings with the driver in that the motor thrust bearing also acts as a thrust bearing for the pump.

C/CC (Centrifugal pump close coupled to its driver): In this arrangement, no coupling is provided and the pump and driver form an integral unit. The pumping element is attached directly to the motor shaft and the pump bearings are actually the motor bearings. Orientation may be either horizontal or vertical.

PD/RECIP (Reciprocating positive displacement pump): This is a positive displacement pump in which fluid is moved by a back and forth motion of the pressure-producing member(s). The output from a reciprocating pump will be pulsating and flow through the pump is controlled by integral check valves. (There are no reciprocating pumps in the CPSES IST Plan.)

PD/ROT (Rotary positive displacement pump): This is a positive displacement pump in which fluid is moved by a rotating motion of the pressure-producing member(s). The output from a rotary pump is non-pulsating and flow through the pump is controlled by the geometry of the pump casing and rotor(s).

5. Test Parameters - The test parameters field indicates those quantities which the Code requires to be established or determined at each inservice test. The test parameters include speed, discharge pressure, differential pressure, flow rate and bearing vibration. Vibration is further classified as pump bearing vibration and driver bearing vibration. Not all test parameters are applicable to all pumps. Rather, the parameters to be established or determined for any pump are dependent on the pump type and are specified per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTB. In Table 0, Code required test parameters are indicated with an "X". Test parameters which are not applicable to a particular pump are indicated "N/A". Required test parameters for which relief is requested are indicated by a footnote with the specific Relief Request number. (All pump and valve relief requests are contained in Appendix A of this IST Plan.)

6. Test Schedule - The test schedule field indicates the frequency of inservice tests for each pump in the RI-IST Plan. High Safety Significant pumps for which fluid inventory is normally provided are tested nominally every three months per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTB-3400, and are indicated in Table 0 by "3 MO". High Safety Significant pumps lacking required fluid inventory (e.g., pumps in dry sumps) are tested at least once every two years per the requirements of ASME OM Code 1998 Edition,

1999 and 2000 Addenda, Subsection ISTB-3400, and are indicated in Table 0 by "2 YR". All Low Safety Significant pumps are tested nominally every six years (on a staggered test basis) per the requirements of Relief Request V-1, and are indicated in Table 0 by "6 YR".

7. Footnotes - Footnotes containing additional pump testing information are located at the back of Table 0 and are referenced in Table 0 by the footnote number in parentheses.

TABLE 0 - INSERVICE PUMP TESTING PLAN0

Pump Identification	Flow Diagram	Code Class	Risk Ranking	Pump Type	Test Parameters: Speed	Discharge Pressure	Differential Pressure	Flow Rate	Pump Bearing Vib.	Driver Bearing Vib.	Test Schedule
Auxiliary Feedwater (Motor Driven)(6)											
CP1-AFAPMD-01	M1-0206-01	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP1-AFAPMD-02	M1-0206-01	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-AFAPMD-01	M2-0206-01	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-AFAPMD-02	M2-0206-01	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
Auxiliary Feedwater (Turbine Driven)(6)											
CP1-AFAPTD-01	M1-0206-01	3	HIGH	C/DC	X	N/A	X	X	X	N/A	3 MO
CP2-AFAPTD-01	M2-0206-01	3	HIGH	C/DC	X	N/A	X	X	X	N/A	3 MO
Component Cooling Water(5)											
CP1-CCAPCC-01	M1-0229-A	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP1-CCAPCC-02	M1-0229-B	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CCAPCC-01	M2-0229	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CCAPCC-02	M2-0229	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
Chilled Water (Safety)(5)											
CP1-CHAPCP-05	M1-0311	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP1-CHAPCP-06	M1-0311	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CHAPCP-05	M2-0311	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CHAPCP-06	M2-0311	3	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE TESTING PLAN
TABLE 0 – INSERVICE PUMP TESTING PLAN
PAGE 2

Pump Identification	Flow Diagram	Code Class	Risk Ranking	Pump Type	Test Parameters: Speed	Discharge Pressure	Differential Pressure	Flow Rate	Pump Bearing Vib.	Driver Bearing Vib.	Test Schedule
Centrifugal Charging(5)											
TBX-CSAPCH-01	M1-0255-01	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
TBX-CSAPCH-02	M1-0255-01	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
TCX-CSAPCH-01	M2-0254	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
TCX-CSAPCH-02	M2-0254	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
Boric Acid Transfer(5)											
TBX-CSAPBA-01	M1-0257	3	HIGH	C/CC	N/A	N/A	X	X	N/A	X	3 MO
TBX-CSAPBA-02	M1-0257	3	HIGH	C/CC	N/A	N/A	X	X	N/A	X	3 MO
TCX-CSAPBA-01	M1-0257	3	HIGH	C/CC	N/A	N/A	X	X	N/A	X	3 MO
TCX-CSAPBA-02	M1-0257	3	HIGH	C/CC	N/A	N/A	X	X	N/A	X	3 MO
Containment Spray(6)											
CP1-CTAPCS-01	M1-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP1-CTAPCS-02	M1-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP1-CTAPCS-03	M1-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP1-CTAPCS-04	M1-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CTAPCS-01	M2-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CTAPCS-02	M2-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CTAPCS-03	M2-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
CP2-CTAPCS-04	M2-0232	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE TESTING PLAN
TABLE 0 – INSERVICE PUMP TESTING PLAN
PAGE 3

Pump Identification	Flow Diagram	Code Class	Risk Ranking	Pump Type	Test Parameters						
					Speed	Discharge Pressure	Differ-ential Pressure	Flow Rate	Pump Bearing Vib.	Driver Bearing Vib.	Test Schedule
Reactor Makeup Water(5)											
CP1-DDAPRM-01	M1-0241-01	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CPX-DDAPRM-01	M1-0241-01	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	3 YR
CP2-DDAPRM-01	M2-0241	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
Fuel Oil Transfer(6)											
CP1-DOAPFT-01	M1-0215-F	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
CP1-DOAPFT-02	M1-0215-F	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
CP1-DOAPFT-03	M1-0215-G	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
CP1-DOAPFT-04	M1-0215-G	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
CP2-DOAPFT-01	M2-0215-F	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
CP2-DOAPFT-02	M2-0215-F	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
CP2-DOAPFT-03	M2-0215-G	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
CP2-DOAPFT-04	M2-0215-G	(3)	LOW(1)	PD/ROT	N/A	X(2)	N/A	X(2)	X(2)	N/A	6 YR
Residual Heat Removal(6)											
TBX-RHAPRH-01	M1-0260	2	HIGH	C/DC	N/A	N/A	X	X	X(4)	X(4)	3 MO
TBX-RHAPRH-02	M1-0260	2	HIGH	C/DC	N/A	N/A	X	X	X(4)	X(4)	3 MO
TCX-RHAPRH-01	M2-0260	2	HIGH	C/DC	N/A	N/A	X	X	X(4)	X(4)	3 MO
TCX-RHAPRH-02	M2-0260	2	HIGH	C/DC	N/A	N/A	X	X	X(4)	X(4)	3 MO
Spent Fuel Pool Cooling(5)											
CPX-SFAPSF-01	M1-0235	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	3 YR
CPX-SFAPSF-02	M1-0235	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	3 YR

Pump Identification	Flow Diagram	Code Class	Risk Ranking	Pump Type	Test Parameters: Speed	Discharge Pressure	Differential Pressure	Flow Rate	Pump Bearing Vib.	Driver Bearing Vib.	Test Schedule
Safety Injection(6)											
TBX-SIAPSI-01	M1-0263-A	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
TBX-SIAPSI-02	M1-0263-A	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
TCX-SIAPSI-01	M2-0262	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
TCX-SIAPSI-02	M2-0262	2	HIGH	C/DC	N/A	N/A	X	X	X	N/A	3 MO
Service Water(5)											
CP1-SWAPSW-01	M1-0233	3	HIGH	C/VLS	N/A	N/A	X	X	N/A	X	3 MO
CP1-SWAPSW-02	M1-0233	3	HIGH	C/VLS	N/A	N/A	X	X	N/A	X	3 MO
CP2-SWAPSW-01	M2-0233	3	HIGH	C/VLS	N/A	N/A	X	X	N/A	X	3 MO
CP2-SWAPSW-02	M2-0233	3	HIGH	C/VLS	N/A	N/A	X	X	N/A	X	3 MO
Safeguards Building Floor Drain Pump(5)											
CP1-WPAPSS-01	M1-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CP1-WPAPSS-02	M1-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CP1-WPAPSS-03	M1-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CP1-WPAPSS-04	M1-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CP2-WPAPSS-01	M2-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CP2-WPAPSS-02	M2-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CP2-WPAPSS-03	M2-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR
CP2-WPAPSS-04	M2-0236	3	LOW(1)	C/DC	N/A	N/A	X	X	X	N/A	6 YR

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the pumps within the specified group.

2. See Relief Request P1 for substitute ranges for test parameters for Fuel Oil Transfer Pumps.

3. The Fuel Oil Transfer Pumps were not commercially available as ASME BPV Code, Section III, Class 3; however, the normal commercial design was upgraded to "equivalent" ASME Section III, Class 3 quality requirements through seismic testing, qualification, and documentation.

4. The Residual Heat Removal Pumps were close coupled and all bearings were in the driver (motor); therefore, the driver was monitored for vibration. The pumps were modified to a direct coupled design and one set of radial bearings were installed in the pumps. The thrust bearing is still in the driver; therefore, it is prudent to take vibration at two points on the pump and five points on the driver.

5. Group A Pump – defined as a pump that operates continuously or routinely during normal operations.

6. Group B Pump – defined as a pump in a standby system that is not operated routinely, except for testing.

3.0 INSERVICE VALVE TESTING PLAN

3.1 Valve Testing Code

As mentioned in Section 1.0, this IST Plan has been developed to the requirements of the ASME OM Code 1998 Edition, 1999 and 2000 Addenda. Except in cases where relief has been specifically requested, the valve testing plan meets the applicable requirements of the ASME OM Code.

3.2 Scope

The scope of the Inservice Valve Testing Plan is derived from the requirements of ASME OM Code Subsection ISTC, Appendix I and Appendix II as modified by 10CFR50.55a(f)(4) and Relief Request A-1. The valves selected for inclusion in this testing plan are those active or passive ASME Class 1, 2 and 3 valves and pressure relief devices (and their actuating and position indicating systems) which are required to perform a specific function:

a) in shutting down a reactor to the cold shutdown condition, or

b) in maintaining the cold shutdown condition, or

c) in mitigating the consequences of an accident.

Excluded from this testing plan are:

a) valves used only for operating convenience such as vent, drain, instrument and test valves, or

b) valves used only for system control, such as pressure regulating valves, or

c) valves used only for system or component maintenance.

Further, the valve actuating system test scope does not include external control and protection systems responsible for sensing plant conditions and providing signals for valve operation.

The active valves and pressure relief devices in the scope of this testing plan are described in the CPSES Final Safety Analysis Report (FSAR), Sections 3.9N.3.2 and 3.9B.3.2, "Pump and Valve Operability Assurance", and are tabulated in FSAR Tables 3.9N-10 and 3.9B-10, "Active Valves". ASME Code Class 2 and 3 pressure relief devices that only protect systems/components that perform a safety function as described above are not tabulated in FSAR Tables 3.9N-10 and 3.9B-10, but have been included in this testing plan under Revision 8. These valves will be tested over the required test interval of 10 years commencing upon the issuance of Revision 8. Consistent with the philosophy discussed in Reference 1, these specific thermal relief valves do not require the two additional valve tests following as-found set-pressure determination failures. However, if performance data indicates that more frequent testing is needed to assure valve function, then

the testing frequency should be modified. In lieu of tests, valve replacement may be performed as an alternative to testing. This philosophy only applies to thermal relief valves whose only function is to protect systems/components that have a safety function. These valves are identified in the IST Plan by having a Safety Function Position listing of "N/A". These are the only valves in the IST plan so marked.

The passive valves and pressure relief devices in the scope of this testing plan were identified by review and are those valves and pressure relief devices which perform a nuclear safety function but are not active and for which leakage testing or position indicator testing is required.

A listing of the above described active and passive valves and pressure relief devices can be found in Tables 1 through 19 of this IST Plan.

3.3 Valve Testing Table Format

Detailed information and testing requirements for the valves included in this IST Plan are summarized in Tables 1 through 19. A separate table has been prepared for each plant system which contains valves in the scope of the plan. The tables are arranged in alphabetical order by system name:

Auxiliary Feedwater	Table 1
Component Cooling Water	Table 2
Chilled Water (Safety & Non-Safety)	Table 3
Chemical and Volume Control	Table 4
Containment Spray	Table 5
Demineralized and Reactor Makeup Water	Table 6
Diesel Generator Auxiliaries	Table 7
Feedwater	Table 8
Main Steam	Table 9
Reactor Coolant	Table 10
Residual Heat Removal	Table 11
Spent Fuel Pool Cooling	Table 12
Safety Injection	Table 13
Service Water	Table 14
Ventilation (Control Room Air Conditioning)	Table 15
Vents and Drains	Table 16
Miscellaneous Containment Isolation Valves	Table 17
Safety & Relief Valves	Table 18
Motor Operated Valves	Table 19

The guidance in References 1.5.2, 1.5.8 and 1.5.9 was used to the greatest extent possible in formatting the tables. Following is a discussion of the types of information presented in the tables.

1. Valve Groups - Valves are grouped by system, safety significance, valve type, actuator type, manufacturer, model number and size. Each group has a unique Group Number to facilitate the implementation of the risk informed Inservice Test Program.

2. Valve Identification - Valve identification includes the valve number field and a brief description of the valve safety function (in the Remarks field). In each table, the valves are arranged in numerical order by the four digit location number which forms the root of each valve number. See Flow Diagram M1-0200, "Mechanical Symbols and Notes", for a discussion of valve numbering conventions and abbreviations. The valve numbers shown in Tables 1 through 19 are the same numbers used on the respective flow diagrams to identify the valves.

   For valves which exist in both Unit 1 and Unit 2 and for which the test requirements are the same, the unit designator prefixes have been dropped from the valve numbers in the tables. The valve numbers in this case should be understood to be prefixed by "1" (or CP1) and "2" (or CP2), as appropriate. If a valve is in a common system, exists in one unit only, is numbered differently between units or has different test requirements between units, then the unit designator is shown.

3. Flow Diagram Number - The flow diagram number field indicates on which drawing the valve may be found. The flow diagram numbers are prefixed by "M1" to indicate a Unit 1 drawing and by "M2" to indicate a Unit 2 drawing. The suffix (if any) indicates the drawing sheet number. Drawing coordinates are indicated in parentheses below the flow diagram number for ease in locating a valve.

4. Risk Ranking - A valve will either be ranked as High or Low Safety Significant. This was determined through the CPSES Individual Plant Examination utilizing Probability Risk Assessment techniques and through the RI-IST Expert Panel.

5. Size - The size field indicates the nominal valve size in inches.

6. Code Class - The code class field indicates the ASME Boiler and Pressure Vessel Code, Section III classification for the valve.

7. Category - The category field indicates the classification of the valve according to characteristics described in ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-1300. See the Valve Table Index at the end of this section for a listing of valve categories and their meanings.

8. Function - The function field indicates the manner in which a valve accomplishes its required safety function(s). "A" denotes an active valve and "P" denotes a passive valve with the terms defined as follows:

   Active valves - valves which are required to change obturator position to accomplish their required safety function(s).

   Passive valves - valves which maintain obturator position and are not required to change obturator position to accomplish their required safety function(s).

   Obturator - valve closure member (disk, gate, plug, ball, etc.)

9. Safety Function Position - The safety function position field indicates the position (open or closed) to which a valve must move or remain in to accomplish its required safety function(s). The open and closed positions are indicated by "O" and "C" respectively.

10. Test Parameters/Schedule - The test parameters/schedule field denotes the Code test requirements and test frequencies for valves in the IST Plan. The test parameters include leak test, exercise test, fail safe test and position indicator test. Not all test parameters are applicable to all valves. Rather, the parameters to be tested for any valve are dependent on the valve/actuator type, category, and function. Valves which have both an open and closed safety function position and for which the test requirements or frequencies are different in the two positions, have their open and closed test requirements identified separately. Test parameters which are not applicable to a particular valve are indicated "N/A".

    Required test parameters or test frequencies for which relief is requested are indicated by the specific Relief Request number. (All pump and valve relief requests are contained in Appendix A of this IST Plan.) In cases where the performance of a valve full-stroke exercise test is limited to cold shutdowns or refueling outages, a table footnote is provided which justifies this determination. See the Valve Table Index at the end of this section for a listing of test parameter and schedule acronyms and their meanings.

11. Footnotes - Footnotes containing additional valve testing information are located at the back of each system valve table and are referenced in the tables by the footnote number in parentheses.

3.4 References

1. NUREG/CP-0152, "Proceedings of the Fourth NRC/ASME Symposium on Valve and Pump Testing", July 15-18, 1996, pages 3B-19 through 3B-21.

2. NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants", April 1995.

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE TESTING PLAN

VALVE TABLE INDEX (Page 1 of 3)

VALVE TYPES
AN - Angle
BA - Ball
BF - Butterfly
CK - Check
DA - Diaphram
GA - Gate
GL - Globe
PL - Plug
RE - Relief
SCK - Stop Check
SF - Safety
VB - Vacuum Breaker

ACTUATOR TYPES
AO - Air Operator
HO - Hydraulic Operator
MA - Manual Operator
MO - Motor Operator
SA - Self Actuated
SO - Solenoid Operator

VALVE FUNCTIONS
A - Active
P - Passive

SAFETY FUNCTION POSITIONS
O - Open
C - Closed

VALVE CATEGORIES

Category A - Valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their required safety function(s).

Category B - Valves for which seat leakage in the closed position is inconsequential for fulfillment of their required safety function(s).

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 safety function(s).

Category D - Valves which are actuated by an energy source capable of only one operation, such as rupture disks or explosively actuated valves, for fulfillment of their required safety function(s). (There are no Category D valves or pressure relief devices in the CPSES RI-IST Plan.)

Note: Seat tightness determination is performed as part of the performance test for Category C pressure relief devices (SRV) and may be performed as a method of close exercise test for check valves (CV). However, pressure relief devices and check valves are further classified as Category A only if there is a safety analysis criteria existing for valve seat leakage such as for pressure relief devices or check valves performing containment isolation functions or reactor coolant system pressure isolation functions.

VALVE TABLE INDEX (Page 2)

TEST PARAMETERS

Leak Test

LT - Leak test Category A valve (other than containment isolation valves) per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3620.

LTJ - Leak test Category A containment isolation valve per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3620.

Exercise Test

MT - Exercise power operated Category A or B valve full-stroke to its safety function position(s) and measure stroke time per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3510.

ET - Exercise Category A or B valve full-stroke to its safety function position(s) per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3510.

CV - Exercise Category C check valve full-stroke to its safety function position(s) per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3510.

CVD - Disassemble Category C check valve to verify operability per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-5220.

PS - Exercise Category A or B valve or Category C check valve part-stroke towards its safety function position(s) per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3510. Part-stroke close exercising is not applicable to check valves.

SRV - Performance test Category C safety, relief or vacuum breaker valve per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-5240.

DT - Test Category D valve per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-5260.

VALVE TABLE INDEX (Page 3)

TEST PARAMETERS (Continued)

Fail Safe Test

FO - Fail safe test Category A or B valve in the open direction per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3560.

FC - Fail safe test Category A or B valve in the closed direction per the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3560.

Position Indicator Test

PIT - Test Category A, B, C or D valve position indication per ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3700.

TEST SCHEDULES

3MO - Perform exercise test (and fail safe test, if applicable) nominally every three months.

CS - Perform exercise test (and fail safe test, if applicable) during each cold shutdown. Such exercise is not required if the time period since the previous full-stroke exercise is less than three months. Valve exercising during cold shutdown shall commence within 48 hours of achieving cold shutdown, and continue until all testing is complete or the plant is ready to return to power. For extended outages, testing need not be commenced in 48 hours provided all valves required to be tested during cold shutdown will be tested prior to plant startup.

RF - Perform exercise test (and fail safe test, if applicable) during each refueling outage.

TS - Perform test at the applicable Technical Specification frequency.

NYR - Perform test at least once every N years. For leak tests (LT) and position indicator tests (PIT), N equals two years for High Safety Significance or six years for Low Safety Significance valves. For pressure relief device performance tests (SRV), N nominally equals five years or ten years for Class 1 or Class 2 & 3 devices respectively. However, other test frequencies may apply for pressure relief devices. See ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Appendix I.

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN

TABLE 1 - AUXILIARY FEEDWATER

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Borg-Warner Model 75690												
AF-0167	M1-0206-2 (A-5) M2-0206-2 (A-5)	HIGH	8	3	C	A	O	N/A	CV/3MO	N/A	N/A	Pump Miniflow Path
HIGH SAFETY SIGNIFICANCE Manually Operated / Passive Posi-Seal Model 2114												
AF-0006	M1-0206-2 (A-5) M2-0206-2 (A-5)	HIGH	10	3	B	P	O (2)	N/A	N/A	N/A	N/A	AFW Flowpath NEW VALVE ADDED BASED ON RISK INFORMED IST
AF-0007	M1-0206-2 (A-6) M2-0206-2 (A-6)	HIGH	10	3	B	P	O (2)	N/A	N/A	N/A	N/A	AFW Flowpath NEW VALVE ADDED BASED ON RISK INFORMED IST
GROUP 1 Swing Check Valve / Self Actuating Borg-Warner 75000 Series												
AF-0009	M1-0206-2 (D-1) M2-0206-2 (D-1)	LOW (1)	3	3	C	A	C	N/A	CV/6YR	N/A	N/A	Non-Safety Makeup Line Isolation
AF-0032	M1-0206-1 (B-5) M2-0206-1 (B-5)	LOW (1)	8	3	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
AF-0038	M1-0206-1 (E-4) M2-0206-1 (E-4)	LOW (1)	8	3	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 2												
Swing Check Valve / Self Actuating												
Borg-Warner 75630/75640 Series												
AF-0014	M1-0206-1 (B-2) M2-0206-1 (B-2)	LOW (1)	6	3	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
AF-0024	M1-0206-1 (B-3) M2-0206-1 (B-3)	LOW (1)	6	3	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
AF-0051	M1-0206-1 (E-3) M2-0206-1 (E-3)	LOW (1)	6	3	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
AF-0065	M1-0206-1 (E-2) M2-0206-1 (E-2)	LOW (1)	6	3	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
GROUP 3												
Swing Check Valve / Self Actuating												
Borg-Warner Model 75560												
AF-0093	M1-0206 (C-1) M2-0206 (C-1)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup
AF-0098	M1-0206 (C-2) M2-0206 (C-2)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup
AF-0101	M1-0206 (C-5) M2-0206 (C-5)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 3 (con't.) Swing Check Valve / Self Actuating Borg-Warner Model 75560												
AF-0106	M1-0206 (C-5) M2-0206 (C-5)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup
GROUP 4 Swing Check Valve / Self Actuating Circle Seal Model N162-180												
1AF-0215	M1-0218-1A (E-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1AF-0216	M1-0218-1A (E-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1AF-0217	M1-0218-1A (D-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1AF-0218	M1-0218-1A (D-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1AF-0219	M1-0218-1A (C-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1AF-0220	M1-0218-1A (C-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0221	M1-0218-1A (C-4) M2-0218-2 (C-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 4												
Swing Check Valve / Self Actuating												
Circle Seal Model N162-180												
AF-0222	M1-0218-1A (C-4) M2-0218-2 (C-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0223	M1-0218-1A (A-4) M2-0218-2 (C-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0224	M1-0218-1A (A-4) M2-0218-2 (C-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0226	M1-0218-1A (B-4) M2-0218-2 (B-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0227	M1-0218-1A (B-4) M2-0218-2 (B-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0228	M1-0218-1A (A-4) M2-0218-2 (D/E-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0229	M1-0218-1A (A-4) M2-0218-2 (D/E-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0230	M1-0218-1A (B-4) M2-0218-2 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 4 (con't.) Swing Check Valve / Self Actuating Circle Seal Model N162-180												
AF-0231	M1-0218-1A (B-4) M2-0218-2 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0232	M1-0218-1 (F-2) M2-0218-1 (F-2)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0233	M1-0218-1 (F-2) M2-0218-1 (F-2)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0234	M1-0218-1 (F-1) M2-0218-1 (D-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
AF-0235	M1-0218-1 (F-1) M2-0218-1 (D-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2AF-0236	M2-0218-2 (F-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation 2AF-0237
2AF-0237	M2-0218-2 (E-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2AF-0238	M2-0218-2 (E-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 4 (con't.)												
Swing Check Valve / Self Actuating												
Circle Seal Model N162-180												
2AF-0239	M2-0218-2 (D-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2AF-0240	M2-0218-2 (D-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2AF-0291	M2-0218-2 (F-5)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
GROUP 5												
Nozzle Check Valve / Self Actuating												
Enertech Model DRV-Z & Mokveld Model TKZ-Y-0												
AF-0075	M1-0206 (C-4) M2-0206 (C-4)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup
AF-0078	M1-0206 (C-4) M2-0206 (C-4)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup
AF-0083	M1-0206 (C-2) M2-0206 (C-2)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup
AF-0086	M1-0206 (C-3) M2-0206 (C-3)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	AFW Flowpath/AFW Flowpath Boundary & AFW Line Break Mitigation & FW Backflow Prevention During Startup

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 6 Globe Valve / Air Operated Fisher Model DBQ												
FV-2456	M1-0206-1 (D-1) M2-0206-1 (D-1)	LOW (1)	2	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	Pump Miniflow Path/AFW Flowpath Boundary
FV-2457	M1-0206-1 (D-3) M2-0206-1 (D-3)	LOW (1)	2	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	Pump Miniflow Path/AFW Flowpath Boundary
GROUP 7 Globe Valve / Air Operated Fisher Model ES & ET												
PV-2453A	M1-0206 (B-4) M2-0206 (B-4)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation
PV-2453B	M1-0206 (B-2) M2-0206 (B-2)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation
PV-2454A	M1-0206 (B-1) M2-0206 (B-1)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation
PV-2454B	M1-0206 (B-5) M2-0206 (B-5)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation
HV-2459	M1-0206 (B-4) M2-0206 (B-4)	LOW (1	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 7 (con't.) Globe Valve / Air Operated Fisher Model ES & ET												
HV-2460	M1-0206 (B-3) M2-0206 (B-3)	LOW	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation
HV-2461	M1-0206 (B-2) M2-0206 (B-2)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation
HV-2462	M1-0206 (B-5) M2-0206 (B-5)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	AFW to SG Flowpath/AFW to Faulted SG Flow Isolation
LV-2478	M1-0206-2 (E-1) M2-0206-2 (E-1)	LOW (1)	3	3	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Non-Safety Makeup Line Isolation
GROUP 8 Gate Valve / Manually Operated Borg-Warner & Edwards Models												
AF-0041	M1-0206-1 (E-4) M2-0206-1 (E-4)	LOW (1)	8	3	B	P	O	N/A	N/A	N/A	PIT/ 6YR	AFW Flowpath
AF-0042	M1-0206-1 (F-4) M2-0206-1 (F-4)	LOW (1)	6	3	B	P	C	N/A	N/A	N/A	PIT/ 6YR	AFW Flowpath Boundary
AF-0054	M1-0206-1 (E-3) M2-0206-1 (E-3)	LOW (1)	6	3	B	P	O	N/A	N/A	N/A	PIT/ 6YR	AFW Flowpath

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 8 (con't.)												
Gate Valve / Manually Operated												
Borg-Warner & Edwards Models												
AF-0055	M1-0206-1 (F-3) M2-0206-1 (F-3)	LOW (1)	6	3	B	P	C	N/A	N/A	N/A	PIT/ 6YR	AFW Flowpath Boundary
AF-0066	M1-0206-1 (E-2) M2-0206-1 (E-2)	LOW (1)	6	3	B	P	O	N/A	N/A	N/A	PIT/ 6YR	AFW Flowpath
AF-0067	M1-0206-1 (F-2) M2-0206-1 (F-2)	LOW (1)	6	3	B	P	C	N/A	N/A	N/A	PIT/ 6YR	AFW Flowpath Boundary

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. AF-0006, AF-0007, CST to AFW Pump Isolation Valves, are listed under High Safety Signifance. These valves have a high risk factor according to Relief Request A-1, but these valves have no Safety Function in the CPSES Design Basis. These valves are locked open and never closed. There is no operational need to cycle these valves (passive).

3. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 2 - COMPONENT COOLING WATER

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Globe Valve / Air Operated Fisher Model DBQ												
HV-4725	M1-0231 (C-5) M2-0231-A (F-3)	HIGH	2	2	A	A	C	LTJ/TS	MT/3MO	FC/3MO	PIT/ 2YR	Containment Isolation
HV-4726	M1-0231 (B-5) M2-0231-A (G-3)	HIGH	2	2	A	A	C	LTJ/TS	MT/3MO	FC/3MO	PIT/ 2YR	Containment Isolation
HIGH SAFETY SIGNIFICANCE Butterfly Valve / Air Operated Fisher Model 9510												
FV-4536	M1-0229-A (F-2) M2-0229 (A-1)	HIGH	10	3	B	A	C	N/A	MT/3MO	FC/3MO	PIT/ 2YR	CCW Flowpath Boundary
FV-4537	M1-0229-B (B-2) M2-0229 (G-1)	HIGH	10	3	B	A	C	N/A	MT/3MO	FC/3MO	PIT/ 2YR	CCW Flowpath Boundary
HIGH SAFETY SIGNIFICANCE Plug Valve / Air Operated Tufline Model 166SW												
X-PCV-H116A	M1-0229-A (A-4)	HIGH	1	3	B	A	N/A (2)	N/A	N/A	FO/3MO	N/A	UPS A/C Condenser Cooling Flow Control
X-PCV-H116B	M1-0229-B (F-4)	HIGH	1	3	B	A	N/A (2)	N/A	N/A	FO/3MO	N/A	UPS A/C Condenser Cooling Flow Control

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 9												
Swing Check Valve / Self Actuating												
Borg-Warner 75000 Series												
CC-0003	M1-0229-A (C-1) M2-0229 (C-1)	LOW (1)	3	3	C	A	O	N/A	CV/6YR	N/A	N/A	Surge Tank Emergency Makeup Flowpath
CC-0004	M1-0229-A (D-1) M2-0229 (E-1)	LOW (1)	3	3	C	A	C	N/A	CV/6YR	N/A	N/A	Surge Tank Emergency Makeup Flowpath Boundary
CC-0713	M1-0231-A (C-6) M2-0231 (C-6)	LOW (1)	8	2	A/C	A	C	LTJ/TS	CV/6YR	N/A	N/A	Containment Isolation
GROUP 10												
Swing Check Valve / Self Actuating												
Circle Seal Model N162-180												
1CC-1079	M1-0216-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1CC-1080	M1-0216-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1CC-1081	M1-0216-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1CC-1082	M1-0216-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2CC-1091	M2-0216-B (D-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 10 (con't.) Swing Check Valve / Self Actuating Circle Seal Model N162-180												
2CC-1092	M2-0216-B (D-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2CC-1093	M2-0216-B (D-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2CC-1094	M2-0216-B (D-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
GROUP 11 Swing Check Valve / Self Actuating Edwards Model 838YT1												
CC-0629	M1-0231 (C-4) M2-0231 (A-6)	LOW (1)	2	2	A/C	A	O/C	LTJ/TS	CV/6YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
CC-0831	M1-0231 (C-4) M2-0231 (A-4)	LOW (1)	1	2	A/C	A	O/C	LTJ/TS	CV/6YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
GROUP 12 Swing Check Valve / Self Actuating Edwards Model 24-670BTY												
CC-0031	M1-0229-A (E-3) M2-0229 (B-4)	LOW (1)	24	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	CCW Flowpath/CCW Flowpath Boundary
CC-0061	M1-0229-B (C-3) M2-0229 (F-4)	LOW (1)	24	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	CCW Flowpath/CCW Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Fail Exercise Test	Safe Test	Position Indicator Test	Remarks
GROUP 13 Stop Check Valve / Self Actuating Edwards Model 3664T1												
CC-0646	M1-0231-A (D-4) M2-0231 (D-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
CC-0657	M1-0231-A (D-3) M2-0231 (D-3)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
CC-0687	M1-0231-A (G-3) M2-0231 (G-3)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
CC-0694	M1-0231-A (G-4) M2-0231 (G-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
GROUP 14 Stop Check Valve / Self Actuating Edwards Model B36164B3												
1CC-1075	M1-0231-A (G-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
1CC-1076	M1-0231-A (G-3)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
1CC-1077	M1-0231-A (D-3)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
1CC-1078	M1-0231-A (D-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
2CC-0371	M2-0231 (G-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 14 (con't.) Stop Check Valve / Self Actuating Edwards Model B36164B3												
2CC-0372	M2-0231 (F-3)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
2CC-0373	M2-0231 (D-3)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
2CC-0374	M2-0231 (D-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR	N/A	N/A	RCP Thermal Barrier Rupture Isolation
GROUP 15 Globe Valve / Air Operated Fisher Model DBQ												
HV-4631A	M1-0230-A (D-3) M2-0230-A (C-5)	LOW (1)	2	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Non-Safety Flowpath (Process Sample Cooling) Isolation
HV-4631B	M1-0230-A (D-6) M2-0230-A (C-6)	LOW (1)	2	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Non-Safety Flowpath (Process Sample Cooling) Isolation
GROUP 16 Globe Valve / Air Operated Fisher Model ES												
LV-4500	M1-0229-A (C-2) M2-0229 (C-1)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Surge Tank Emergency Makeup Flowpath/Isolation
LV-4500-1	M1-0229-A (C-1) M2-0229 (C-1)	LOW (1)	3	3	B	A	O	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	Surge Tank Emergency Makeup Flowpath

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Safety Function	Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 16 (con't.) Globe Valve / Air Operated Fisher Model ES												
LV-4501	M1-0229-A (D-2) M2-0229 (D-1)	LOW (1)	3	3	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Surge Tank Emergency Makeup Flowpath/Isolation
HV-4710	M1-0231 (B-1) M2-0230-A (F-3)	LOW (1)	4	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4711	M1-0231 (B-2) M2-0230-A (F-5)	LOW (1)	4	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 17 Ball Valve / Air Operated Fisher Model U												
PV-4552	M1-0229-A (D-5) M2-0229-A (E-5)	LOW (1)	3	3	B	A	N/A (2)	N/A	N/A	FO/6YR	PIT/ 6YR	Safety Chilled Water Condenser Cooling Flow Control
PV-4553	M1-0229-B (D-5) M2-0229-B (D-1)	LOW (1)	3	3	B	A	N/A (2)	N/A	N/A	FO/6YR	PIT/ 6YR	Safety Chilled Water Condenser Cooling Flow Control
GROUP 18 Butterfly Valve / Air Operated Fisher Model 9510												
FV-4650A	M1-0230-A (F-2) M2-0230 (F-2)	LOW (1)	10	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Non-Safety Flowpath (Ventilation Chillers, Letdown Chiller) Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 18 (con't.) Butterfly Valve / Air Operated Fisher Model 9510												
FV-4650B	M1-0230-B (A-5) M2-0230 (F-5)	LOW (1)	10	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Non-Safety Flowpath (Ventilation Chillers, Letdown Chiller) Isolation
GROUP 98 Butterfly Valve / Manual Gear Posi-Seal Model 2144												
CC-0109	M1-0229 (D-2) M2-0229-A	LOW (1)	18	3	B	A	O/C	N/A	ET/6YR (4)	N/A	N/A	RHR heat exchanger CCW inlet valve (modified to function as a restrictive orifice)
CC-0157	M1-0229 (E-5) M2-0229-B (C-4)	LOW (1)	18	3	B	A	O/C	N/A	ET/6YR (4)	N/A	N/A	RHR heat exchanger CCW inlet valve (modified to function as a restrictive orifice)

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. X-PCV-H116A, -H116B, UPS A/C Condenser Cooling Flow Control Valves; PV-4552, -4553, Safety Chilled Water Condenser Cooling Flow Control Valves, are exempt from inservice testing per ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-1200. However, the equipment they serve rely on the valves going to their fail-safe open position upon loss of valve actuating power. Also, valves PV-4552 and PV-4553 are relied on to maintain the fully closed position when the Safety Chillers are in standby. Therefore these valves will be fail-safe tested and, in the case of PV-4552 and PV-4553, will be observed to ensure they assume their closed standby position.

3. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

4. Valves 1(2) CC-0109 and 1(2) CC-0157 are being added per FDA-1999-001397-08. Tests are applicable for each unit after completion of FDA and acceptance by operations.

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 3 - CHILLED WATER (SAFETY & NON-SAFETY)

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 19												
Swing Check Valve / Self Actuating												
Borg-Warner & Edwards Models												
CH-0024	M1-0307-A (C-2) M2-0307 (B-3)	LOW (1)	6	2	A/C	A	C	LTJ/TS	CV/6YR	N/A	N/A	Containment Isolation
CH-0300	0311 (D-3)	LOW (1)	1	3	C	A	O	N/A	CV/6YR	N/A	N/A	Surge Tank Emergency Makeup Flowpath
CH-0301	0311 (F-3)	LOW (1)	1	3	C	A	C	N/A	CV/6YR	N/A	N/A	Surge Tank Emergency Makeup Flowpath Boundary
GROUP 20												
Globe Valve / Manually Operated												
Edwards Model 848YT1												
CH-0302	0311 (D-3)	LOW (1)	1	3	B	A	O/C	N/A	ET/6YR	N/A	N/A	Surge Tank Emergency Makeup Flowpath/Isolation
CH-0305	0311 (E-3)	LOW (1)	1	3	B	A	O/C	N/A	ET/6YR	N/A	N/A	Surge Tank Emergency Makeup Flowpath/Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 4 - CHEMICAL & VOLUME CONTROL

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Westinghouse CS8800000 Series												
8546	M1-0255 (C-6) M2-0254 (C-5)	HIGH	8	2	C	A	O	N/A	PS/CS CV/RF (3)	N/A	N/A	ECCS Injection Flowpath & Boration Flowpath
							C	N/A	CV/CS (3)	N/A	N/A	ECCS Recirculation Flowpath Boundary
HIGH SAFETY SIGNIFICANCE Globe Valve / Air Operated Copes-Vulcan Model D-100												
LCV-0459	M1-0253-A (B-4) M2-0253 (B-3)	HIGH	3	1	B	A	C	N/A	MT/CS (2)	FC/CS	PIT/ 2YR	Reactor Coolant Pressure Boundary
LCV-0460	M1-0253-A (B-4) M2-0253 (A-3)	HIGH	3	1	B	A	C	N/A	MT/CS (2)	FC/CS	PIT/ 2YR	Reactor Coolant Pressure Boundary
8152	M1-0253-A (F-2) M2-0253 (F-3)	HIGH	3	2	A	A	C	LTJ/TS	MT/CS (2)	FC/CS	PIT/ 2YR	Containment Isolation
8160	M1-0253-A (E-2) M2-0253 (E-3)	HIGH	3	2	A	A	C	LTJ/TS	MT/CS (2)	FC/CS	PIT/ 2YR	Containment Isolation
HIGH SAFETY SIGNIFICANCE Diaphram Valve / Manually Operated ITT Model SD-C-100554												
8341	M1-0255 (C-6) M2-0255 (C-6)	HIGH	4	2	B	P	O (5)	N/A	N/A	N/A	N/A	Boration Flowpath NEW VALVE ADDED BASED ON RISK INFORMING

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 4 - CHEMICAL & VOLUME CONTROL
PAGE 2

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 21												
Swing Check Valve / Self Actuating												
Edwards Model 3674F316T / 3/4-inch												
XCS-0037	M1-0257 (C-3)	LOW (1)	¾	3	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
XCS-0039	M1-0257 (C-5)	LOW (1)	¾	3	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
XCS-0041	M1-0257 (C-4)	LOW (1)	¾	3	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
XCS-0044	M1-0257 (C-6)	LOW (1)	¾	3	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
CS-8180	M1-0253 (F-1) M2-0255-1 (B-4)	LOW (1)	¾	2	A/C	A	O/C	LTJ/TS	CV/6YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
GROUP 22												
Swing Check Valve / Self Actuating												
Edwards Model 3674F316T / 2-inch												
CS-8350A	M1-0253 (D-4) M2-0255-1 (C-6)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8350B	M1-0253 (D-4) M2-0255-1 (G-6)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8350C	M1-0253 (D-4) M2-0255-1 (G-3)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 22 (con't.)												
Swing Check Valve / Self Actuating												
Edwards Model 3674F316T / 2-incb												
CS-8350D	M1-0253 (D-4) M2-0255-1 (C-3)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8367A	M1-0253 (D-4) M2-0255-1 (C-6)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8367B	M1-0253 (D-4) M2-0255-1 (G-6)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8367C	M1-0253 (D-4) M2-0255-1 (G-3)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8367D	M1-0253 (D-4) M2-0255-1 (C-3)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8368A	M1-0253 (D-5) M2-0255-1 (B-6)	LOW (1)	2	2	C	A	C	N/A	CV/6YR	N/A	N/A	Containment Isolation
CS-8368B	M1-0253 (D-5) M2-0255-1 (E-6)	LOW (1)	2	2	C	A	C	N/A	CV/6YR	N/A	N/A	Containment Isolation
CS-8368C	M1-0253 (D-5) M2-0255-1 (F-3)	LOW (1)	2	2	C	A	C	N/A	CV/6YR	N/A	N/A	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 22 (con't.)												
Swing Check Valve / Self Actuating												
Edwards Model 3674F316T / 2-inch												
CS-8368D	M1-0253 (D-5) M2-0255-1 (B-3)	LOW (1)	2	2	C	A	C	N/A	CV/6YR	N/A	N/A	Containment Isolation
CS-8377	M1-0253-A (B-6) M2-0255 (G-4)	LOW (1)	2	1	C	A	C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
CS-8442	M1-0255-2 (F-5) M2-0255-2 (B-3)	LOW (1)	2	2	C	A	O	N/A	CV/6YR	N/A	N/A	Boration Flowpath
CS-8473	M1-0257 (C-4) M1-0257 (C-5)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Boration Flowpath/Boration Flowpath Boundary
CS-8480A	M1-0255-1 (E-4) M2-0254 (E-5)	LOW (1)	2	2	C	A	C	N/A	CV/6YR	N/A	N/A	ECCS Flowpath Boundary
CS-8480B	M1-0255-1 (E-5) M2-0254 (E-6)	LOW (1)	2	2	C	A	C	N/A	CV/6YR	N/A	N/A	ECCS Flowpath Boundary
CS-8487	M1-0257 (C-4) M1-0257 (C-6)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Boration Flowpath/Boration Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 23 Swing Check Valve / Self Actuating Westinghouse CS8800000 Series												
8378A	M1-0253-A (B-5)	LOW (1)	3	1	C	A	O	N/A	CV/6YR (4)	N/A	N/A	Boration Flowpath
	M2-0255 (G-3)						C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
8378B	M1-0253-A (B-5)	LOW (1)	3	1	C	A	O	N/A	CV/6YR (4)	N/A	N/A	Boration Flowpath
	M2-0255 (G-3)						C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
8379A	M1-0253-A (B-5)	LOW (1)	3	1	C	A	O	N/A	CV/6YR (4)	N/A	N/A	Boration Flowpath
	M2-0255 (G-3)						C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
8379B	M1-0253-A (B-5)	LOW (1)	3	1	C	A	O	N/A	CV/6YR (4)	N/A	N/A	Boration Flowpath
	M2-0255 (G-3)						C	N/A	CV/6YR	N/A	N/A	Reactor Coolant Pressure Boundary
8381	M1-0253-A (E-3)	LOW (1)	3	2	A/C	A	O	N/A	CV/6YR	N/A	N/A	Boration Flowpath
	M2-0255 (E-2)						C	LTJ/TS	CV/6YR	N/A	N/A	Containment Isolation
8481A	M1-0255-1 (E-4)	LOW (1)	4	2	C	A	O	N/A	CV/6YR	N/A	N/A	ECCS Flowpath & Boration Flowpath
	M2-0254 (F-5)						C	N/A	CV/6YR	N/A	N/A	ECCS Flowpath Boundary
8481B	M1-0255-1 (D-5)	LOW (1)	4	2	C	A	O	N/A	CV/6YR	N/A	N/A	ECCS Flowpath & Boration Flowpath
	M2-0254 (F-6)						C	N/A	CV/6YR	N/A	N/A	ECCS Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Safety Function	Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 23 (con't.)												
Swing Check Valve / Self Actuating												
Westinghouse CS8800000 Series												
8497	M1-0255-1 (D-2) M2-0254 (F-4)	LOW (1)	3	2	C	A	C	N/A	CV/6YR	N/A	N/A	ECCS Flowpath Boundary
GROUP 24												
Globe Valve / Air Operated												
Copes-Vulcan Model D-100												
FCV-0111A	M1-0255-2 (C-2) M2-0255-2 (C-2)	LOW (1)	2	3	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Boration Flowpath Boundary
8145	M1-0253-A (C-6) M2-0255 (F-4)	LOW (1)	2	1	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Reactor Coolant Pressure Boundary
8146	M1-0253-A (C-5) M2-0255 (F-3)	LOW (1)	3	2	B	P	O	N/A	N/A	N/A	PIT/ 6YR	Boration Flowpath
8147	M1-0253-A (C-5) M2-0255 (F-3)	LOW (1)	3	2	B	P	O	N/A	N/A	N/A	PIT/ 6YR	Boration Flowpath
8153	M1-0253-A (E-1) M2-0253 (B-5)	LOW (1)	1	1	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Reactor Coolant Pressure Boundary
8154	M1-0253-A (F-1) M2-0253 (A-5)	LOW (1)	1	1	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Reactor Coolant Pressure Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 25 Diaphram Valve / Air Operated ITT Model SD-C-102880												
FCV-0110B	M1-0255 (F-5) M2-0255-2 (F-3)	LOW (1)	2	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Boration Flowpath Boundary
FCV-0111B	M1-0255 (G-3) M2-0255-2 (E-2)	LOW (1)	2	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Boration Flowpath Boundary & Boron Dilution Flowpath Isolation (during Mode 6)
GROUP 26 Globe Valve / Solenoid Operated Valcor Model V526-5295-53												
8202A	M1-0255-1 (E-1) M2-0254 (D-1)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header
8202B	M1-0255-1 (E-1) M2-0254 (D-1)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header
8210A	M1-0255-1 (D-1) M2-0254 (E-3)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of PD Pump Suction Stabilizer Gas Supply from Charging Pumps' Suction Header
8210B	M1-0255-1 (D-1) M2-0254 (E-3)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of PD Pump Suction Stabilizer Gas Supply from Charging Pumps' Suction Header

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 27												
Gate Valve / Solenoid Operated												
Valcor Model V526-5940-25												
2HV-8220	M2-0254 (D-2)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level)
2HV-8221	M2-0254 (D-2)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level)
Ball Valve / Air Operated												
Flowserve Model # 043005382670801												
1HV-8220	M1-0255 (E-2)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level)
1HV-8221	M1-0255 (E-2)	LOW (1)	1	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level)

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. 8152, 8160, Letdown Line Containment Isolation Valves; LCV-0459, LCV-0460, Letdown Line Reactor Coolant Pressure Boundary Isolation Valves, are full-stroke closed exercised at cold shutdowns. These valves cannot be full-stroke close exercised during plant operation because closing the valves isolates letdown flow from the RCS. In that letdown flow is used to preheat charging flow, isolation of letdown will cause thermal transients on the RCS charging nozzles, the regenerative heat exchanger and the letdown heat exchanger for which they are not designed. The subject power operated valves cannot be part-stroke close exercised during plant operation. In the case of 8152, 8160, LCV-0459 and LCV-0460, their stroke times are so short that any part-stroke exercise attempt would effectively be a full-stroke and thus is not performed for the reasons given above.

3. 8546, Charging/High Head Safety Injection Pumps Suction from the RWST Check Valve, is part-stroke open exercised at cold shutdowns, full-stroke open exercised at refueling outages and full-stroke close exercised at cold shutdowns. (Part-stroke close exercising is not applicable.) This valve cannot be full or part-stroke exercised during plant operation because initiating flow through this valve introduces high concentration boric acid to the RCS via the charging system resulting in a reactivity transient and possibly a reactor shutdown. Further, during plant operation the high RCS pressure will not allow the maximum required injection flowrate to be achieved. The valves cannot be full-stroke exercised at cold shutdowns because the high flowrates required could challenge the RCS Cold Overpressure Mitigation System as well as impose hydraulic transients on the charging system and on the Reactor Coolant Pump seals which can cause them to cock.

4. Charging service is alternated approximately every refueling outage between the normal charging line (containing check valves 8378A and 8378B) and the alternate charging line (containing check valves 8379A and 8379B) such that neither flowpath will be exposed to more than 60% of the thermal transients associated with stoppage and restart of charging flow. In accordance with ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3510, the pair of check valves in the charging line which is out of service need not be open exercise tested as they are only relied on to perform their open boration path function when they are designated to be in service. However, they must have a valid, current open exercise tested prior to placing the charging line back in service.

   The check valves in both the normal and alternate charging lines are relied on to perform their closed reactor coolant pressure boundary function at all times when this function is required. Therefore, the close exercise test schedule must be maintained for all four check valves, regardless of which charging line is designated to be in service.

5. 8341, PDP/CCP Suction Cross Tie Valve, is listed under High Safety Signifance. This valve has a high risk factor according to Relief Request A-1, but this valve has no Safety Function in the CPSES Design Basis. This valve is locked open and never closed. There is no operational need to cycle this valve (passive).

6. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Safety Function	Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 28 Swing Check Valve / Self Actuating Borg-Warner Model 75810												
CT-0025	M1-0232-A (E-3) M2-0232-A (E-3)	LOW (1)	16	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	Containment Spray Injection Flowpath/Sump Recirculation Flowpath Boundary
CT-0077	M1-0232-A (D-2) M2-0232-A (D-2)	LOW (1)	16	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	Containment Spray Injection Flowpath/Sump Recirculation Flowpath Boundary
CT-0142	M1-0232 (B-5) M2-0232 (B-5)	LOW (1)	16	2	A/C	A	O/C	N/A	CVD/6YR (2) RR V4	N/A	N/A	Containment Spray Flowpath/ Containment Isolation
CT-0145	M1-0232 (B-2) M2-0232 (B-2)	LOW (1)	16	2	A/C	A	O/C	N/A	CVD/6YR (2) RR V4	N/A	N/A	Containment Spray Flowpath/ Containment Isolation
CT-0148	M1-0232-A (E-4) M2-0232-A (E-4)	LOW (1)	16	2	C	A	O	N/A	CVD/6YR (2) RR V4	N/A	N/A	Sump Recirculation Flowpath
CT-0149	M1-0232-A (D-3) M2-0232-A (D-3)	LOW (1)	16	2	C	A	O	N/A	CVD/6YR (2) RR V4	N/A	N/A	Sump Recirculation Flowpath

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 29												
Swing Check Valve / Self Actuating												
Borg-Warner Model 75750												
CT-0013	M1-0232 (E-2) M2-0232 (E-2)	LOW (1)	10	2	C	A	O	N/A	CV/6YR	N/A	N/A	Containment Spray Flowpath
CT-0042	M1-0232 (E-3) M2-0232 (E-3)	LOW (1)	10	2	C	A	O	N/A	CV/6YR	N/A	N/A	Containment Spray Flowpath
CT-0065	M1-0232 (E-5) M2-0232 (E-5)	LOW (1)	10	2	C	A	O	N/A	CV/6YR	N/A	N/A	Containment Spray Flowpath
CT-0094	M1-0232 (E-6) M2-0232 (E-6)	LOW (1)	10	2	C	A	O	N/A	CV/6YR	N/A	N/A	Containment Spray Flowpath
GROUP 30												
Swing Check Valve / Self Actuating												
Byron Jackson Model 422JDB1-002												
CT-0047	M1-0232 (F-3) M2-0232 (F-3)	LOW (1)	4	2	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
CT-0048	M1-0232 (F-3) M2-0232 (F-3)	LOW (1)	4	2	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
CT-0063	M1-0232 (E-5) M2-0232 (E-5)	LOW (1)	4	2	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 30 (con't.)												
Swing Check Valve / Self Actuating												
Byron Jackson Model 422JDB1-002												
CT-0064	M1-0232 (E-6) M2-0232 (E-6)	LOW (1)	4	2	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
GROUP 31												
Swing Check Valve / Self Actuating												
Edwards Model 3674F316T1												
CT-0020	M1-0232 (F-2) M2-0232 (F-2)	LOW (1)	2	2	C	A	O	N/A	CV/6YR	N/A	N/A	Chemical Additive Flowpath
CT-0031	M1-0232 (F-3) M2-0232 (F-3)	LOW (1)	2	2	C	A	O	N/A	CV/6YR	N/A	N/A	Chemical Additive Flowpath
CT-0072	M1-0232 (F-4) M2-0232 (F-4)	LOW (1)	2	2	C	A	O	N/A	CV/6YR	N/A	N/A	Chemical Additive Flowpath
CT-0082	M1-0232 (F-5) M2-0232 (F-5)	LOW (1)	2	2	C	A	O	N/A	CV/6YR	N/A	N/A	Chemical Additive Flowpath

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. CT-0142, CT-0145, Containment Spray Header Check Valves; CT-0148, CT-0149, Containment Spray Pump Suction Check Valves from the Recirculation Sumps, are disassembled at refueling outages to verify operability. Full or part-stroke exercising these valves with flow is not practicable. In the case of CT-0142 and CT-0145, the flowpath downstream of the valves is open to the Containment Building via the spray headers. No meaningful flow can be achieved through these valves without deluging the Containment and causing a significant cleanup problem and potential equipment damage. In the case of CT-0148 and CT-0149, the flowpath upstream of the valves is open to the normally dry Containment Recirculation Sumps. Sump inventory only exists post-accident when the RWST has been depleted. Flooding the sumps for test purposes would introduce contaminants into the Containment Spray System and the RWST which otherwise contain reactor quality water. Additionally, sump makeup would be required at a high rate to protect the Containment Spray Pumps from a loss of suction.

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 6 - DEMINERALIZED & REACTOR MAKEUP WATER

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 32 Swing Check Valve / Self Actuating Borg Warner & Edwards Models												
2DD-0002	M2-0241 (C-2)	LOW (1)	3	3	C	A	C	N/A	CV/6YR RR V6	N/A	N/A	Non-Safety Makeup Line Isolation
DD-0006	M1-0241-1 (C-6) M2-0241 (C-2)	LOW (1)	3	3	C	A	C	N/A	CV/6YR RR V6	N/A	N/A	Non-Safety Makeup Line Isolation
2DD-0008	M2-0241 (F-1)	LOW (1)	2	3	C	A	C	N/A	CV/6YR RR V6	N/A	N/A	Non-Safety Makeup Line Isolation
2DD-0009	M2-0241 (D-1)	LOW (1)	2	3	C	A	C	N/A	CV/6YR RR V6	N/A	N/A	Non-Safety Makeup Line Isolation
DD-0018	M1-0241-1 (E-2) M2-0241 (F-4)	LOW (1)	3	3	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Discharge Flowpath
XDD-0048	M1-0241-1 (E-2)	LOW (1)	3	3	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Discharge Flowpath
1DD-0064	M1-0241-1 (D-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR RR V6	N/A	N/A	Non-Safety Makeup Line Isolation
1DD-0065	M1-0241-1 (C-5)	LOW (1)	3	3	C	A	C	N/A	CV/6YR RR V6	N/A	N/A	Non-Safety Makeup Line Isolation
1DD-0066	M1-0241-1 (C-4)	LOW (1)	2	3	C	A	C	N/A	CV/6YR RR V6	N/A	N/A	Non-Safety Makeup Line Isolation

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 6 - DEMINERALIZED & REACTOR MAKEUP WATER
PAGE 2

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 33												
Swing Check Valve / Self Actuating												
Westinghouse & Worcester Controls Models												
DD-0016	M1-0241-1 (D-3) M2-0241 (F-5)	LOW (1)	2	3	C	A	O	N/A	CV/6YR	N/A	N/A	Pump Miniflow Path
XDD-0044	M1-0241-1 (D-2)	LOW (1)	2	3	C	A	O	N/A	CV/3YR	N/A	N/A	Pump Miniflow Path
8046	M1-0251 (E-2) M2-0251 (E-2)	LOW (1)	3	2	A/C	A	C	LTJ/TS	CV/6YR	N/A	N/A	Containment Isolation
GROUP 34												
Globe Valve / Air Operated												
Fisher Model ES												
HV-5365	M1-0242-B (E-2) M2-0242 (C-3)	LOW (1)	3	2	A	A	C	LTJ/TS	ET/18MO (2) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5366	M1-0242-B (E-2) M2-0242 (B-3)	LOW (1)	3	2	A	A	C	LTJ/TS	ET/18MO (2) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-6720	0311 (D-3)	LOW (1)	1	3	B	A	O	N/A	ET/18MO (2) MT/6YR	FO/6YR	PIT/ 6YR	Surge Tank Emergency Makeup Flowpath
GROUP 35												
Diaphram Valve / Manually Operated												
ITT Model SD-C-105686												
1DD-0020	M1-0241-1 (F-2)	LOW (1)	3	3	B	A	C	N/A	ET/3YR	N/A	N/A	Non-Safety Flowpath Isolation
XDD-0103	M1-0241-1 (F-2)	LOW (1)	3	3	B	A	C	N/A	ET/3YR	N/A	N/A	Non-Safety Flowpath Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN

TABLE 7 - DIESEL GENERATOR AUXILIARIES

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 36												
Swing Check Valve / Self Actuating												
Wm Powell Series												
DO-0104	M1-0215-H (F-3) M2-0215-H (F-3)	LOW (1)	1	3	C	A	C	N/A	CV/6YR	N/A	N/A	Jacket Water Flowpath Boundary
DO-0204	M1-0215-J (F-3) M2-0215-J (F-3)	LOW (1)	1	3	C	A	C	N/A	CV/6YR	N/A	N/A	Jacket Water Flowpath Boundary
GROUP 37												
Swing Check Valve / Self Actuating												
Clear Flow & Durabla Series												
DO-0157	M1-0215-B (C-6) M2-0215-B (C-6)	LOW (1)	6	3	C	A	O	N/A	CV/6YR	N/A	N/A	Lube Oil Flowpath
DO-0158	M1-0215-B (C-6) M2-0215-B (C-6)	LOW (1)	6	3	C	A	C	N/A	CV/6YR	N/A	N/A	Lube Oil Flowpath Boundary
DO-0257	M1-0215-C (C-6) M2-0215-C (C-6)	LOW (1)	6	3	C	A	O	N/A	CV/6YR	N/A	N/A	Lube Oil Flowpath
DO-0258	M1-0215-C (C-6) M2-0215-C (C-6)	LOW (1)	6	3	C	A	C	N/A	CV/6YR	N/A	N/A	Lube Oil Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 38 Swing Check Valve / Self Actuating Edwards Model 838YT1												
DO-0004	M1-0215-F (F-5) M2-0215-F (F-5)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Fuel Oil Flowpath/Fuel Oil Flowpath Boundary
DO-0005	M1-0215-F (F-6) M2-0215-F (F-6)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Fuel Oil Flowpath/Fuel Oil Flowpath Boundary
DO-0016	M1-0215-G (F-5) M2-0215-G (F-5)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Fuel Oil Flowpath/Fuel Oil Flowpath Boundary
DO-0017	M1-0215-G (F-6) M2-0215-G (F-6)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Fuel Oil Flowpath/Fuel Oil Flowpath Boundary
DO-0049	M1-0215-F (C-4) M2-0215-F (C-4)	LOW (1)	2	3	C	A	O	N/A	CV/6YR	N/A	N/A	Fuel Oil Flowpath
1DO-0050	M1-0215-G (C-4)	LOW (1)	2	3	C	A	O	N/A	CV/6YR	N/A	N/A	Fuel Oil Flowpath
2DO-0052	M2-0215-G (C-4)	LOW (1)	2	3	C	A	O	N/A	CV/6YR	N/A	N/A	Fuel Oil Flowpath

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 38 (con't.) Swing Check Valve / Self Actuating Edwards Model 838YT1												
1DO-0062	M1-0215-D (F-5)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation
1DO-0063	M1-0215-D (E-1)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation
1DO-0064	M1-0215-E (F-5)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation
1DO-0065	M1-0215-E (E-1)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation
2DO-0074	M2-0215-D (E-1)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Safety Function	Func. Pos.	Test Parameters/Schedule: Leak Test	Fail Exercise Test	Safe Test	Position Indicator Test	Remarks
GROUP 38 (con't.) Swing Check Valve / Self Actuating Edwards Model 838YT1												
2DO-0075	M2-0215-D (F-5)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation
2DO-0076	M2-0215-E (E-1)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation
2DO-0077	M2-0215-E (F-5)	LOW (1)	1½	3	C	A	C	N/A	CV/6YR RR V2	N/A	N/A	Safety-Related Air Receiver to Non-Safety Air Supply Isolation
GROUP 39 Globe Valve / Solenoid Operated Valcor Model V573-5242-2												
SV-3421-1E	M1-0215-D (A-2) M2-0215-D (A-2)	LOW (1)	½	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	N/A	Safety Related Air Receiver to Non-Safety Air Supply Isolation
SV-3421-1F	M1-0215-D (A-5) M2-0215-D (A-5)	LOW (1)	½	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	N/A	Safety Related Air Receiver to Non-Safety Air Supply Isolation
SV-3422-1E	M1-0215-E (A-2) M2-0215-E (A-2)	LOW (1)	½	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	N/A	Safety Related Air Receiver to Non-Safety Air Supply Isolation
SV-3422-1F	M1-0215-E (A-5) M2-0215-E (A-5)	LOW (1)	½	3	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	N/A	Safety Related Air Receiver to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 40												
Thermostatic Control Valve / Self Actuating												
AMOT Controls Model 8D												
DO-0107	M1-0215-H (E-4) M2-0215-H (E-4)	LOW (1)	8	3	B	A	N/A (2)	N/A	N/A	N/A	N/A	Jacket Water Temperature Control
DO-0207	M1-0215-J (E-4) M2-0215-J (E-4)	LOW (1)	8	3	B	A	N/A (2)	N/A	N/A	N/A	N/A	Jacket Water Temperature Control

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. DO-0107, DO-0207, Jacket Water Temperature Control Valves, are exempt from inservice testing per ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-1200. These three-way valves have a self-contained thermostatic element which causes them to modulate in response to changing jacket water temperature to divert more or less flow through the Jacket Water Cooler, as required. The valves do not fail safe and thus are not subject to fail-safe testing.

3. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Globe Valve / Air Operated Copes Vulcan Model D-1000												
FCV-0510	M1-0203-1 (B-1) M2-0203-1 (B-1)	HIGH	18	5	B	A	C	N/A	MT/CS (3)	FC/CS	PIT/ 2YR	Feedwater Isolation
FCV-0520	M1-0203-1 (B-3) M2-0203-1 (B-3)	HIGH	18	5	B	A	C	N/A	MT/CS (3)	FC/CS	PIT/ 2YR	Feedwater Isolation
FCV-0530	M1-0203-1 (B-4) M2-0203-1 (B-4)	HIGH	18	5	B	A	C	N/A	MT/CS (3)	FC/CS	PIT/ 2YR	Feedwater Isolation
FCV-0540	M1-0203-1 (B-6) M2-0203-1 (B-6)	HIGH	18	5	B	A	C	N/A	MT/CS (3)	FC/CS	PIT/ 2YR	Feedwater Isolation
GROUP 41 Swing Check Valve / Self Actuating Borg-Warner Model 454KAB1												
FW-0191	M1-0203-1 (D-5) M2-0203-1 (D-5)	LOW (1)	6	2	C	A	C	N/A	CV/6YR	N/A	N/A	AFW Flowpath Boundary
FW-0192	M1-0203-1 (D-1) M2-0203-1 (D-4)	LOW (1)	6	2	C	A	C	N/A	CV/6YR	N/A	N/A	AFW Flowpath Boundary
FW-0193	M1-0203-1 (D-2) M2-0203-1 (D-2)	LOW (1)	6	2	C	A	C	N/A	CV/6YR	N/A	N/A	AFW Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 41 Swing Check Valve / Self Actuating Borg -Warner Model 454KAB1												
FW-0194	M1-0203-1 (D-4) M2-0203-1 (D-1)	LOW (1)	6	2	C	A	C	N/A	CV/6YR	N/A	N/A	AFW Flowpath Boundary
FW-0195	M1-0203-1A (B-5) M2-0203-1A (B-5)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
FW-0196	M1-0203-1A (B-1) M2-0203-1A (B-4)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
FW-0197	M1-0203-1A (B-2) M2-0203-1A (B-3)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
FW-0198	M1-0203-1A (B-4) M2-0203-1A (B-1)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
FW-0199	M1-0203-1A (C-5) M2-0203-1A (C-5)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
FW-0200	M1-0203-1A (C-1) M2-0203-1A (C-4)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
FW-0201	M1-0203-1A (C-3) M2-0203-1A (C-3)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 41 (con't.) Swing Check Valve / Self Actuating Borg-Warner Model 454KAB1												
FW-0202	M1-0203-1A (C-4) M2-0203-1A (C-1)	LOW (1)	6	2	C	A	O	N/A	CV/6YR	N/A	N/A	AFW Flowpath
GROUP 42 Swing Check Valve / Self Actuating Edwards Model 18-970BQTY												
FW-0070	M1-0203-1 (C-4) M2-0203-1 (C-1)	LOW (1)	18	2	C	A	C	N/A	CVD/6YR (2)	N/A	N/A	Main Feedline Break Isolation
FW-0076	M1-0203-1 (C-3) M2-0203-1 (C-3)	LOW (1)	18	2	C	A	C	N/A	CVD/6YR (2)	N/A	N/A	Main Feedline Break Isolation
FW-0082	M1-0203-1 (C-1) M2-0203-1 (C-4)	LOW (1)	18	2	C	A	C	N/A	CVD/6YR (2)	N/A	N/A	Main Feedline Break Isolation
FW-0088	M1-0203-1 (C-6) M2-0203-1 (C-6)	LOW (1)	18	2	C	A	C	N/A	CVD/6YR (2)	N/A	N/A	Main Feedline Break Isolation
GROUP 43 Gate Valve / Hydraulic-Pneumatic Operated Borg-Warner Model 75830												
HV-2134	M1-0203-1 (D-1) M2-0203-1 (D-4)	LOW (1)	18	2	B	A	C	N/A	MT/18MO (3)	FC/18MO	PIT/ 2YR	Feedwater Isolation & Containment Isolation Ref. SMF-2000-001340

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 43 Gate Valve / Hydraulic-Pneumatic Operated Borg-Warner Model 75830												
HV-2135	M1-0203-1 (D-3) M2-0203-1 (D-3)	LOW (1)	18	2	B	A	C	N/A	MT/18MO (3)	FC/18MO	PIT/ 2YR	Feedwater Isolation & Containment Isolation Ref. SMF-2000-001340
HV-2136	M1-0203-1 (D-4) M2-0203-1 (D-1)	LOW (1)	18	2	B	A	C	N/A	MT/18MO (3)	FC/18MO	PIT/ 2YR	Feedwater Isolation & Containment Isolation Ref. SMF-2000-001340
HV-2137	M1-0203-1 (D-6) M2-0203-1 (D-6)	LOW (1)	18	2	B	A	C	N/A	MT/18MO (3)	FC/18MO	PIT/ 2YR	Feedwater Isolation & Containment Isolation Ref. SMF-2000-001340
GROUP 44 Globe Valve / Air Operated Fisher Model DBQ												
HV-2154	M1-0203-1 (F-2) M2-0203-1 (F-4)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (4) (5) MT/6YR (5)	FC/6YR (5)	PIT/ 6YR (5)	Containment Isolation
HV-2155	M1-0203-1 (F-3) M2-0203-1 (F-3)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (4) (5) MT/6YR (5)	FC/6YR (5)	PIT/ 6YR (5)	Containment Isolation
GROUP 45 Globe Valve / Air Operated Fisher Model SS120												
HV-2185	M1-0203-1 (D-2) M2-0203-1 (D-5)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 45 (con't.) Globe Valve / Air Operated Fisher Model SS120												
HV-2186	M1-0203-1 (D-3) M2-0203-1 (D-3)	LOW (1)	3	2	C	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation
HV-2187	M1-0203-1 (D-5) M2-0203-1 (D-2)	LOW (1)	3	2	C	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation
HV-2188	M1-0203-1 (D-6) M2-0203-1 (D-6)	LOW (1)	3	2	C	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation
FV-2193	M1-0203-1 (D-1) M2-0203-1 (D-4)	LOW (1)	3	2	C	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation
FV-2194	M1-0203-1 (D-3) M2-0203-1 (D-3)	LOW (1)	3	2	C	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation
FV-2195	M1-0203-1 (D-4) M2-0203-1 (D-1)	LOW (1)	3	2	C	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation
FV-2196	M1-0203-1 (D-5) M2-0203-1 (D-5)	LOW (1)	3	2	C	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Feedwater Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 46 Butterfly Valve / Air Operated ITT Conoflow Model 30006ZSFN												
FV-2181	M1-0203-1A (B-1) M2-0203-1A (B-4)	LOW (1)	6	2	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
FV-2182	M1-0203-1A (B-2) M2-0203-1A (B-2)	LOW (1)	6	2	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
FV-2183	M1-0203-1A (B-3) M2-0203-1A (B-1)	LOW (1)	6	2	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
FV-2184	M1-0203-1A (B-5) M2-0203-1A (B-5)	LOW (1)	6	2	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
GROUP 103 Globe Valve / Air Operated Fisher Model ED												
LV-2162	M1-0203 (B-2) M2-0203 (B-5)	LOW (1)	8	5	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 2YR	Feedwater Isolation
LV-2163	M1-0203 (B-3) M2-0203 (B-3)	LOW (1)	8	5	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 2YR	Feedwater Isolation
LV-2164	M1-0203 (B-5) M2-0203 (B-2)	LOW (1)	8	5	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 2YR	Feedwater Isolation
LV-2165	M1-0203 (B-6) M2-0203 (B-6)	LOW (1)	8	5	B	A	C	N/A	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 2YR	Feedwater Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. FW-0070, FW-0076, FW-0082, and FW-0088, Main Feedwater Header Check Valves, are disassembled at refueling outages to verify operability as allowed by ASME OM Code, 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-5220. Full or part stroking these valves is not practical. Leak testing of the valves has proven to be impractical due to the insufficient amount of test makeup available versus the valve's size. Pursuant to Generic Letter 89-04 and NUREG-1482, verification of the operability of the subject check valves will be performed through disassembly and inspection of one of the four valves at each refueling outage for each unit. The disassembled valve will be verified to be capable of full-stroking and it will be verified that the internals of the valve are structurally sound (no loose or corroded parts). Also, the disk will be manually exercised. Each valve will be disassembled, inspected and manually full-stroke exercised on a rotating basis at each refueling outage until the entire group has been tested. If the disassembled valve is not capable of being full-stroke exercised or there is binding or failure of valve internals, the remaining valves in the group in that unit will also be tested during the same outage. Once this is completed, the sequence of disassembly will be repeated unless extension of the interval can be justified.

3. HV-2134, HV-2135, HV-2136, HV-2137, Feedwater Isolation Valves, and FCV-0510, FCV-0520, FCV-0530, FCV-0540, Feedwater Regulating Valves are full-stroke exercised at cold shutdowns. These valves cannot be full-stroke exercised during plant operation because closing the valves interrupts feedwater flow resulting in severe steam generator level transients and, most likely, a turbine and reactor trip.

4. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

5. Upon implementation of FDA-1999-000382-01-00 and acceptance by operations, the requirements for valves HV-2154 and HV-2155 are no longer valid.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Globe Valve / Air Operated Control Components Model DRAG-M1G9-X7-X8BW-X8BW-XXCEE2												
PV-2325	M1-0202 (B-3) M2-0202 (B-3)	HIGH	8	2	B	A	O/C	N/A	MT/3MO	FC/3MO	PIT/ 2YR	Steam Vent Flowpath (for residual heat removal)/ Containment Isolation
PV-2326	M1-0202 (B-2) M2-0202 (B-2)	HIGH	8	2	B	A	O/C	N/A	MT/3MO	FC/3MO	PIT/ 2YR	Steam Vent Flowpath (for residual heat removal)/ Containment Isolation
PV-2327	M1-0202 (B-1) M2-0202 (B-1)	HIGH	8	2	B	A	O/C	N/A	MT/3MO	FC/3MO	PIT/ 2YR	Steam Vent Flowpath (for residual heat removal)/ Containment Isolation
PV-2328	M1-0202 (B-4) M2-0202 (B-4)	HIGH	8	2	B	A	O/C	N/A	MT/3MO	FC/3MO	PIT/ 2YR	Steam Vent Flowpath (for residual heat removal)/ Containment Isolation
HIGH SAFETY SIGNIFICANCE Globe Valve / Air Operated Fisher Model EWD												
PV-2369A	M1-0202-1B (C-2) M2-0202-1B (C-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Globe Valve / Air Operated Fisher Model EWD												
PV-2369B	M1-0202-1B (C-2) M2-0202-1B (C-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
PV-2369C	M1-0202-1B (E-2) M2-0202-1B (E-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370A	M1-0202-1B (E-2) M2-0202-1B (E-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370B	M1-0202-1B (C-2) M2-0202-1B (C-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370C	M1-0202-1B (E-2) M2-0202-1B (E-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370D	M1-0202-1B (C-2) M2-0202-1B (C-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Globe Valve / Air Operated Fisher Model EWD												
TV-2370E	M1-0202-1B (E-2) M2-0202-1B (E-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370F	M1-0202-1B (C-2) M2-0202-1B (C-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370G	M1-0202-1B (C-2) M2-0202-1B (C-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370H	M1-0202-1B (E-2) M2-0202-1B (E-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation
TV-2370J	M1-0202-1B (E-2) M2-0202-1B (E-2)	HIGH	8 X 6	5	B	A	C (2)	N/A	MT/18MO (2)	FC/18MO	PIT/ 2YR	Steam Line Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Gate Valve / Manually Operated Borg-Warner Model 75600-2												
MS-0101	M1-0202 (A-6) M2-0202 (A-6)	HIGH	4	2	B	A	C	N/A	ET/3MO	N/A	N/A	TDAFWP Steam Supply Flowpath/Containment Isolation
MS-0128	M1-0202 (A-5) M2-0202 (A-5)	HIGH	4	2	B	A	C	N/A	ET/3MO	N/A	N/A	TDAFWP Steam Supply Flowpath/Containment Isolation
GROUP 47 Swing Check Valve / Self Actuating Borg-Warner Model 75560-1												
MS-0142	M1-0202 (B-5) M2-0202 (B-5)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	TDAFW Pump Steam Supply Flowpath/TDAFW Pump Steam Supply Flowpath Boundary
MS-0143	M1-0202 (B-6) M2-0202 (B-6)	LOW (1)	4	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	TDAFW Pump Steam Supply Flowpath/TDAFW Pump Steam Supply Flowpath Boundary
GROUP 48 Swing Check Valve / Self Actuating Circle Seal Model N162-180												
2MS-0663	M2-0218-1 (F-2)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 48 (con't.) Swing Check Valve / Self Actuating Circle Seal Model N162-180												
2MS-0664	M2-0218-1 (F-2)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2MS-0665	M2-0218-1 (F-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2MS-0666	M2-0218-1 (F-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2MS-0667	M2-0218-1 (F-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2MS-0668	M2-0218-1 (F-1)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2MS-0669	M2-0218-1 (F-2)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
2MS-0670	M2-0218-1 (F-2)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1MS-0680	M2-0218-1 (F-3)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 48 (con't.) Swing Check Valve / Self Actuating Circle Seal Model N162-180												
1MS-0681	M2-0218-1 (F-3)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1MS-0682	M2-0218-1 (F-3)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1MS-0683	M2-0218-1 (F-3)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1MS-0684	M2-0218-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1MS-0685	M2-0218-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1MS-0686	M2-0218-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1MS-0687	M2-0218-1 (F-4)	LOW (1)	½	3	A/C	A	C	LT/6YR RR V3	CV/6YR RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 49 Globe Valve / Air Operated Fisher Model BXA												
HV-2401A	M1-0202-2 (C-2) M2-0202-2 (C-2)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
HV-2401B	M1-0202-2 (C-3) M2-0202-2 (C-3	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
HV-2402A	M1-0202-2 (C-2) M2-0202-2 (C-2)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
HV-2402B	M1-0202-2 (C-3) M2-0202-2 (C-3	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
HV-2403A	M1-0202-2 (B-5) M2-0202-2 (B-5)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
HV-2403B	M1-0202-2 (B-6) M2-0202-2 (B-6)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 49 (con't.) Globe Valve / Air Operated Fisher Model BXA												
HV-2404A	M1-0202-2 (C-5) M2-0202-2 (C-5)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
HV-2404B	M1-0202-2 (C-6) M2-0202-2 (C-6)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	AFW Flowpath Boundary
HV-2405	M1-0202-2 (F-2) M2-0202-2 (F-2)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & AFW Flowpath Boundary
HV-2406	M1-0202-2 (F-3) M2-0202-2 (F-3)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & AFW Flowpath Boundary
HV-2407	M1-0202-2 (F-4) M2-0202-2 (F-4)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & AFW Flowpath Boundary
HV-2408	M1-0202-2 (F-5) M2-0202-2 (F-5)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & AFW Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 50 Globe Valve / Air Operated Fisher Model DBQ												
HV-2409	M1-0202 (E-4) M2-0202 (E-4)	LOW (1)	2	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2410	M1-0202 (E-3) M2-0202 (E-3)	LOW (1)	2	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2411	M1-0202 (E-2) M2-0202 (E-2)	LOW (1)	2	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2412	M1-0202 (E-5) M2-0202 (E-5)	LOW (1)	2	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation
GROUP 51 Globe Valve / Air Operated Fisher Model ES												
HV-2397	M1-0202-2 (F-2) M2-0202-2 (F-2)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & HELB Isolation & AFW Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 51 (con't.) Globe Valve / Air Operated Fisher Model ES												
HV-2397A	M1-0202-2 (F-2) M2-0202-2 (F-2)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	HELB Isolation & AFW Flowpath Boundary
HV-2398	M1-0202-2 (F-3) M2-0202-2 (F-3)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & HELB Isolation & AFW Flowpath Boundary
HV-2398A	M1-0202-2 (F-3) M2-0202-2 (F-3)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	HELB Isolation & AFW Flowpath Boundary
HV-2399	M1-0202-2 (F-4) M2-0202-2 (F-4)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & HELB Isolation & AFW Flowpath Boundary
HV-2399A	M1-0202-2 (F-4) M2-0202-2 (F-4)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	HELB Isolation & AFW Flowpath Boundary
HV-2400	M1-0202-2 (F-5) M2-0202-2 (F-5)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & HELB Isolation & AFW Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 51 (con't.) Globe Valve / Air Operated Fisher Model ES												
HV-2400A	M1-0202-2 (F-5) M2-0202-2 (F-5)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	HELB Isolation & AFW Flowpath Boundary
GROUP 52 Globe Valve / Air Operated Fisher Model ES												
HV-2452-1	M1-0202 (A-6) M2-0202 (A-6)	LOW (1)	4	2	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	TDAFW Pump Steam Supply Flowpath/Containment Isolation
HV-2452-2	M1-0202 (A-5) M2-0202 (A-5)	LOW (1)	4	2	B	A	O/C	N/A	ET/18MO (3) MT/6YR	FO/6YR	PIT/ 6YR	TDAFW Pump Steam Supply Flowpath/Containment Isolation
GROUP 53 Globe Valve / Hydraulic Pneumatic Operated Edwards Model 32-612(WCC)GJMMPTY												
HV-2333A	M1-0202 (F-4) M2-0202 (F-4)	LOW (1)	32 X 34	2	B	A	C	N/A	MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2334A	M1-0202 (F-2) M2-0202 (F-2)	LOW (1)	32 X 34	2	B	A	C	N/A	MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 53 Globe Valve / Hydraulic Pneumatic Operated Edwards Model 32-612(WCC)GJMMPTY												
HV-2335A	M1-0202 (F-1) M2-0202 (F-1)	LOW (1)	32 X 34	2	B	A	C	N/A	MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2336A	M1-0202 (F-5) M2-0202 (F-5)	LOW (1)	32 X 34	2	B	A	C	N/A	MT/6YR	FC/6YR	PIT/ 6YR	Steam Line Isolation & Containment Isolation
GROUP 54 Gate Valve / Manually Operated Borg-Warner Model 75730-1												
MS-0026	M1-0202 (B-3) M2-0202 (B-3)	LOW (1)	8	2	B	A	C	N/A	ET/6YR	N/A	N/A	Steam Generator Tube Rupture Isolation (Isolates PORV)
MS-0063	M1-0202 (B-2) M2-0202 (B-2)	LOW (1)	8	2	B	A	C	N/A	ET/6YR	N/A	N/A	Steam Generator Tube Rupture Isolation (Isolates PORV)
MS-0098	M1-0202 (B-1) M2-0202 (B-1)	LOW (1)	8	2	B	A	C	N/A	ET/6YR	N/A	N/A	Steam Generator Tube Rupture Isolation (Isolates PORV)

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 53 (con't.) Globe Valve / Hydraulic Pneumatic Operated Edwards Model 32-612(WCC)GJMMPTY												
MS-0134	M1-0202 (B-5) M2-0202 (B-5)	LOW (1)	8	2	B	A	C	N/A	ET/6YR	N/A	N/A	Steam Generator Tube Rupture Isolation (Isolates PORV)
GROUP 55 Globe Valve / Manually Operated Edwards Model 4016 JPOYT												
HV-2333B	M1-0202 (F-4) M2-0202 (F-4)	LOW (1)	4	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2334B	M1-0202 (F-2) M2-0202 (F-2)	LOW (1)	4	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2335B	M1-0202 (F-1) M2-0202 (F-1)	LOW (1)	4	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Steam Line Isolation & Containment Isolation
HV-2336B	M1-0202 (F-5) M2-0202 (F-5)	LOW (1)	4	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	Steam Line Isolation & Containment Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. PV-2369A, PV-2369B, PV-2369C, TV-2370A, TV-2370B, TV-2370C, TV-2370D, TV-2370E, TV-2370F, TV-2370G, TV-2370H, TV-2370J, Main Steam Dump Valves, are listed under High Safety Significance. These valves have a high risk factor according to Relief Request A-1, but these valves have no Safety Function in the CPSES Design Basis and are Non-Safety, ASME Class 5. These valves are full-stroke exercised every 18 months. It is possible for the valves to be tested at power, and the Expert Panel determined that quarterly testing was not warranted. The 18 month test interval is consistent with Steam Dump testing prior to Relief Request A-1 implementation. This is consistent with the approved philosophy for Non-Code Class components added to the IST Program.

3. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE **Swing Check Valve / Self Actuating** **Copes Vulcan Model D-100**												
SI-0166 (2)	M1-0262 (F-5) M2-0263-B (B-5)	HIGH	¾	3	A/C	A	C	LT/2YR RR V3	CV/CS (3) RR V2	N/A	N/A	Safety Related Nitrogen Accumulator to Non-Safety Nitrogen Supply Isolation
SI-0167 (2)	M1-0262 (F-5) M1-0263-B (B-5)	HIGH	¾	3	A/C	A	C	LT/2YR RR V3	CV/CS (3) RR V2	N/A	N/A	Safety Related Nitrogen Accumulator to Non-Safety Nitrogen Supply Isolation
SI-0168 (2)	M1-0262 (G-5) M2-0263-B (A-5)	HIGH	¾	3	A/C	A	C	LT/2YR RR V3	CV/CS (3) RR V2	N/A	N/A	Safety Related Nitrogen Accumulator to Non-Safety Nitrogen Supply Isolation
SI-0169 (2)	M1-0262 (G-5) M2-0263-B (A-5)	HIGH	¾	3	A/C	A	C	LT/2YR RR V3	CV/CS (3) RR V2	N/A	N/A	Safety Related Nitrogen Accumulator to Non-Safety Nitrogen Supply Isolation
HIGH SAFETY SIGNIFICANCE **Globe Valve / Air Operated** **Westinghouse**												
PCV-0455A	M1-0251 (A-4) M2-0251 (A-4)	HIGH	3	1	B/C	A	O/C	N/A	MT/CS (4) SRV/5YR	FC/CS	PIT/ 2YR	Post Accident Vent Path/Vent Path Isolation & Reactor Coolant Pressure Boundary
PCV-0456	M1-0251 (A-4) M2-0251 (A-4)	HIGH	3	1	B/C	A	O/C	N/A	MT/CS (4) SRV/5YR	FC/CS	PIT/ 2YR	Post Accident Vent Path/Vent Path Isolation & Reactor Coolant Pressure Boundary

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 10 - REACTOR COOLANT
PAGE 2

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 56 Diaphram Valve / Air Operated ITT Model SD-C-102872 & SD-C-100598												
8026	M1-0251 (E-1) M2-0251 (E-1)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (5) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
8027	M1-0251 (F-1) M2-0251 (F-1)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (5) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
8047	M1-0251 (F-2) M2-0251 (F-2)	LOW (1)	3	2	A	A	C	LTJ/TS	ET/18MO (5) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 57 Globe Valve / Solenoid Operated Target Rock Model 79AB-001												
HV-3607	M1-0250 (F-4) M2-0250 (F-4)	LOW (1)	1	2	B	A	O/C	N/A	ET/18MO (5) MT/6YR	FC/6YR	PIT/ 6YR	Post Accident Vent Path/Vent Path Isolation
HV-3608	M1-0250 (F-4) M2-0250 (F-4)	LOW (1)	1	2	B	A	O/C	N/A	ET/18MO (5) MT/6YR	FC/6YR	PIT/ 6YR	Post Accident Vent Path/Vent Path Isolation
HV-3609	M1-0251 (B-4) M2-0251 (B-4)	LOW (1)	1	2	B	A	O/C	N/A	ET/18MO (5) MT/6YR	FC/6YR	PIT/ 6YR	Post Accident Vent Path/Vent Path Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 57 (con't.)												
Globe Valve / Solenoid Operated												
Target Rock Model 79AB-001												
HV-3610	M1-0251 (B-4) M2-0251 (B-4)	LOW (1)	1	2	B	A	O/C	N/A	ET/18MO (5) MT/6YR	FC/6YR	PIT/ 6YR	Post Accident Vent Path/Vent Path Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. SI-0166, SI-0167, SI-0168, SI-0169 are part of Safety Injection System but are included in this table because they are more closely associated with Reactor Coolant System.

3. SI-0166, SI-0167, SI-0168, SI-0169, PORV Accumulator Inlet Check Valves, are full-stroke exercised at cold shutdowns. It is not practicable to exercise these valves during plant operation because the test involves disassembly of the nitrogen regulator upstream of the check valves in order to establish a vent path. The normal nitrogen supply to both PORVs is thus not available for the duration of the test. Further, the entire test must be conducted from inside the Containment.

4. PCV-0455A & PCV-0456, Pressurizer Power Operated Relief Valves, are full-stroke exercised at cold shutdowns. These valves cannot be full-stroke exercised during plant operation because cycling the valves introduces the unnecessary risk of inadvertently opening an RCS vent path which would result in a design basis event. The stroke length (and stroke time) of these valves is so short that any part-stroke exercise attempt would effectively be a full-stroke and thus is not performed for the same reasons.

5. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Butterfly Valve / Air Operated Fisher Model 7613												
HCV-0606	M1-0260 (B-3) M2-0260 (B-3)	HIGH	10	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath
HCV-0607	M1-0260 (B-5) M2-0260 (B-5)	HIGH	10	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath
HIGH SAFETY SIGNIFICANCE Gate Valve / Manually Operated Westinghouse Model 08000GH84000050												
8717	M1-0260 (A-4) M2-0260 (A-4)	HIGH	8	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
GROUP 58 Swing Check Valve / Self Actuating Westinghouse Model 10000CS8400000												
8730A	M1-0260 (B-3) M2-0260 (B-3)	LOW (1)	10	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS & RHR Flowpath/ECCS Injection Flowpath Boundary
8730B	M1-0260 (B-5) M2-0260 (B-5)	LOW (1)	10	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS & RHR Flowpath/ECCS Injection Flowpath Boundary

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 11 - RESIDUAL HEAT REMOVAL
PAGE 2

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 59 Butterly Valve / Air Operated Fisher Model 7613												
FCV-0618	M1-0260 (C-3) M2-0260 (C-3)	LOW (1)	8	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
FCV-0619	M1-0260 (C-6) M2-0260 (C-6)	LOW (1)	8	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
GROUP 60 Angle Valve / Air Operated Fisher Model BXA												
HV-4178 (2)	M1-0228 (A-3) M1-0228 (A-3)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	RHR System to Non-Safety Process Sampling System Isolation
HV-4179 (2)	M1-0228 (A-4) M2-0228 (A-4)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	RHR System to Non-Safety Process Sampling System Isolation
HV-4182 (2)	M1-0228-1 (B-4) M2-0228-1 (B-4)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (3) MT/6YR	FC/6YR	PIT/ 6YR	RHR System to Non-Safety Post Accident Sampling System Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. HV-4178 and HV-4179 are part of Process Sampling System and HV-4182 is part of Post Accident Sampling System but are included in this table because their safety functions are more closely associated with Residual Heat Removal System.

3. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 61												
Swing Check Valve / Self Actuating												
Borg-Warner 75000 Series												
XSF-0003	M1-0235 (D-2)	LOW (1)	10	3	C	A	O	N/A	CV/3YR	N/A	N/A	Spent Fuel Pool Cooling Flowpath
XSF-0004	M1-0235 (D-5)	LOW (1)	10	3	C	A	O	N/A	CV/3YR	N/A	N/A	Spent Fuel Pool Cooling Flowpath
XSF-0160	M1-0235 (B-2)	LOW (1)	3	3	C	A	O	N/A	CV/6YR	N/A	N/A	Spent Fuel Pool Emergency Makeup Flowpath
XSF-0180	M1-0235 (B-4)	LOW (1)	3	3	C	A	O	N/A	CV/6YR	N/A	N/A	Spent Fuel Pool Emergency Makeup Flowpath
GROUP 62												
Diaphram Valve / Manual Operated												
ITT Models												
SF-0011	M1-0235-2 (A-1) M2-0235 (B-3)	LOW (1)	4	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
SF-0012	M1-0235-2 (B-1) M2-0235 (B-3)	LOW (1)	4	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
SF-0021	M1-0235-2 (A-3) M2-0235 (B-5)	LOW (1)	4	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 62 (con't.) Diaphram Valve / Manual Operated ITT Models												
SF-0022	M1-0235-2 (A-2) M2-0235 (B-5)	LOW (1)	4	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
1SF-0053	M1-0235-2 (F-2)	LOW (1)	3	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
1SF-0054	M1-0235-2 (F-2)	LOW (1)	3	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2SF-0055	M2-0235 (B-2)	LOW (1)	3	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2SF-0056	M2-0235 (B-2)	LOW (1)	3	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
XSF-0161	M1-0235 (B-2)	LOW (1)	3	3	B	A	O/C	N/A	ET/6YR	N/A	N/A	Spent Fuel Pool Emergency Makeup Flowpath/Isolation
XSF-0179	M1-0235 (B-4)	LOW (1)	3	3	B	A	O/C	N/A	ET/6YR	N/A	N/A	Spent Fuel Pool Emergency Makeup Flowpath/Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Edwards Model D36274F316JT1												
SI-8819A	M1-0263 (D-4) M2-0263 (D-4)	HIGH	2	1	A/C	A	O/C	LT/TS (2)	CV/RF (3)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
SI-8819B	M1-0263 (C-4) M2-0263 (D-4)	HIGH	2	1	A/C	A	O/C	LT/TS (2)	CV/RF (3)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
SI-8819C	M1-0263 (B-4) M2-0263 (E-4)	HIGH	2	1	A/C	A	O/C	LT/TS (2)	CV/RF (3)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
SI-8819D	M1-0263 (B-4) M2-0263 (F-4)	HIGH	2	1	A/C	A	O/C	LT/TS (2)	CV/RF (3)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Westinghouse Model 03000CS8800000												
8815	M1-0261 (B-2) M2-0261 (E-4)	HIGH	3	1	A/C	A	O/C	LT/TS (2)	CV/RF (3)	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8818A	M1-0263 (E-4) M2-0263 (C-4)	HIGH	6	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Westinghouse Model 06000CS8800000												
8818B	M1-0263 (D-5) M2-0263 (C-5)	HIGH	6	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8818C	M1-0263 (C-6) M2-0263 (E-6)	HIGH	6	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8818D	M1-0263 (C-6) M2-0263 (E-6)	HIGH	6	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Westinghouse Model 08000CS8200000												
8926	M1-0263-A (G-2) M2-0262 (A-2)	HIGH	8	2	C	A	O C	N/A N/A	PS/3MO CV/RF (3) CV/RF (3)	N/A N/A	N/A N/A	ECCS Injection Flowpath/ ECCS Recirculation Flowpath Boundary
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Westinghouse Model 10000CS8800000												
8948A	M1-0262 (A-2) M2-0263-B (G-2)	HIGH	10	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Westinghouse Model 10000CS8800000												
8948B	M1-0262 (A-3) M2-0263-B (G-3)	HIGH	10	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
8948C	M1-0262 (A-5) M2-0263-B (G-5)	HIGH	10	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
8948D	M1-0262 (A-6) M2-0263-B (G-6)	HIGH	10	1	A/C	A	O C	LT/TS (2)	PS/CS CV/RF (5) CV/CS (5)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
8956A	M1-0262 (B-2) M2-0263-B (E-2)	HIGH	10	1	A/C	A	O/C	LT/TS (2)	CV/RF (4)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
8956B	M1-0262 (B-3) M2-0263-B (E-3)	HIGH	10	1	A/C	A	O/C	LT/TS (2)	CV/RF (4)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
8956C	M1-0262 (B-5) M2-0263-B (E-5)	HIGH	10	1	A/C	A	O/C	LT/TS (2)	CV/RF (4)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
8956D	M1-0262 (B-6) M2-0263-B (E-6)	HIGH	10	1	A/C	A	O/C	LT/TS (2)	CV/RF (4)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Gate Valve / Manually Operated Borg-Warner Model 82790												
SI-0047	M1-0261 (F-1) M2-0261 (D-1)	HIGH	24	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR	ECCS Injection Flowpath
GROUP 63 Swing Check Valve / Self Actuating Edwards Models												
SI-8900A	M1-0261 (A-2) M2-0261 (G-4)	LOW (1)	1½	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Cold LegsFlowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8900B	M1-0261 (A-1) M2-0261 (G-4)	LOW (1)	1½	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8900C	M1-0261 (A-3) M2-0261 (G-5)	LOW (1)	1½	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8900D	M1-0261 (A-2) M2-0261 (G-5)	LOW (1)	1½	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8905A	M1-0263 (C-2) M2-0263 (D-2)	LOW (1)	2	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation
SI-8905B	M1-0263 (D-1) M2-0263 (D-1)	LOW (1)	2	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 63 (con't.) Swing Check Valve / Self Actuating Edwards Models												
SI-8905C	M1-0263 (D-1) M2-0263 (D-2)	LOW (1)	2	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation
SI-8905D	M1-0263 (C-3) M2-0263 (D-3)	LOW (1)	2	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation
SI-8919A	M1-0263-A (D-3) M2-0262 (D-3)	LOW (1)	1½	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	SI Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
SI-8919B	M1-0263-A (D-4) M2-0262 (D-4)	LOW (1)	1½	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	SI Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
SI-8968	M1-0262 (F-1) M2-0263-B (A-1)	LOW (1)	1	2	A/C	A	C	LTJ/TS	CV/6YR	N/A	N/A	Containment Isolation
GROUP 64 Swing Check Valve / Self Actuating Westinghouse Model CS Series												
8841A	M1-0263 (C-1) M2-0263 (E-1)	LOW (1)	6	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation
8841B	M1-0263 (C-2) M2-0263 (E-2)	LOW (1)	6	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 64 (con't.) Swing Check Valve / Self Actuating Westinghouse Model CS Series												
8922A	M1-0263-A (D-2) M2-0262 (D-2)	LOW (1)	4	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS Flowpath/ECCS Flowpath Boundary
8922B	M1-0263-A (D-3) M2-0262 (D-5)	LOW (1)	4	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS Flowpath/ECCS Flowpath Boundary
8949A	M1-0263 (A-2) M2-0263 (F-2)	LOW (1)	6	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary
8949B	M1-0263 (A-1) M2-0263 (G-1)	LOW (1)	6	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary
8949C	M1-0263 (A-1) M2-0263 (G-2)	LOW (1)	6	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary
8949D	M1-0263 (A-3) M2-0263 (F-3)	LOW (1)	6	1	A/C	A	O/C	LT/TS (2)	CV/6YR	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary
8958A	M1-0263-B (F-2) M2-0263-A (B-2)	LOW (1)	14	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS Injection Flowpath/ ECCS Recirculation Flowpath Boundary
8958B	M1-0263-B (F-4) M2-0263-A (B-3)	LOW (1)	14	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS Injection Flowpath/ ECCS Recirculation Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 64 (con't.) Swing Check Valve / Self Actuating Westinghouse Model CS Series												
8969A	M1-0261 (E-4) M2-0261 (B-5)	LOW (1)	8	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS Recirculation Flowpath/ECCS Flowpath Boundary (during Re-circulation with Loss of RHR B)
8969B	M1-0263-A (F-3) M2-0262 (B-4)	LOW (1)	8	2	C	A	O/C	N/A	CV/6YR	N/A	N/A	ECCS Recirculation Flowpath/ECCS Flowpath Boundary (during Re-circulation with Loss of RHR A)
GROUP 65 Globe Valve / Air Operated Copes Vulcan Model D-100 (3/4-inch)(Active)												
8823	M1-0263 (E-3) M2-0263 (B-3)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary
8824	M1-0263 (E-2) M2-0263 (B-2)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary
8825	M1-0263 (E-1) M2-0263 (B-2)	LOW (1)	¾	2	A	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary
8843	M1-0261 (B-2) M2-0261 (E-4)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 65 (con't.)												
Globe Valve / Air Operated												
Copes Vulcan Model D-100 (3/4-inch)(Active)												
8871	M1-0262 (B-1) M2-0263-C (D-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
8881	M1-0263 (E-1) M2-0263 (B-1)	LOW (1)	¾	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary
8888	M1-0263-A (B-2) M2-0262 (E-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary
8890A	M1-0263 (E-4) M2-0263 (B-4)	LOW (1)	¾	2	A	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary
8890B	M1-0263 (E-5) M2-0263 (C-5)	LOW (1)	¾	2	A	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation & ECCS Flowpath Boundary
8964	M1-0262 (A-1) M2-0263-C (E-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 66												
Globe Valve / Air Operated												
Copes Vulcan Model D-100 (1-inch & greater)(Active)												
8800A	M1-0261 (D-4) M2-0261 (D-4)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	RWST to Non-Safety Purification System Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 66 (con't.) Globe Valve / Air Operated Copes Vulcan Model D-100 (1-inch & greater)(Active)												
8800B	M1-0261 (F-4) M2-0261 (D-3)	LOW (1)	3	2	B	A	C	N/A	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	RWST to Non-Safety Purification System Isolation
8880	M1-0262 (G-1) M2-0263-B (A-1)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (6) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 67 Globe Valve / Air Operated Copes Vulcan Model D-100 (3/4-inch)(Passive)												
8877A	M1-0262 (C-2) M2-0263-B (E-2)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8877B	M1-0262 (C-3) M2-0263-B (E-3)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8877C	M1-0262 (C-5) M2-0263-B (E-5)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8877D	M1-0262 (C-6) M2-0263-B (E-6)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8879A	M1-0263 (D-4) M2-0263 (C-4)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 67 (con't.) Globe Valve / Air Operated Copes Vulcan Model D-100 (3/4-inch)(Passive)												
8879B	M1-0263 (C-5) M2-0263 (E-5)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8879C	M1-0263 (B-5) M2-0263 (F-5)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8879D	M1-0263 (B-6) M2-0263 (E-6)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8882	M1-0261 (B-3) M2-0261 (F-3)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8889A	M1-0263 (B-2) M2-0263 (F-2)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8889B	M1-0263 (B-1) M2-0263 (E-1)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8889C	M1-0263 (B-1) M2-0263 (F-1)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8889D	M1-0263 (B-3) M2-0263 (F-3)	LOW (1)	¾	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 68												
Globe Valve / Air Operated												
Copes Vulcan Model D-100 (1-inch)(Passive)												
8875A	M1-0262 (E-1) M2-0263-B (C-1)	LOW (1)	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8875B	M1-0262 (E-2) M2-0263-B (C-2)	LOW (1)	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8875C	M1-0262 (E-4) M2-0263-B (C-4)	LOW (1)	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8875D	M1-0262 (E-5) M2-0263-B (C-5)	LOW	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8878A	M1-0262 (E-2) M2-0263-B (C-2)	LOW (1)	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8878B	M1-0262 (E-3) M2-0263-B (C-3)	LOW (1)	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary
8878C	M1-0262 (E-5) M2-0263-B (C-5)	LOW (1)	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 68 (con't.)												
Globe Valve / Air Operated												
Copes Vulcan Model D-100 (1-inch)(Passive)												
8878D	M1-0262 (E-6) M2-0263-B (C-6)	LOW (1)	1	2	B	P	C	N/A	N/A	N/A	PIT/ 6YR	ECCS Flowpath Boundary

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. The test frequency requirements of Technical Specification SR 3.4.14.1 apply for leak testing of 8815; 8818A, B, C, D; SI-8819A, B, C, D; 8841A, B; SI-8900A, B, C, D; SI-8905A, B, C, D; 8948A, B, C, D; 8949A, B, C, D; 8956A, B, C, D. The Technical Specification SR 3.4.14.1 test frequency requirements are more restrictive than the test frequency requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3630.

3. 8815 High Head Safety Injection Flowpath Check Valve; SI-8819A, B, C, D, and 8926, Intermediate Head Safety Injection Flowpath Check Valves are full-stroke exercised at refueling outages. These valves cannot be full or part-stroke open exercised during plant operation or during cold shutdowns because the flowpaths discharge into the RCS.

   In the case of the High Head subsystem, the valves cannot be full-stroke exercised during plant operation because the high RCS pressure will not allow the maximum required injection flowrate to be achieved. Part-stroke exercising during plant operation is not practicable because any flow through the valves results in unnecessary thermal transients on the RCS cold leg nozzles for which they are not designed and imposes hydraulic transients on the charging system and on the Reactor Coolant Pump seals which can cause them to cock. The check valves in the high head injection path cannot be full-stroke exercised at cold shutdowns because the high flowrates could challenge the RCS Cold Overpressure Mitigation System as well as impose hydraulic transients on the charging system and on the Reactor Coolant Pump seals which can cause them to cock. Part-stroke exercising at cold shutdowns is not practicable because the high head injection flowpath is not designed for throttled operation.

   In the case of the intermediate Head subsystems, the valves cannot be full or part-stroke exercised during plant operation because the relatively higher pressure of the Reactor Coolant System will not allow forward flow through these paths. (An exception to this is valve 8926 which lies in the SI Pumps' miniflow path and thus is part-stroke open exercised quarterly during pump tests.) Part-stroke exercising certain check valves during plant operation via the SI test header is not practicable because this path yields flowrates too small (approx. 5 gpm) to be meaningful for assessing the operational readiness of these valves. The check valves in the intermediate head injection paths cannot be full-stroke exercised at cold shutdowns using the Safety Injection Pumps because the resulting high flowrates and pressures could challenge the RCS Cold Overpressure Mitigation System. This leak testing is not practicable to perform at cold shutdowns due to its complexity and critical path nature. Such testing would prevent the immediate return of a shutdown unit to power operation which is contrary to the intent of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3522. Part-stroke exercising these valves at cold shutdowns is not practicable because the flowpaths are not designed for throttled operation.

   The subject check valves are full-stroke close exercised at refueling outages at the same frequency as the full-stroke open exercise for the reasons described above. (Close exercising of valve 8926 is not practicable following its quarterly part-stroke open exercise. To do so would defeat both trains of the intermediate head subsystem. Therefore valve 8926 is also full-stroke close exercised at refueling outages coincident with its full-stroke open exercise.)

4. Beginning with the fifth refueling outage for Unit 1 and the third refueling outage for Unit 2, valves 8956A, B, C, and D will be tested consistent with guidelines in Section 4.1.2 "Exercising Check Valves with Flow and Nonintrustive Techniques," of NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," dated April 1995. Relief from the ASME Code is not required because this method is considered "other positive means" of verifying disk movement.

NOTES

5. 8818A, B, C, D, 8948A, B, C, D, Low Head Safety Injection Flowpath Check Valves, are full-stroke exercised at refueling outages to verify operability. These valves cannot be full or part-stroke open exercised during plant operation because the relatively higher pressure of the Reactor Coolant System will not allow forward flow through these paths. Part-stroke exercising of these check valves during plant operation via the SI test header is not practicable because this path yields flowrates too small (approximately 5 gpm) to be meaningful for assessing the operational readiness of these valves. It is not practicable to full stroke exercise these valves at cold shutdowns because the acoustic emission testing needed to verify the valves go full-open requires both Residual Heat Removal Pumps running and all Reactor Coolant Pumps secured to perform a satisfactory test. Both Residual Heat Removal Pumps are required to flow through a single SI header to achieve the hydraulic transient necessary to create the acoustic signature. During the test Residual Heat Removal flow must be secured. The Reactor Coolant Pumps must be secured to lower background noise sufficiently to record the acoustic signature.

   Non-intrusive testing techniques, such as the acoustic emission method applied here is considered "other positive means" as defined in ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3520. During the initial acoustic emission testing for these valves, the system flow conditions were established to cause the valves to fully stroke. During subsequent testing, all valves shall be fully stroked at repeatable system conditions. The acoustic emission monitoring of the valves, however, will only be performed on one valve per group per outage on a rotating schedule each time testing is performed (a sampling program). The groups will be four valves each, 8818A, B, C, D, and 8948A, B, C, D. If problems are found with the sample valve, all valves in the affected group must be tested using acoustic emission monitoring during the same outage. An alternative would be to perform acoustic emission testing on all valves listed above instead of measuring flow conditions. Either method is acceptable.

   The subject check valves are full-stroke close exercised at cold shutdowns because acoustic emission monitoring is not required for these tests.

6. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 14 - SERVICE WATER

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating Mission Valve Model 24-CC302WA												
2SW-0373	M2-0233 (B-4)	HIGH	24	3	C	A	O/C	N/A	CV/3MO	N/A	N/A	Service Water Flowpath/ Backflow Prevention (to facilitate pump restart) & Service Water Flowpath Boundary (following pump failure)
2SW-0374	M2-0233 (D-4)	HIGH	24	3	C	A	O/C	N/A	CV/3MO	N/A	N/A	Service Water Flowpath/ Backflow Prevention (to facilitate pump restart) & Service Water Flowpath Boundary (following pump failure)
HIGH SAFETY SIGNIFICANCE Swing Check Valve / Self Actuating CRANE DUO-CHEK MODEL G15 BAF-PL												
1SW-0373	M1-0233 (D-3)	HIGH	24	3	C	A	O/C	N/A	CV/3MO	N/A	N/A	Service Water Flowpath/ Backflow Prevention (to facilitate pump restart) & Service Water Flowpath Boundary (following pump failure)
1SW-0374	M1-0233 (E-3)	HIGH	24	3	C	A	O/C	N/A	CV/3MO	N/A	N/A	Service Water Flowpath/ Backflow Prevention (to facilitate pump restart) & Service Water Flowpath Boundary (following pump failure)

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 15 - VENTILATION (CONTROL ROOM AIR CONDITIONING)

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Check Valve / Self Actuating Circle Seal Model N162-180												
1CI-0644 (1)	M1-0216-1 (B-2)	HIGH	½	3	A/C	A	C	LT/2YR RR V3	CV/3MO RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1CI-0645 (1)	M1-0216-1 (B-2)	HIGH	½	3	A/C	A	C	LT/2YR RR V3	CV/3MO RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1CI-0646 (1)	M1-0216-1 (B-5)	HIGH	½	3	A/C	A	C	LT/2YR RR V3	CV/3MO RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation
1CI-0647 (1)	M1-0216-1 (B-5)	HIGH	½	3	A/C	A	C	LT/2YR RR V3	CV/3MO RR V2	N/A	N/A	Safety-Related Air Accumulator to Non-Safety Air Supply Isolation

NOTES

1. 1CI-0644, 1CI-0645, 1CI-0646, 1CI-0647 are part of Instrument Air System but are included in this table because their safety function is more closely associated with Control Room Air Conditioning System.

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 16 - VENTS & DRAINS

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Diaphram Valve / Air Operated ITT Model SD-C-105925												
HV-5157	M1-0238 (B-6) M2-0238 (B-6)	HIGH	4	2	A	A	C	LTJ/TS	MT/3MO	FC/3MO	PIT/ 2YR	Containment Isolation
HV-5158	M1-0238 (B-6) M2-0238 (B-6)	HIGH	4	2	A	A	C	LTJ/TS	MT/3MO	FC/3MO	PIT/ 2YR	Containment Isolation
GROUP 69 Swing Check Valve / Self Actuated Edwards Model 838YT1												
VD-0003	M1-0236-B (F-2) M2-0236-B (F-2)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Sump Discharge Flowpath / Sump Discharge Flowpath Boundary
VD-0004	M1-0236-B (F-2) M2-0236-B (F-2)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Sump Discharge Flowpath / Sump Discharge Flowpath Boundary
VD-0011	M1-0236-B (C-5) M2-0236-B (C-5)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Sump Discharge Flowpath / Sump Discharge Flowpath Boundary
VD-0012	M1-0236-B (C-5) M2-0236-B (C-5)	LOW (1)	2	3	C	A	O/C	N/A	CV/6YR	N/A	N/A	Sump Discharge Flowpath / Sump Discharge Flowpath Boundary

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

COMANCHE PEAK STEAM ELECTIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 17 - MISCELLANEOUS CONTAINMENT ISOLATION VALVES

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
HIGH SAFETY SIGNIFICANCE Diaphram Valve / Air Operated Borg-Warner 75000 Series												
7136	M1-0264 (G-3) M2-0264 (G-3)	HIGH	3	2	A	A	C	LTJ/TS	MT/3MO	FC/3MO	PIT/ 2YR	Containment Isolation
LCV-1003	M1-0264 (G-2) M2-0264 (G-2)	HIGH	3	2	A	A	C	LTJ/TS	MT/3MO	FC/3MO	PIT/ 2YR	Containment Isolation
GROUP 70 Swing Check Valve / Self Actuated Borg-Warner 75000 Series												
CA-0016	M1-0216-A (F-2) M2-0216-A (F-2)	LOW (1)	3	2	A/C	A	C	LTJ/TS	CV/6YR	N/A	N/A	Containment Isolation
CI-0030	M1-0216-A (F-5) M2-0216-B (F-2)	LOW (1)	3	2	A/C	A	C	LTJ/TS	CV/6YR	N/A	N/A	Containment Isolation
GROUP 71 Globe Valve / Air Operated Fisher Model Model BXA												
HV-4165	M1-0228 (B-2) M2-0228 (B-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation

COMANCHE PEAK STEAM ELECTIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
Table 17 – MISCELLANEOUS CONTAINMENT ISOLATION VALVES
PAGE 2

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 71 (con't.) Globe Valve / Air Operated Fisher Model Model BXA												
HV-4166	M1-0228 (B-1) M2-0228 (B-1)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4167	M1-0228 (C-1) M2-0228 (C-1)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4168	M1-0228 (B-2) M2-0228 (B-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4169	M1-0228 (B-2) M2-0228 (B-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4170	M1-0228 (B-2) M2-0228 (B-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4171	M1-0228 (B-3) M2-0228 (B-3)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 71 (con't.) Globe Valve / Air Operated Fisher Model Model BXA												
HV-4172	M1-0228 (B-3) M2-0228 (B-3)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4173	M1-0228 (B-3) M2-0228 (B-3)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4174	M1-0228 (B-3) M2-0228 (B-3)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4175	M1-0228 (C-2) M2-0228 (C-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-4176	M1-0228 (C-1) M2-0228 (C-1)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-7311	M1-0264 (D-4) M2-0264 (D-4)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 71 (con't.) Globe Valve / Air Operated Fisher Model Model BXA												
HV-7312	M1-0264 (D-3) M2-0264 (D-3)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 72 Globe Valve / Air Operated Copes Vulcan & Fisher 3-inch Models												
HV-3486	M1-0216-A (E-2) M2-0216-A (E-2)	LOW (1)	3	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-3487	M1-0216-A (E-5) M2-0216-B (F-2)	LOW (1)	3	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 73 Butterfly Valve / Air Operated Posi-Seal Model 9134-05-07-03, 48-inch												
HV-5536	M1-0301 (F-2) M2-0301 (E-2)	LOW (1)	48	2	A	P	C	LTJ/TS	N/A	N/A	PIT/ 6YR	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 73 (con't.) Butterfly Valve / Air Operated Posi-Seal Model 9134-05-07-03, 48-inch												
HV-5537	M1-0301 (E-2) M2-0301 (D-2)	LOW (1)	48	2	A	P	C	LTJ/TS	N/A	N/A	PIT/ 6YR	Containment Isolation
HV-5538	M1-0301 (F-3) M2-0301 (E-3)	LOW (1)	48	2	A	P	C	LTJ/TS	N/A	N/A	PIT/ 6YR	Containment Isolation
HV-5539	M1-0301 (E-3) M2-0301 (D-3)	LOW (1)	48	2	A	P	C	LTJ/TS	N/A	N/A	PIT/ 6YR	Containment Isolation
GROUP 74 Butterfly Valve / Air Operated Posi-Seal Model 9134-05-07-03, 18-inch												
HV-5548	M1-0301 (F-3) M2-0301 (E-4)	LOW (1)	18	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5549	M1-0301 (E-3) M2-0301 (D-4)	LOW (1)	18	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 75 Diaphram Valve / Air Operated ITT Model SD-C-102863												
7126	M1-0264 (B-2) M2-0264 (B-2)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
7150	M1-0264 (C-1) M2-0264 (C-1)	LOW (1)	¾	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 76 Ball Valve / Hydraulic Operated Neles-Jamesbury Model 3-A150F-36TT												
BS-0025	M1-0245 (D-1) M2-0245 (D-2)	LOW (1)	3	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
BS-0030	M1-0245 (C-1) M2-0245 (C-2)	LOW (1)	3	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 77 Globe Valve / Solenoid Operated Valcor Model V52600-5292-7												
HV-5556	M1-0301-A (C-4) M2-0301-A (C-4)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5557	M1-0301-A (D-4) M2-0301-A (D-4)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5558	M1-0301-A (C-4) M2-0301-A (C-4)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5559	M1-0301-A (D-4) M2-0301-A (D-4)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5560	M1-0301-A (C-4) M2-0301-A (C-4)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5561	M1-0301-A (D-4) M2-0301-A (D-4)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 78 Globe Valve / Solenoid Operated Valcor Model V52600-5950-11												
HV-5544	M1-0301-A (C-1) M2-0301-A (C-1)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5545	M1-0301-A (D-1) M2-0301-A (D-1)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5546	M1-0301-A (C-2) M2-0301-A (C-2)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
HV-5547	M1-0301-A (D-2) M2-0301-A (D-2)	LOW (1)	1	2	A	A	C	LTJ/TS	ET/18MO (4) MT/6YR	FC/6YR	PIT/ 6YR	Containment Isolation
GROUP 79 Ball Valve / Manually Operated Worcester Controls / Neles-Jamesbury												
1BS-0015	M1-0245 (D-3)	LOW (1)	¾	N/A (2)	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
1BS-0029	M1-0245 (E-2)	LOW (1)	¾	N/A (2)	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 79 (con't.)												
Ball Valve / Manually Operated												
Worcester Controls / Neles-Jamesbury												
1BS-0044	M1-0245 (B-2)	LOW (1)	¾	N/A (2)	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
1BS-0056	M1-0245 (B-3)	LOW (1)	¾	N/A (2)	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
BS-0202	M1-0245 (A-5) M2-0245-A (B-3)	LOW (1)	2	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
BS-0203	M1-0245 (C-5) M2-0245-A (E-3)	LOW (1)	2	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
GROUP 80												
Diaphram Valve / Manually Operated												
ITT Model SD-C-100552												
7135	M1-0264 (G-2) M2-0264 (G-2)	LOW (1)	3	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation

COMANCHE PEAK STEAM ELECTIC STATION UNIT 1 & 2
INSERVICE VALVE TESTING PLAN
Table 17 – MISCELLANEOUS CONTAINMENT ISOLATION VALVES
PAGE 10

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 81 Globe Valve / Manually Operated Anderson-Greenwood Model NO3-6020-504												
2BS-0016	M2-0245 (C-4)	LOW (1)	3/8	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2BS-0017	M2-0245 (C-4)	LOW (1)	3/8	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2BS-0039	M2-0245 (D-4)	LOW (1)	3/8	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2BS-0040	M2-0245 (D-4)	LOW (1)	3/8	2	A	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
GROUP 82 Relief Valve / Manually Operated Anderson-Greenwood Model 83NS80608LG-N2												
2BS-0015	M2-0245 (E-4)	LOW (1)	¾ X 1	2	A (3)	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2BS-0029	M2-0245 (D-3)	LOW (1)	¾ X 1	2	A (3)	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2BS-0044	M2-0245 (C-3)	LOW (1)	¾ X 1	2	A (3)	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation
2BS-0056	M2-0245 (B-4)	LOW (1)	¾ X 1	2	A (3)	P	C	LTJ/TS	N/A	N/A	N/A	Containment Isolation

NOTES

1. A risk informed - staggered test basis (RI-STB) shall be established for the valves within the specified group.

2. 1BS-0015, 1BS-0029, 1BS-0044, 1BS-0056 are non-ASME valves. However, they are included in the Inservice Valve Testing Plan in accordance with Generic Letter 89-04, Attachment 1, Position 10 because they are containment isolation valves which are included in the 10CFR50 Appendix J Program.

3. 2BS-0015, 2BS-0029, 2BS-0044, 2BS-0056 are relief valves and therefore would normally be classified as Category A/C. In this application, however, they are being used as lever operated manual valves which spring return to closed and not for self-actuated overpressure relief. For this reason they are classified as Category A.

4. The 18 month exercise test (ET18) requirement is satisfied by normal plant operation and or Technical Specification surveillance testing during the operating cycle.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 83 HIGH SAFETY SIGNIFICANCE Safety Valve / Self Actuating Crosby Model HB-BP-86, Size 6M6												
8010A	M1-0251 (A-1) M2-0251 (A-1)	HIGH	6	1	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 2YR	Overpressure Protection/ Reactor Coolant Pressure Boundary
8010B	M1-0251 (B-1) M2-0251 (B-1)	HIGH	6	1	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 2YR	Overpressure Protection/ Reactor Coolant Pressure Boundary
8010C	M1-0251 (C-1) M2-0251 (C-1)	HIGH	6	1	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 2YR	Overpressure Protection/ Reactor Coolant Pressure Boundary
GROUP 84 Safety Valve / Self Actuating Crosby Model HA-75-FN, Size 6R8X8												
MS-0021	M1-0202 (C-4) M2-0202 (C-4)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0022	M1-0202 (C-4) M2-0202 (C-4)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 84 (con't.) Safety Valve / Self Actuating Crosby Model HA-75-FN, Size 6R8X8												
MS-0023	M1-0202 (D-4) M2-0202 (D-4)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0024	M1-0202 (D-4) M2-0202 (D-4)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0025	M1-0202 (E-4) M2-0202 (E-4)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0058	M1-0202 (C-2) M2-0202 (C-2)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0059	M1-0202 (C-2) M2-0202 (C-2)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0060	M1-0202 (D-2) M2-0202 (D-2)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 84 (con't.) Safety Valve / Self Actuating Crosby Model HA-75-FN, Size 6R8X8												
MS-0061	M1-0202 (D-2) M2-0202 (D-2)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0062	M1-0202 (E-2) M2-0202 (E-2)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0093	M1-0202 (C-1) M2-0202 (C-1)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0094	M1-0202 (C-1) M2-0202 (C-1)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0095	M1-0202 (D-1) M2-0202 (D-1)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0096	M1-0202 (D-1) M2-0202 (D-1)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 84 (con't.) Safety Valve / Self Actuating Crosby Model HA-75-FN, Size 6R8X8												
MS-0097	M1-0202 (E-1) M2-0202 (E-1)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0129	M1-0202 (C-5) M2-0202 (C-5)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0130	M1-0202 (C-5) M2-0202 (C-5)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0131	M1-0202 (D-5) M2-0202 (D-5)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0132	M1-0202 (D-5) M2-0202 (D-5)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation
MS-0133	M1-0202 (E-5) M2-0202 (E-5)	LOW	6 X 8	2	C	A	O/C	N/A	SRV/5YR (3)	N/A	PIT/ 5YR	Overpressure Protection & Steam Vent Flowpath (for residual heat removal)/ Steam Line Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 85 HIGH SAFETY SIGNIFICANCE Relief Valve / Self Actuating / Safety Function Crosby Model JB												
8708A	M1-0260 (E-2) M2-0260 (E-2)	HIGH	3 X 4	2	A/C	P	O/C	N/A	SRV/10YR (4)	N/A	N/A	RCS Overpressure Protection/RHR Flowpath Boundary and Containment Isolation
8708B	M1-0260 (E-5) M2-0260 (E-5)	HIGH	3 X 4	2	A/C	P	O/C	N/A	SRV/10YR (4)	N/A	N/A	RCS Overpressure Protection/RHR Flowpath Boundary and Containment Isolation
GROUP 86 Relief Valve / Self Actuating / Safety Function Crosby Model JBAK												
8510A	M1-0255-1 (D-4) M2-0254 (F-5)	LOW	1½ X 2	2	C	A	O/C	N/A	SRV (2)	N/A	N/A	High Head Safety Injection Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
8510B	M1-0255-1 (D-4) M2-0254 (F-6)	LOW	1½ X 2	2	C	A	O/C	N/A	SRV (2)	N/A	N/A	High Head Safety Injection Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
GROUP 87 Relief Valve / Self Actuating / Safety Function Crosby Model JMAK												
CC-0611	M1-0231 (F-2) M2-0231-A (C-2)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 87 (con't.) Relief Valve / Self Actuating / Safety Function Crosby Model JMAK												
CC-0618	M1-0231 (F-3) M2-0231-A (C-3)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief
1CC-1067	M1-0231 (B-5)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
2CC-1090	M1-0231-A (F-2)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
1CH-0271	M1-0307-A (B-1)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
1CH-0272	M1-0307-A (B-1)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
2CH-0281	M1-0307 (B-3)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
2CH-0282	M1-0307 (B-2)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
DD-0430	M1-0242-B (E-2) M2-0242 (C-3)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 88 Relief Valve / Self Actuating / Safety Function Crosby Model JRAK												
PS-0501	M1-0228 (B-1) M2-0228 (B-1)	LOW	¾ X 1	2	A/C	A	O/C	N/A	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
PS-0502	M1-0228 (B-1) M2-0228 (B-1)	LOW	¾ X 1	2	A/C	A	O/C	N/A	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
PS-0503	M1-0228 (B-2) M2-0228 (B-2)	LOW	¾ X 1	2	A/C	A	O/C	N/A	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
1SI-8972	M1-0262 (B-1)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
2SI-8983	M2-0263-C (D-2)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
WP-7177	M1-0264 (C-4) M2-0264 (C-4)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 89 Relief Valve / Self Actuating / Safety Function Crosby Model 900 with Omni Trim												
SI-0182	M1-0263-B (B-6) M2-0263-A (B-5)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	8811A Bonnet Overpressure Relief/Containment Isolation
SI-0183	M1-0263-B (B-5) M2-0263-A (B-6)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	8811B Bonnet Overpressure Relief/Containment Isolation
CT-0309	M1-0232-A (C-5) M2-0232-A (C-5)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	HV-4782 Bonnet Overpressure Relief/Containment Isolation
CT-0310	M1-0232-A (C-6) M2-0232-A (C-6)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	HV-4783 Bonnet Overpressure Relief/Containment Isolation
RH-0033	M1-0260-A (A-3) M2-0260-A (A-3)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR (6)	N/A	N/A	8716A Bonnet Overpressure Relief/ECCS Recirculation Flowpath Boundary
RH-0034	M1-0260-A (A-4) M2-0260-A (A-4)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR (6)	N/A	N/A	8716B Bonnet Overpressure Relief/ECCS Recirculation Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 90 Relief Valve / Self Actuating / No Safety Function Anderson-Greenwood Model N06-1047-009												
DO-0123	M1-0215-D (F-2) M2-0215-D (F-2)	LOW	1 X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Generator Starting Air Receiver Relief Valve
DO-0129	M1-0215-D (F-4) M2-0215-D (F-4)	LOW	1 X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Generator Starting Air Receiver Relief Valve
DO-0223	M1-0215-E (F-2) M2-0215-E (F-2)	LOW	1 X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Generator Starting Air Receiver Relief Valve
DO-0229	M1-0215-E (F-4) M2-0215-E (F-4)	LOW	1 X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Generator Starting Air Receiver Relief Valve

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 91												
Relief Valve / Self Actuating / No Safety Function												
Crosby Model JO												
DO-0111	M1-0215-F (E-5) M2-0215-F (E-5)	LOW	1½ X 2	3	C	A	N/A	N/A	SRV/10YR	N/A	N/A	Diesel Generator Fuel Oil Transfer Pump Discharge Relief Valve
SI-0176	M1-0262 (F-06) M2-0263-B (B-06)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Nitrogen Supply Header Relief
SI-0177	M1-0262 (G-06) M2-0263-B (A-06)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Nitrogen Supply Header Relief
DO-0187	M1-0215-F (E-5) M2-0215-F (E-5)	LOW	1½ X 2	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Generator Fuel Oil Transfer Pump Discharge Relief Valve
DO-0211	M1-0215-G (E-5) M2-0215-G (E-5)	LOW	1½ X 2	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Generator Fuel Oil Transfer Pump Discharge Relief Valve

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 91 (con't)												
Relief Valve / Self Actuating / No Safety Function												
Crosby Model JO												
CT-0218	M1-0232-A (F-4) M2-0232-A (F-4)	LOW	1½ X 2½	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Chemical Additive Tank Relief Valve
DO-0287	M1-0215-G (E-5) M2-0215-G (E-5)	LOW	1½ X 2	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Generator Fuel Oil Transfer Pump Discharge Relief Valve
2CS-8000	M2-0251 (D-3)	LOW	1 X 1½	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	RCP Seal Water Return Line Relief Valve
1-8121	M1-0253 (E-1)	LOW	2 X 3	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	RCP Seal Water Return Line Relief Valve
GROUP 92												
Relief Valve / Self Actuating / No Safety Function												
Crosby Model JMAK												
CC-0042	M1-0229-B (A-5) M2-0229 (D-6)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Non-Safeguards Loop Supply Relief Valve
CC-0103	M1-0229 (B-2) M2-0229-A (C-3)	LOW	1½ X 3	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Residual Heat Removal Hx Relief Valve

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 92 (con't.)												
Relief Valve / Self Actuating / No Safety Function												
Crosby Model JMAK												
CC-0156	M1-0229-B (F-5) M2-0229-B (F-4)	LOW	1½ x 3	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Residual Heat Removal Hx Relief Valve
CC-0183	M1-0229-A (E-4) M2-0229 (A-4)	LOW	¾ x 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Component Cooling Water Hx Relief Valve
CC-0184	M1-0229-B (B-4) M2-0229 (F-4)	LOW	¾ x 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Component Cooling Water Hx Relief Valve
AF-0248	M1-0206-1 (B-1) M2-0206-1 (B-1)	LOW	¾ x 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Motor Driven AFW Pump Suction Relief Valve
AF-0249	M1-0206-1 (B-2) M2-0206-1 (B-2)	LOW	¾ x 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Motor Driven AFW Pump Suction Relief Valve
AF-0250	M1-206-1 (B-5) M2-206-1 (B-5)	LOW	¾ x 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Turbin Driven AFW Pump Suction Relief Valve
CC-0293	M1-0229 (B-3) M2-0229-A (C-2)	LOW	¾ x 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Containment Spray Hx Relief Valve

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 92 (con't.) Relief Valve / Self Actuating / No Safety Function Crosby Model JMAK												
CC-0294	M1-0229-B (F-6) M2-0229-B (E-5)	LOW	¾ x 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Containment Spray Hx Relief Valve
1SW-0448	M1-0234 (F-2)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Jacket Water Cooler Relief Valve
1SW-0449	M1-0234 (F-5)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Jacket Water Cooler Relief Valve
2SW-0432	M2-0234 (F-2)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Jacket Water Cooler Relief Valve
2SW-0433	M2-0234 (F-5)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Diesel Jacket Water Cooler Relief Valve
CC-0722	M1-0231-A (D-1) M2-0231 (D-1)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Component Cooling Water Supply Line
CH-0600	M1-0311 (F-2) M2-0311 (F-2)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Safety Chilled Water Recirculation Pump Discharge Relief Valves
CH-0601	M1-0311 (F-5) M2-0311 (F-5)	LOW	¾ X 1	3	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Safety Chilled Water Recirculation Pump Discharge Relief Valve

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 93 Relief Valve / Self Actuating / No Safety Function Crosby Model JRAK												
8124	M1-0255 (B-5) M2-0254 (C-5)	LOW	¾ X 1	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Charging Pump Suction Line Relief Valve
2-8468B	M2-0254 (D-5)	LOW	¾ X 1	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Centrifugal Charging Pump Suction Line Relief Valve
2-8468C	M2-0254 (D-6)	LOW	¾ X 1	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Centrifugal Charging Pump Suction Line Relief Valve
8858A	M1-0263-A (F-02) M2-0262 (B-02)	LOW	¾ x 1	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	SL PMP Section Relief
8858B	M1-0263-A (F-03) M2-0262 (B-04)	LOW	¾ X 1	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	SL PMP section Relief

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 94												
Relief Valve / Self Actuating / No Safety Function												
Target Rock Model 76K-003												
CT-0005	M1-0232 (D-2) M2-0232 (D-2)	LOW	¾ X 1	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Containment Spray HX Relief Valve
CT-0056	M1-0232 (D-4) M2-0232 (D-4)	LOW	¾ X 1	2	C	A	N/A (1)	N/A	SRV/10YR	N/A	N/A	Containment Spray HX Relief Valve
GROUP 95 HIGH SAFETY SIGNIFICANCE												
Relief Valve / Self Actuating / No Safety Function												
Miscellaneous / Instrument Air Dryer Reliefs												
1-PSV-3479	M1-0216-C (C-3)	HIGH	½ X 3/4	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
2-PSV-3601A	M2-0216-B (B-2)	HIGH	¾ X 1¼									
1-PSV-3482	M1-0216-C (D-3)	HIGH	¾ X 1¼	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
2-PSV-3600A	M1-0216-B (C-2)	HIGH	¾ X 1¼	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
XCI-0681	M1-0216-B (F-4)	HIGH	1 X 1	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 95 HIGH SAFETY SIGNIFICANCE (con't.) Relief Valve / Self Actuating / No Safety Function Miscellaneous / Instrument Air Dryer Reliefs												
XCI-0683	M1-0216-B (E-4)	HIGH	1 X 1	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
1-PSV-3479A	M1-0216-B (F-2)	HIGH	½ X ¾	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
1-PSV-3482A	M1-0216-B (F-2)	HIGH	½ X ¾	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
2-PSV-3600	M2-0216-B (E-4)	HIGH	¾ X 1¼	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
2-PSV-3601	M2-0216-B (F-4)	HIGH	¾ X 1¼	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
CI-0055	M1-0216 (F-4) M2-0216 (E-4)	HIGH	2 X 2½	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
PSV-3475A	M1-0216-B (D-1) M2-0216-B (D-5)	HIGH	2 X 2	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve
X-PSV-3475A	M1-0216-B (D-4)	HIGH	¾ X ¾	5	C	A	N/A (5)	N/A	SRV/10YR	N/A	N/A	Instrument Air Dryer Relief Valve

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 96 Vacuum Breaker / Self Actuating Crosby Model VR												
CTVBCA-01	M1-0232-A (F-4) M2-0232-A (F-4)	LOW	2	3	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Chemical Additive Tank Ventpath/System Boundary
CTVBCA-02	M1-0232-A (F-4) M2-0232-A (F-4)	LOW	2	3	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Chemical Additive Tank Ventpath/System Boundary
GROUP 97 HIGH SAFETY SIGNIFICANCE Vacuum Breaker / Self Actuating Crosby Model VR												
SWVAVB-01	M1-0234 (A-6) M2-0234 (A-6)	HIGH	2	3	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Vent Path (for water hammer prevention)/Flowpath Boundary
SWVAVB-02	M1-0234 (A-1) M2-0234 (A-1)	HIGH	2	3	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Vent Path (for water hammer prevention)/Flowpath Boundary
SWVAVB-03	M1-0234 (B-4) M2-0234 (B-4)	HIGH	1	3	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Vent Path (for water hammer prevention)/Flowpath Boundary
SWVAVB-04	M1-0234 (E-3) M2-0234 (B-3)	HIGH	1	3	C	A	O/C	N/A	SRV/10YR	N/A	N/A	Vent Path (for water hammer prevention)/Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 99 Relief Valve / Self Actuating / Safety Function Crosby Model JRAK – Medium/High Pressure Spring Set												
8851	M1-0263-A (B-04) M1-0262 (F-03)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	SI PMP Discharge to Cold leg, Reactor Coolant Pressure Boundary Valve Leakge
8853A	M1-0263-A (B-02) M1-0262 (F-02)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	SI PMP Discharge to Cold leg, Reactor Coolant Pressure Boundary Valve Leakge
8853B	M1-0263-A M2-0262	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	SI PMP Discharge to Cold leg, Reactor Coolant Pressure Boundary Valve Leakge
GROUP 100 Relief Valve / Self Actuating / Safety Function Crosby Model JRAK – Medium Pressure Spring Set												
PS-0500	M1-0228 (B-3) M2-0228 (B-3)	LOW	¾ X 1	2	A/C	A	O/C	N/A	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
8842	M1-0263-B (B-2) M2-0263-A (F-2)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	RHR To Hot Leg Injection Relief Valve, Reactor Coolant Pressure Boundary Valve Leakage
8856A	M1-0263-B (B-1) M2-0263-A (F-1)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	RHR to Cold Leg Injection Relief Valve, Reactor Coolant Pressure Boundary Valve Leakage
8856B	M1-0263-B (B-3) M2-0263-A (F-3)	LOW	¾ X 1	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	RHR to Cold Leg Injection Relief Valve, Reactor Coolant Pressure Boundary Valve Leakge

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
GROUP 101 Relief Valve / Self Actuating / Safety Function Crosby Model JRAK – Low Pressure Spring Set												
2VD-0896	M2-0238 (B-6)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
1VD-0907	M1-0238 (B-6)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
WP-7176	M1-0264 (E-3) M2-0264 (E-3)	LOW	¾ X 1	2	A/C	A	O/C	LTJ/TS	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
RC-0036	M1-0251 (F-2) M2-0251 (F-2)	LOW	¾ X 1	2	A/C	A	O/C	N/A	SRV/10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
GROUP 102 Relief Valve / Self Actuating Crosby Model JO												
8855A	M1-0262 (D-01) M2-0263-B (C-01)	LOW	1 X 2	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	SI Accumulator Relief, Reactor Coolant Pressure Boundary, Reactor Coolant Pressure Boundary Valve Leakage
8855B	M1-0262 (D-02) M2-0263-B (C-02)	LOW	1 X 2	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	SI Accumulator Relief, Reactor Coolant Pressure Boundary, Reactor Coolant Pressure Boundary Valve Leakage
8855C	M1-0262 (D-04) M2-0263-B (C-04)	LOW	1 X 2	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	SI Accumulator Relief, Reactor Coolant Pressure Boundary, Reactor Coolant Pressure Boundary Valve Leakage
8855D	M1-0262 (D-05) M2-0263-B (C-05)	LOW	1 X 2	2	C	A	O/C	N/A	SRV/10YR	N/A	N/A	SI Accumulator Relief, Reactor Coolant Pressure Boundary, Reactor Coolant Pressure Boundary Valve Leakage

NOTES

1. Relief Valves do not perform a specific safety function. Relief valves are used to protect systems/components that perform a specific safety function. Consistent with the philosophy discussed in NUREG/CP-0152 ("Proceedings of the Fourth NRC/ASME Symposium on Valve and Pump Testing", July 15-18, 1996, pages 3B-19 thru 3B-21), these relief valves do not require the two additional valve tests following as-found set-pressure determination failures. In lieu of tests, valve replacement may be performed as an alternative to testing. However, if performance data indicates that more frequent testing is needed to assure valve function, then the testing frequency should be modified.

2. Under the provisions of 10CFR50.55a(f)(6)(ii), the NRC staff has imposed augmented inservice test requirements for relief valves 1-8510A, 1-8510B, 2-8510A, 2-8510B. As directed by the safety evaluation dated January 29, 1993 for Unit 1 and NUREG-0797, SER Supplement 26 for Unit 2, the following frequency requirements shall apply (in lieu of the ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Appendix I, Subsection I-1360 frequency requirements) for performance testing the subject valves.

   A. One valve from each unit shall be performance tested each fuel cycle. Both valves from each unit shall be performance tested within any two fuel cycles.

   B. If the tested valve from a given unit fails the set pressure determination portion of the performance test, then the other valve from that unit shall be performance tested. If the tested valve from a given unit fails one of the other criteria of the performance test (i.e., visual examination, seat tightness determination or balancing device integrity verification), then the cause shall be evaluated and the need to test the other valve from that unit shall be determined.

   C. Both valves from a given unit shall be performance tested following any system actuation which results in the valves discharging. This performance test shall be performed at the next cold shutdown of sufficient duration to perform these activities.

3. See Relief Request V1 for information regarding pre-service testing of Unit 2 valves only.

4. 8708A and 8708B, RHR Suction Relief Valves, are Passive and are therefore exempt from performance testing. (Reference ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC, Table ISTC-3500-1.) Technical Specification LCO 3.4.12, however, allows crediting these valves for LTOP protection in MODES 4, 5, 6. Therefore, these valves are performance tested to the requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Appendix I.

5. Relief Request A-1 determined that these valves were High Safety Significant. These are Class 5 valves that do no have a Design Basis safety function. Relief valves are used to, protect systems/components that perform a specific safety function. Consistent with the philosophy discussed in NUREG/CP-0152 ("Proceedings of the Fourth NRC/ASME Symposium on Valve and Pump Testing", July 15-18, 1996, pages 3B-19 thru 3B-21), these relief valves do not require the two additional valve tests following as-found set-pressure determination failures. In lieu of tests, valve replacement may be performed as an alternative to testing. However, if performance data indicates that more frequent testing is needed to assure valve function, then the testing frequency should be modified.

6. Valves 1/2 RH-0033 and 1/2 RH-0034 are being added per DMA-1999-000241-02-00. Testing will be applicable for each unit after completion of DMA and acceptance by operations.

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
AUXILIARY FEEDWATER Gate Valve / Motor Operated Borg-Warner 75000 Series with Limitorque Actuator												
HV-2480	M1-0206-1 (B-2) M2-0206-1 (B-2)	LOW	6	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	AFW Pump Emergency Supply Flowpath
HV-2481	M1-0206-1 (B-4) M2-0206-1 (B-4)	LOW	6	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	AFW Pump Emergency Supply Flowpath
HV-2482	M1-0206-1 (B-4) M2-0206-1 (B-4)	LOW	8	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	AFW Pump Emergency Supply Flowpath
AUXILIARY FEEDWATER Gate Valve / Motor Operated Borg-Warner Model 75610-1 with Limitorque Actuator												
HV-2491A	M1-0206 (D-4) M2-0206 (D-4)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation
HV-2491B	M1-0206 (D-4) M2-0206 (D-4)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
AUXILIARY FEEDWATER Gate Valve / Motor Operated Borg-Warner Model 75610-1 with Limitorque Actuator												
HV-2492A	M1-0206 (D-3) M2-0206 (D-3)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation
HV-2492B	M1-0206 (D-2) M2-0206 (D-2)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation
HV-2493A	M1-0206 (D-1) M2-0206 (D-1)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation
HV-2493B	M1-0206 (D-2) M2-0206 (D-2)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation
HV-2494A	M1-0206 (D- 5) M2-0206 (D-5)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation
HV-2494B	M1-0206 (D-5) M2-0206 (D-5)	LOW	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & AFW to Faulted SG Flow Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
AUXILIARY FEEDWATER Butterfly Valve / Motor Operated Fisher Controls Series with Limitorque Actuator												
HV-2484	M1-0206-2 (D-4) M2-0206-2 (D-4)	LOW	12	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Condensate System to Condensate Storage Tank Isolation to Preclude Tank Overpressurization
HV-2485	M1-0206-2 (D-4) M2-0206-2 (D-4)	LOW	12	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Condensate System to Condensate Storage Tank Isolation to Preclude Tank Overpressurization
COMPONENT COOLING WATER - HIGH SAFETY SIGNIFICANCE Butterfly Valve / Motor Operated Fisher with Limitorque Actuator (24-inch)												
HV-4512	M1-0229-A (F-1) M2-0229 (C-3)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Train A to Train B Crosstie Isolation
HV-4513	M1-0229-A (G-1) M2-0229 (E-3)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Train A to Train B Crosstie Isolation
HV-4514	M1-0229-B (A-4) M2-0229 (C-6)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Train A to Train B Crosstie Isolation
HV-4515	M1-0229-B (A-4) M2-0229 (D-6)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Train A to Train B Crosstie Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
COMPONENT COOLING WATER - HIGH SAFETY SIGNIFICANCE Butterfly Valve / Motor Operated Fisher with Limitorque Actuator (24-inch)												
HV-4524	M1-0229-A (F-1) M2-0229 (D-4)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Non-Safety Loop Flowpath Isolation
HV-4525	M1-0229-A (F-1) M2-0229 (D-4)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Non-Safety Loop Flowpath Isolation
HV-4526	M1-0229-A (A-5) M2-0229 (D-6)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Non-Safety Loop Flowpath Isolation
HV-4527	M1-0229-A (A-5) M2-0229 (D-6)	HIGH	24	3	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Non-Safety Loop Flowpath Isolation
COMPONENT COOLING WATER - HIGH SAFETY SIGNIFICANCE Butterfly Valve / Motor Operated Velan with Limitorque Actuator (18-inch)												
HV-4572	M1-0229 (B-2) M2-0229-A (C-4)	HIGH	18	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	RHR Heat Exchanger Cooling Flowpath
HV-4573	M1-0229-B (F-6) M2-0229-B (F-4)	HIGH	18	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	RHR Heat Exchanger Cooling Flowpath

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 19 - MOTOR OPERATED VALVES
PAGE 5

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
COMPONENT COOLING WATER Gate Valve / Motor Operated Borg-Warner with Limitorque Actuator												
HV-4696	M1-0231 (C-4) M2-0231 (A-4)	LOW	4	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & RCP Thermal Barrier Rupture Isolation
HV-4699	M1-0231-A (B-6) M2-0230-A (E-2)	LOW	8	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Passive Pipe Break Isolation (inside Containment)
HV-4700	M1-0231-A (B-6) M2-0230-A (E-3)	LOW	8	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & RCP Thermal Barrier Rupture Isolation
HV-4701	M1-0231 (C-4) M2-0231 (A-6)	LOW	8	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
HV-4708	M1-0231 (B-4) M2-0231-A (E-4)	LOW	8	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
HV-4709	M1-0231 (B-4) M2-0231-A (F-4)	LOW	4	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation & RCP Thermal Barrier Rupture Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
COMPONENT COOLING WATER Gate Valve / Motor Operated Fisher with Limitorque Actuator												
HV-4574	M1-0229 (B-4) M2-0229-A (C-2)	LOW	18	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Spray Heat Exchanger Cooling Flowpath
HV-4575	M1-0229-B (F-6) M2-0229-B (F-5)	LOW	18	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Spray Heat Exchanger Cooling Flowpath
COMPONENT COOLING WATER Plug Valve / Motor Operated Tufline with Limitorque Actuator												
X-PV-3583	M1-0229-A (E-5)	LOW	3	3	B	A	N/A (2)	N/A	N/A	N/A	N/A	Control Room A/C Condenser Cooling Flow Control
X-PV-3584	M1-0229-A (D-6)	LOW	3	3	B	A	N/A (2)	N/A	N/A	N/A	N/A	Control Room A/C Condenser Cooling Flow Control
X-PV-3585	M1-0229-B (B-6)	LOW	3	3	B	A	N/A (2)	N/A	N/A	N/A	N/A	Control Room A/C Condenser Cooling Flow Control
X-PV-3586	M1-0229-B (C-6)	LOW	3	3	B	A	N/A (2)	N/A	N/A	N/A	N/A	Control Room A/C Condenser Cooling Flow Control

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
SAFETY & NON-SAFETY CHILLED WATER Gate Valve / Motor Operated Borg-Warner with Limitorque Actuator												
HV-6082	M1-0307-A (B-1) M2-0307 (B-2)	LOW	6	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
HV-6083	M1-0307-A (C-1) M2-0307 (B-2)	LOW	6	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
HV-6084	M1-0307-A (B-2) M2-0307 (B-3)	LOW	6	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
CHEMICAL and VOLUME CONTROL - HIGH SAFETY SIGNIFICANCE Globe Valve / Motor Operated Velan with Limitorque Actuator												
8110	M1-0255 (B-2) M2-0254 (A-2)	HIGH	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Flowpath Boundary
8111	M1-0255 (B-2) M2-0254 (A-2)	HIGH	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Flowpath Boundary
8511A	M1-0255-1 (D-4) M2-0254 (E-5)	HIGH	2	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	High Head Safety Injection Pump Miniflow Path/ECCS Recirculation Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
CHEMICAL and VOLUME CONTROL - HIGH SAFETY SIGNIFICANCE Globe Valve / Motor Operated Velan with Limitorque Actuator												
8511B	M1-0255-1 (D-4) M2-0254 (E-6)	HIGH	2	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	High Head Safety Injection Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
8512A	M1-0255-1 (D-4) M2-0254 (F-6)	HIGH	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath Boundary
8512B	M1-0255-1 (D-4) M2-0254 (F-5)	HIGH	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath Boundary
CHEMICAL and VOLUME CONTROL - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator												
LCV-0112B	M1-0255 (E-6) M2-0254 (C-4)	HIGH	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level) & Boron Dilution Flowpath Isolation
LCV-0112C	M1-0255 (D-6) M2-0254 (C-4)	HIGH	4	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level) & Boron Dilution Flowpath Isolation

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 19 - MOTOR OPERATED VALVES
PAGE 9

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
CHEMICAL and VOLUME CONTROL - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator												
LCV-0112D	M1-0255 (C-5) M2-0254 (B-5)	HIGH	8	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Injection Flowpath & Boration Flowpath/ECCS Recirculation Flowpath Boundary
LCV-0112E	M1-0255 (C-4) M2-0254 (B-5)	HIGH	8	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Injection Flowpath & Boration Flowpath/ECCS Recirculation Flowpath Boundary
CHEMICAL and VOLUME CONTROL Gate Valve / Motor Operated Westinghouse with Limitorque Actuator												
8105	M1-0255-1 (A-2) M2-0255 (D-1)	LOW	3	2	A	A	O/C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Boration Flowpath/ECCS Flowpath Boundary & Containment Isolation
8106	M1-0255-1 (B-2) M2-0255 (C-1)	LOW	3	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Boration Flowpath/ECCS Flowpath Boundary
CHEMICAL and VOLUME CONTROL Globe Valve / Motor Operated Velan with Limitorque Actuator												
8100	M1-0253 (F-1) M2-0253 (D-6)	LOW	2	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
CHEMICAL and VOLUME CONTROL Globe Valve / Motor Operated Velan with Limitorque Actuator												
8104	M1-0255-2 (F-5) M2-0255-2 (B-3)	LOW	2	2	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Boration Flowpath
8109	M1-0255-1 (E-1) M2-0254 (D-3)	LOW	2	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR (4)	ECCS Flowpath Boundary
8112	M1-0253 (F-1) M2-0255-1 (B-4)	LOW	2	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
8351A	M1-0253 (D-5) M2-0255 (D-5)	LOW	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
8351B	M1-0253 (D-5) M2-0255 (D-4)	LOW	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
8351C	M1-0253 (D-5) M2-0255 (D-6)	LOW	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
8351D	M1-0253 (D-5) M2-0255 (D-5)	LOW	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
CONTAINMENT SPRAY Gate Valve / Motor Operated Borg-Warner with Limitorque Actuator												
HV-4758	M1-0232-A (D-2) M2-0232-A (D-2)	LOW	16	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Sump Recirculation Flowpath Boundary
HV-4759	M1-0232-A (E-3) M2-0232-A (E-3)	LOW	16	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Sump Recirculation Flowpath Boundary
HV-4776	M1-0232 (C-5) M2-0232 (C-5)	LOW	16	2	A	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Spray Flowpath/ Containment Isolation
HV-4777	M1-0232 (C-2) M2-0232 (C-2)	LOW	16	2	A	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Spray Flowpath/ Containment Isolation
HV-4782	M1-0232-A (C-5) M2-0232-A (C-5)	LOW	16	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Sump Recirculation Flowpath/Containment Isolation
HV-4783	M1-0232-A (C-6) M2-0232-A (C-6)	LOW	16	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Sump Recirculation Flowpath/Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
CONTAINMENT SPRAY Globe Valve / Motor Operated Fisher with Limitorque Actuator												
FV-4772-1	M1-0232 (E-6) M2-0232 (E-6)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Pump Miniflow Flowpath/ Containment Spray Flowpath Boundary
FV-4772-2	M1-0232 (E-5) M2-0232 (E-5)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Pump Miniflow Flowpath/ Containment Spray Flowpath Boundary
FV-4773-1	M1-0232 (F-3) M2-0232 (F-3)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Pump Miniflow Flowpath/ Containment Spray Flowpath Boundary
FV-4773-2	M1-0232 (F-2) M2-0232 (F-2)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Pump Miniflow Flowpath/ Containment Spray Flowpath Boundary
CONTAINMENT SPRAY Diaphram Valve / Motor Operated ITT with Limitorque Actuator												
LV-4754	M1-0232-A (F-5) M2-0232-A (F-5)	LOW	3	3	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Chemical Additive Flowpath/ Chemical Additive Tank Isolation
LV-4755	M1-0232-A (F-5) M2-0232-A (F-5)	LOW	3	3	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Chemical Additive Flowpath/ Chemical Additive Tank Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
REACTOR COOLANT - HIGH SAFETY SIGNIFICANCE												
Gate Valve / Motor Operated												
Westinghouse Model 03000CS8200000												
8000A	M1-0251 (A-4) M2-0251 (A-4)	HIGH	3	1	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Post Accident Vent Path/Vent Path Isolation & Reactor Coolant Pressure Boundary
8000B	M1-0251 (A-4) M2-0251 (A-4)	HIGH	3	1	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Post Accident Vent Path/Vent Path Isolation & Reactor Coolant Pressure Boundary
RESIDUAL HEAT REMOVAL - HIGH SAFETY SIGNIFICANCE												
Globe Valve / Motor Operated												
Copes Vulcan with Limitorgue Actuator												
FCV-0610	M1-0260 (D-1) M2-0260 (D-1)	HIGH	3	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Pump Miniflow Path/ECCS & RHR Flowpath Boundary
FCV-0611	M1-0260 (D-6) M2-0260 (D-6)	HIGH	3	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Pump Miniflow Path/ECCS & RHR Flowpath Boundary
RESIDUAL HEAT REMOVAL - HIGH SAFETY SIGNIFICANCE												
Gate Valve / Motor Operated												
Westinghouse with Limitorgue Actuator (12-inch)												
8701A	M1-0260 (F-3) M2-0260 (F-3)	HIGH	12	1	A	A	O/C	LT/TS (3)	ET/18MO MT/(1)	N/A	PIT/(1)	RHR Flowpath/Containment Isolation & Reactor Coolant Pressure Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
RESIDUAL HEAT REMOVAL - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator (12-inch)												
8701B	M1-0260 (F-5) M2-0260 (F-5)	HIGH	12	1	A	A	O/C	LT/TS (3)	ET/18MO MT/(1)	N/A	PIT/(1)	RHR Flowpath/Containment Isolation & Reactor Coolant Pressure Boundary
8702A	M1-0260 (F-3) M2-0260 (F-3)	HIGH	12	1	A	A	O/C	LT/TS (3)	ET/18MO MT/(1)	N/A	PIT/(1)	RHR Flowpath/Reactor Coolant Pressure Boundary
8702B	M1-0260 (F-5) M2-0260 (F-5)	HIGH	12	1	A	A	O/C	LT/TS (3)	ET/18MO MT/(1)	N/A	PIT/(1)	RHR Flowpath/Reactor Coolant Pressure Boundary
RESIDUAL HEAT REMOVAL - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator (10-inch)												
8716A	M1-0260 (B-3) M2-0260 (B-3)	HIGH	10	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Injection Flowpath/ECCS Recirculation Flowpath Boundary
8716B	M1-0260 (B-4) M2-0260 (B-4)	HIGH	10	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Injection Flowpath/ECCS Recirculation Flowpath Boundary

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
SAFETY INJECTION - HIGH SAFETY SIGNIFICANCE												
Globe Valve / Motor Operated												
Westinghouse with Limitorque Actuator												
8813	M1-0263-A (E-5) M2-0262 (C-3)	HIGH	2	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath Boundary
8814A	M1-0263-A (D-3) M2-0262 (D-3)	HIGH	1½	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath Boundary
8814B	M1-0263-A (D-4) M2-0262 (D-4)	HIGH	1½	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath Boundary
SAFETY INJECTION - HIGH SAFETY SIGNIFICANCE												
Gate Valve / Motor Operated												
Westinghouse with Limitorque Actuator (less than 8-inch)												
8835	M1-0263-A (A-5) M2-0262 (F-3)	HIGH	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
8923A	M1-0263-A (F-2) M2-0262 (A-2)	HIGH	6	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Passive Pipe Break Isolation
8923B	M1-0263-A (F-3) M2-0262 (A-5)	HIGH	6	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Passive Pipe Break Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
SAFETY INJECTION - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator (8-inch)												
8804A	M1-0261 (F-5) M2-0261 (A-6)	HIGH	8	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
8804B	M1-0263-A (F-3) M2-0262 (B-4)	HIGH	8	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
8806	M1-0263-A (G-2) M2-0262 (A-2)	HIGH	8	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Flowpath Boundary (during Recirculation)
SAFETY INJECTION - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator (10-inch)												
8809A	M1-0263-B (A-2) M2-0263-A (F-1)	HIGH	10	2	A	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation & Containment Isolation
8809B	M1-0263-B (A-4) M2-0263-A (F-3)	HIGH	10	2	A	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation & Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
SAFETY INJECTION - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator (10-inch)												
8840	M1-0263-B (A-3) M2-0263-A (F-2)	HIGH	10	2	A	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Hot Legs Flowpath/ ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
SAFETY INJECTION - HIGH SAFETY SIGNIFICANCE Gate Valve / Motor Operated Westinghouse with Limitorque Actuator (14-inch)												
8811A	M1-0263-B (B-6) M2-0263-A (B-5)	HIGH	14	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath/Containment Isolation & Passive Pipe Break Isolation
8811B	M1-0263-B (B-5) M2-0263-A (B-6)	HIGH	14	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath/Containment Isolation & Passive Pipe Break Isolation
8812A	M1-0263-B (F-2) M2-0263-A (B-2)	HIGH	14	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath Boundary & Shutdown Cooling Flowpath Boundary (during Safety Grade Cold Shutdown)
8812B	M1-0263-B (F-3) M2-0263-A (B-3)	HIGH	14	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath Boundary & Shutdown Cooling Flowpath Boundary (during Safety Grade Cold Shutdown)

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
SAFETY INJECTION Gate Valve / Motor Operated Westinghouse with Limitorque Actuator (4-inch)												
8801A	M1-0261 (C-2) M2-0261 (E-4)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Cold Legs Flowpath & Boration Flowpath/ Containment Isolation & Passive Pipe Break Isolation
8801B	M1-0261 (C-2) M2-0261 (E-5)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Cold Legs Flowpath & Boration Flowpath/ Containment Isolation & Passive Pipe Break Isolation
8802A	M1-0263-A (A-2) M2-0262 (F-2)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Hot Legs Flowpath/ ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
8802B	M1-0263-A (A-3) M2-0262 (F-5)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to Hot Legs Flowpath/ ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
8821A	M1-0263-A (C-3) M2-0262 (E-3)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to ColdLegsFlowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation
8821B	M1-0263-A (C-4) M2-0262 (E-4)	LOW	4	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS to ColdLegsFlowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
SAFETY INJECTION												
Gate Valve / Motor Operated												
Westinghouse with Limitorque Actuator (larger than 4-inch)												
8807A	M1-0261 (E-5) M2-0261 (B-6)	LOW	6	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
8807B	M1-0261 (E-5) M2-0261 (B-6)	LOW	6	2	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
8808A	M1-0262 (C-2) M2-0263-B (E-2)	LOW	10	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR (4)	ECCS from Accumulators to Cold Legs Flowpath
8808B	M1-0262 (C-3) M2-0263-B (E-3)	LOW	10	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR (4)	ECCS from Accumulators to Cold Legs Flowpath
8808C	M1-0262 (C-5) M2-0263-B (E-5)	LOW	10	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR (4)	ECCS from Accumulators to Cold Legs Flowpath
8808D	M1-0262 (C-6) M2-0263-B (E-6)	LOW	10	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR (4)	ECCS from Accumulators to Cold Legs Flowpath
8924	M1-0261 (E-4) M2-0261 (B-5)	LOW	6	2	B	A	C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Passive Pipe Break Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
STATION SERVICE WATER - HIGH SAFETY SIGNIFICANCE Butterfly Valve / Motor Operated Fisher with Limitorque Actuator												
HV-4286	M1-0233 (E-2) M2-0233 (D-3)	HIGH	24	3	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Service Water Flowpath/ Throttling during Pump Start
HV-4287	M1-0233 (D-2) M2-0233 (B-3)	HIGH	24	3	B	A	O/C	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Service Water Flowpath/ Throttling during Pump Start
STATION SERVICE WATER Butterfly Valve / Motor Operated Fisher with Limitorque Actuator												
HV-4393	M1-0234 (F-6) M2-0234 (F-6)	LOW	10	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Service Water Flowpath
HV-4394	M1-0234 (F-1) M2-0234 (F-1)	LOW	10	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	Service Water Flowpath
HV-4395	M1-0234 (G-6) M2-0234 (G-6)	LOW	10	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	AFW Pump Emergency Supply Flowpath
HV-4396	M1-0234 (G-1) M2-0234 (G-1)	LOW	10	3	B	A	O	N/A	ET/18MO MT/(1)	N/A	PIT/(1)	AFW Pump Emergency Supply Flowpath

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE VALVE TESTING PLAN
TABLE 19 - MOTOR OPERATED VALVES
PAGE 21

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Cate-gory	Func-tion	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
CONTAINMENT ISOLATION Gate Valve / Motor Operated Borg-Warner with Limitorque Actuator												
HV-4075B	M1-0225-5 (B-3) M2-0225-5 (B-3)	LOW	4	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
HV-4075C	M1-0225-5 (D-3) M2-0225-5 (D-3)	LOW	4	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT/(1)	Containment Isolation
CONTAINMENT ISOLATION Butterfly Valve / Motor Operated Posi-Seal with Limitorque Actuator												
HV-5540	M1-0301 (C-2) M2-0301 (B-2)	LOW	12	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT (1)	Containment Isolation
HV-5541	M1-0301 (D-2) M2-0301 (C-2)	LOW	12	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT (1)	Containment Isolation
HV-5542	M1-0301 (C-4) M2-0301 (B-4)	LOW	12	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT (1)	Containment Isolation

Valve Number	Flow Diagram (Coord.)	Risk Ranking	Size	Code Class	Category	Function	Safety Func. Pos.	Test Parameters/Schedule: Leak Test	Exercise Test	Fail Safe Test	Position Indicator Test	Remarks
CONTAINMENT ISOLATION Butterfly Valve / Motor Operated Posi-Seal with Limitorque Actuator												
HV-5543	M1-0301 (D-4) M2-0301 (C-4)	LOW	12	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT (1)	Containment Isolation
HV-5562	M1-0301 (D-2) M2-0301 (C-2)	LOW	12	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT (1)	Containment Isolation
HV-5563	M1-0301 (D-4) M2-0301 (C-4)	LOW	12	2	A	A	C	LTJ/TS	ET/18MO MT/(1)	N/A	PIT (1)	Containment Isolation

NOTES

1. The test frequency for each MOV shall be determined from the chart (see Relief Request V-8 for more details):

Initial Inservice Test Frequency

MARGIN

RISK	Low	Medium	High
High	1 cycle	2 cycles	3 cycles
Low	2 cycles	4 cycles	6 cycles*

* Not to exceed 10 years

A. Criteria for MOV Margin Categories

Low Margin: < 10%

Medium Margin: ≥ 10% and < 15%

High Margin: ≥ 15%

B. Criteria for Risk Categories

High Risk: Risk-Informed IST Program

Low Risk: Risk-Informed IST Program

2. X-PV-3583, -3584, -3585, -3586, Control Room A/C Condenser Cooling Flow Control Valves, are exempt from inservice testing per ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-1200. These valves are motor operated and fail as-is and thus are not subject to fail-safe testing.

3. The test frequency requirements of Technical Specification SR 3.4.14.1 apply for leak testing of 8701A, 8701B, 8702A, 8702B, which are more restrictive than the test frequency requirements of ASME OM Code 1998 Edition, 1999 and 2000 Addenda, Subsection ISTC-3630.

4. For valves 8109, 8808A, 8808B, 8808C and 8808D, position indication testing will be performed every two years. These valves have a low safety significance and a six year test frequency requirement; however, a two year test frequency is established to avoid scheduling staggered tests.

APPENDIX A

The following pages contain requests for relief from certain Code test requirements which are identified in the Pump and Valve Testing Plans' tables. The Relief Requests address instances where an alternative to the Code requirements is proposed or where it has been determined that compliance with certain Code requirements is impractical or presents a hardship or unusual difficulty without a compensating increase in the level of plant quality and safety. Relief Requests associated with the Inservice Pump Testing Plan have numbers prefixed with "P". Relief Requests associated with the Inservice Valve Testing Plan have numbers prefixed with "V". Administrative Relief Requests have numbers prefixed with "A". The guidance presented in References 1.5.2, 1.5.8, 1.5.9 and 1.5.10 was used to the greatest extent possible in formatting the Relief Requests in this appendix.

NRC staff approval pursuant to 10CFR50.55a(a)(3) or (f)(5) is required prior to implementation of a Relief Request. The approval status of each Relief Request in this appendix is indicated individually as part of the Relief Request.

RELIEF REQUEST NO.	A-1
SYSTEM	See Tables 0 through 19.
CODE CLASS	See Tables 0 through 19.
CATEGORY	See Tables 0 through 19.
COMPONENT NO. & COMPONENT DESCRIPTION	See Tables 0 through 19. This change affects all current components in the CPSES Inservice Testing (IST) Plan, and also adds some new components to the RI-IST Plan.
DESCRIPTION	Risked Informed - Inservice Testing, Alternative from 10CFR50.55a(f)(4)(i) and (ii) for Inservice Testing Frequency: This alternative utilizes a risk-based approach to change the test frequencies of certain low safety significant components (LSSCs) in the ASME Section XI pump and valve inservice testing (IST) Program. The extended frequencies are greater than those currently allowed by Section XI of the ASME Boiler and Pressure Vessel Code. The process used to identify candidates for frequency extension is discussed under "Proposed Alternative" and "Basis for Alternative."
CURRENT TEST REQUIREMENTS	CPSES Technical Specification (TS) 4.0.5.a requires that inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f). Regulation 10 CFR 50, Section 50.55a(f)(4)(i) states; Inservice tests to verify operation readiness of pumps and valves, whose function is required for safety, conducted during the initial 120-month interval must comply with the requirements in the latest edition and addenda of the Code incorporated by reference in paragraph (b) of this section on the date 12 months prior to the date of issuance of the operating license subject to the limitations and modifications listed in paragraph (b) of this section. Regulation 10 CFR 50, Section 50.55a(f)(4)(ii) states; In REQUIREMENTS service tests to verify operation readiness of pumps and valves, whose function is required for safety, conducted during successive 120-month interval must comply with the requirements in the latest edition and addenda of the Code incorporated by reference in paragraph (b) of this section 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed in paragraph (b) of this section.

The ASME Code of record for CPSES is the 1989 Edition of ASME Code, Section XI, No Addenda. The Code specifies the following test frequencies:

Test Type	Test Frequency (nominal)	Code Reference
Pump Test	3 months	OM Part 6
Valve Position Indication Verification	2 years	OM Part 10
Valve Exercising Test	3 months	OM Part 10
Valve Fail-Safe Test	3 months	OM Part 10
Valve Leak Rate Test	2 years (Non-Containment Isolation Valves) Frequency per Appendix J (Containment Isolation Valves)	OM Part 10 10CFR50 App. J
Check Valve Exercise Test	3 months	OM Part 10
Safety/Relief Valve Setpoint Test	5 years (class 1, class 2 MSSV) 10 years (class 2, 3)	OM Part 1 OM Part 1

PROPOSED ALTERNATIVE

In lieu of performing inservice tests on pumps and valves whose function is required for safety at frequencies specified in the ASME Code, as required by 10 CFR 50.55a(f)(4)(i) during the 120-month operating interval, this alternative would allow the inservice test frequencies of those pumps and valves to be determined in accordance with an NRC approved Risk-Informed IST Program Description at CPSES as follows:

(1) The safety significance of pumps and valves whose function is required for safety will be assessed in accordance with the NRC approved Risk-Informed IST Program Description. These components will be classified as either High Safety Significant Components (HSSCs) or Low Safety Significant Components (LSSCs). The inservice testing of those components classified as LSSC will be performed at extended test frequencies determined in accordance with the Risk-Informed IST Program Description. The inservice test methods for all pumps and valves whose function is

important to safety will continue to be performed in accordance with the ASME Code.

(2) The safety significance assessment of pumps and valves will be updated, as specified in the Risk-Informed IST Program Description.

This alternative will also apply to 10CFR50.55a(f)(4)(ii) for successive 120-month IST intervals.

See Attachment 1 for the Risk-Informed Inservice Testing Program Description.

BASIS FOR ALTERNATIVE

Section 50.55a(a)(3) of 10 CFR states in part:

Proposed alternatives to the requirements of paragraphs (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that: (i) The proposed alternatives would provide an acceptable level of quality and safety.

TU Electric requests NRC approval to implement the Risk-Informed Inservice Testing Program Description as an alternative to the requirements of 10 CFR 50.55a(f)(4)(i) and (ii). These regulations require that inservice tests on pumps and valves, whose function is required for safety, must comply with a specified ASME Code. Specifically, TU Electric requests approval to utilize a risk-Informed inservice testing program to determine inservice test frequencies for valves and pumps that are identified as low safety significant, in lieu of testing those components at the frequencies specified in the ASME Code. The use of the Risk-Informed Inservice Testing Program Description will provide an acceptable level of quality and safety.

The current Code is based on a deterministic approach which considers a set of challenges to safety and determines how those challenges should be mitigated. The deterministic approach contains elements of probability, such as the selection of accidents to be analyzed as design basis accidents (e.g., the reactor vessel rupture is considered too improbable to be included) and the requirements for emergency core cooling (e.g., safety train redundancy).

The Risk-Informed IST Program that would be implemented with this alternative incorporates a probabilistic approach to regulation which enhances and extends this traditional, deterministic approach, by:

(1) allowing consideration of a broader set of potential challenges to safety,

(2) providing a logical means for prioritizing these

challenges based on risk significance, and

(3) allowing consideration of a broader set of resources to defend against these challenges.

First, the PRA model has identified a broader set of challenges to safety. The Risk-Informed Inservice Testing Program has identified High Safety Significant Components (HSSCs) which were not in the ASME Section XI IST Program. Even though the components are outside the ASME Code class boundary, they will be tested commensurate with their safety significance. Where the ASME Section XI testing is practical, HSSCs not in the current ASME Section XI IST Program Plan will be tested in accordance with OM-1 for safety relief valves, OM-10 for active valves and OM-6 for pumps. Where the ASME Section XI testing is not practical, alternative methods will be developed to ensure operational readiness.

Components in the current ASME Section XI IST Program which are determined to be HSSCs will continue to be tested in accordance with the current Program, which meets the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, except where specific written relief has been granted. Components in the current ASME Section XI IST Program which are determined to be LSSC will also be tested in accordance with the ASME Section XI IST Program, except that the test frequency will initially be extended to once every 6 years. The extended test frequency will be staggered over 6 years as described in Attachment 1. No LSSC will be deleted from the ASME Section XI IST Program.

Second, the Risk-Informed Inservice Testing Program prioritizes these challenges based on the results of the CPSES PRA. The risk rankings are then complemented with rankings based on consideration of other accident initiators (e.g. fires, tornadoes, and earthquakes) and plant operating modes. These rankings considered importance with respect to core damage prevention, and prevention of large early releases of radiation to the public. Attachment 1 (pages 5 through 20 of Enclosure 1 to TXX-98086) describes the program methodology. Enclosure 3 to TXX-96371 (TU Electric letter dated June 3, 1996, from C. L. Terry to the NRC) provides the current list of LSSCs from the initial implementation of that methodology.

Third, an Integrated Decision Process (IDP) allows a broader set of resources to be considered to defend against challenges to safety. The IDP is composed of experienced individuals with expertise in the areas of ASME Code, plant operations, maintenance engineering, system engineering, design engineering, and probabilistic risk assessment. The IDP is responsible to ensure the risk ranking input information is consistent with plant design, operating procedures, and with plant-specific operating experience. At the end of the IDP review process every component in the CPSES ASME Section XI IST Program is reviewed.

	The risk-informed process will assure that a defense-in-depth philosophy is maintained. As a living process, components will be reassessed periodically to reflect changes in plant configuration, component performance, test results, industry experience, and other factors. When the list of components is affected, changes will be provided to the NRC in regular Program updates. There could be safety enhancements obtained by focusing resources on HSSCs and reducing the testing frequency on LSSCs. Extensive testing on LSSCs could have an adverse effect on safety. Reduction of testing should reduce component wear-out, operator burden, system unavailability, cost of testing, and radiation exposure. Reduced testing could also achieve a more optimum balance between the positive impacts of testing and the negative effects of disturbing equipment from service and entering less than optimum plant configuration, such as valve misalignments.
RADIOLOGICAL CONCERNS (ALARA)	Potential radiation exposure will be diminished due to less frequent testing.

ATTACHMENT TO R/R A-1

RISK-INFORMED INSERVICE TESTING PROGRAM DESCRIPTION (RI-IST)

The proposed alternative is a risk informed process to determine the safety significance and testing strategy of components in the ASME Section XI Inservice Testing (IST) Program, and identify non-ASME IST components (pumps & valves) modeled in the Probabilistic Risk Analysis (PRA) that are determined to be High Safety Significant Components (HSSCs). The process consists of the following elements.

1) Utilization of the Probabilistic Risk Analysis (PRA) techniques to identify component importance measure values. (PRA Techniques)

2) Categorize components based on importance measures determined by the PRA techniques. (Component Risk Category)

3) Blended deterministic and probabilistic data to perform a final importance ranking of components and categorization as either Low Safety Significant Component (LSSC) or High Safety Significant Component (HSSC). (Integrated Decision Process) (IDP)

4) Develop/Determine Test Frequencies and Test Methodologies for the IST components. (Testing Philosophy)

5) Evaluate the cumulative impact of the test frequency changes on total plant risk (i.e., CDF and LERF) to ensure that the change in plant safety is within the acceptable range. (Cumulative impact)

6) Develop an implementation plan. (Implementation)

7) Develop a Corrective Action plan. (Corrective Action)

8) Perform periodic reassessments. (Periodic Reassessments)

9) Methodology for making changes to the RI-IST. (Changes to RI-IST Program after Initial NRC Approval)

1) PRA Techniques

PRA methods will be used to determine the risk significance of components based on end states of interest, such as core damage frequency (CDF) and release of radioactivity (e.g. large early release frequency (LERF)).

The PRA techniques are used in conjunction with the Integrated Decision Process (IDP) to ensure that all the available information is accounted for in developing the importance measures. As such, a review of plant equipment and operating procedures will be performed to identify potential plant specific initiating events as well as those initiating events that have been identified in the Nuclear industry. Evaluation of initiating events will also include

loss of support systems and other special initiators.

Any changes to the PRA models used for the development of importance measures for the RI-IST will be independently reviewed. The independent reviews will be by either the in-house personnel or outside consultants.

The PRA will be periodically evaluated (See Section 8) to reflect the current plant design, procedures, and programs. Also the PRA will be evaluated prior to moving components to the LSSC category.

A full scope PRA is not required. However, any limitations (e.g. missing initiating events) will be addressed by the IDP using the methodology described in Section 2 below.

The potential degradation of components will be considered in the overall assessment of risk associated with the implementation of the RI-IST. As a result, any effect on common cause failure estimations will also be evaluated. To the extent possible, plant-specific data will be utilized to assess component degradation.

Compensatory measures which are used as part of the IDP process to qualitatively justify the extension of test interval will be re-verified during the IDP process update (See Section 8).

2) Component Risk Category

Two figures of merit will be used to initially determine the risk categories of IST components. These two methods are Fussell-Vesely (FV) and Risk Achievement Worth (RAW). For the RI-IST Program, the following criteria will be used to initially rank components for review by the Integrated Decision Process (IDP).

Category	Criterion
High	FV > 0.001
Potentially High	FV < 0.001 and RAW > 2
Low	FV < 0.001 and RAW < 2

The ΔCDF and ΔLERF for the change are within the acceptance guidelines of Regulatory Guide 1.174.

Methodology/Decision Criteria for Limited Scope PRA

The following describes the methodology used to categorize components in the RI-IST when the program is reassessed. However, only those elements that are significantly affected by the model changes (e.g., design modifications or procedural changes) need to be reviewed in detail using this process. The scope of the review and the

ATTACHMENT TO R/R A-1

justification for it will be documented as part of the IDP.

Apply Importance Criteria to PRA and Review

Review FV and RAW importance measures for pumps and valves considered in the PRA against the criteria and determine if the grouping of components is logical.

Review component importance measures to make sure that their bases are well understood.

Robustness/Validation of Results

- Address the sensitivity of the results to common cause failures (CCF), assuming all/none of the CCF importance is assigned to the associated component.
- Evaluate the sensitivity due to human action modeling. Identify/evaluate operator actions omitted by the PRA that can change the ranking of a component. The omitted recovery actions are those not credited because they are not important to the CDF.
- Consider industry history for particular IST components. Review such sources as NRC Generic Letters, SOERs, IOERs and Technical Bulletins and rank accordingly.
- For components with low FV/high RAW ensure that other compensatory measures are available to maintain the reliability of the component.
- Identify and evaluate components whose performance shows a history of causing entry into LCO conditions. To ensure that safety margins are maintained, consider retaining the ASME test frequency for these components.
- Ensure that truncated components have been eliminated due to redundancy of function rather than solely due to reliability. If they are truncated due to their high reliability, then those components should be qualitatively re-evaluated and re-categorized appropriately.

Validate or change the PRA-based component ranking. If the validated PRA ranking is high, rank the component high; if the PRA ranking is low and the other factors such as the operating performance of the component validate the ranking, rank as low.

ATTACHMENT TO R/R A-1

Fire, Tornado and Seismic Considerations

Consider the following for risk ranking components for external events.

- Calculate risk importance measures for components in the fire and tornado cutsets. Compare these calculated values and the PRA values to identify those components that are low risk significant for the PRA but high risk significant for fire and tornado.
- Review component importance measures and the PRA limitations for fire and tornado in a manner similar to that described for internal events discussed above and adjust the rankings of the components accordingly.
- For those components on the Safe Shutdown Equipment List (SSEL) and the containment systems list, review their risk categories to ensure that those components important to seismic and containment integrity are appropriately categorized.

Outage Risk Importance

A qualitative assessment of PRA systems modeled for shutdown modes will be performed to determine the impact of shutdown modes on IST rankings. To perform this analysis a three step process will be used. First, using existing PRA system models as the basis, components and system configurations that are unique to the shutdown modes from the at power PRA will be identified. Second, using a qualitative set of rules, components in key trains will be ranked into three categories:

1. Category 1: High safety significant components (high FV)
2. Category 2: Potentially high safety significant components (low FV, moderate to high RAW).
3. Category 3: Low safety significant components (low FV, low RAW)

Third, support systems that are unique to shutdown configurations will also be identified and ranked accordingly.

There are several safety functions important to shutdown. These are Over-Pressure Protection, Shutdown Cooling, Spent Fuel Pool Cooling, Inventory Control, Reactivity Control, AC Power, and Containment Integrity. Rather than analyzing each function separately, the systems required for the shutdown accident sequences will be analyzed and ranked with respect to their shutdown configurations. This will provide a comprehensive review of the shutdown systems and their unique configurations.

ATTACHMENT TO R/R A-1

The risk profile for an outage changes as maintenance activities start and stop and plant states change. Therefore, the importance of components can also change during the outage, depending on the plant configuration as governed by the outage schedule. There can be times when almost any component can become more risk significant depending upon the outage scenario. If the plant is in a configuration of increased risk, and an IST component must operate to respond to an accident, that component will be more risk significant for that time period. If that period of time is extended, then the component on average will be more risk significant.

A major difference between at power and shutdown is that safety systems are in a standby mode at power and active components must start or reposition automatically for success. Since actuation failure is much more likely than failure to continue to operate, a reliability-oriented risk importance measure like Fussell-Vesely is lower for outage than at power. However, since functional importance is similar, the RAW value is likely to be the same and its FV is correspondingly lower. Also, during shutdown, automatic actuations are usually blocked and pumps and valves are actuated by manual operation only. Since the failure probability for human action may at times be more likely than automatic actuation, the contribution of equipment failure is relatively less likely. Therefore, in most cases the ranking of components at power is higher than during shutdown, although the system configuration must still be compared to determine if there are unique differences for the shutdown mode. Based upon the insights discussed above, the approach to risk ranking is as follows:

- If a component performs the same function and is in the same initial state as at power, the at power ranking is assumed to bound the outage ranking.
- If a component performs a different function or is in a different initial state than at power, then the outage ranking must be evaluated.

The latter evaluation involves cases where a different system is used, i.e., spent fuel pool cooling, or where a different function is performed by a component in a system "used" at power or during an outage. Additionally the following guidelines are used for risk ranking for shutdown.

Category 1 - High Safety Significant Components (High FV):

- Pumps that must start to perform function (assume all pumps in systems that cycle operating trains)(High FV)

ATTACHMENT TO R/R A-1

- Motor Operated Valve (MOV) or Air Operated Valve (AOV) that must change state to perform function (but not portions with redundant paths, e.g. two supply sources to one pump)(High FV)
- MOV or AOV that must change state to prevent flow diversion that can fail redundant trains (high FV, extremely high RAW)
- Pressure relief valves (safety or power operated) needed to control pressure so that redundant trains of systems can perform function (high FV or low FV, high RAW)

Category 2 - Potentially High Safety Significant Components (low FV & moderate to high RAW):

- Pumps that must continue running (low FV, moderate RAW)
- Valves in single path portions of redundant systems that are not required to change state (RHR outlet valves)(usually low FV, moderate or high RAW)
- Check valve plus MOV or AOV that must remain as is if they are in the trains only flow path (low FV, moderate RAW)
- Check valves for which reverse flow can fail redundant trains simultaneously (low FV, extremely high RAW)
- MOV or AOV which if they change state can cause flow diversion that can fail redundant trains (low FV, extremely high RAW)
- Control components that need to function to prevent system degradation (e.g. AFW flow control valves to the Steam Generators that can fail the Turbine Driven AFW pump)(low FV, moderate RAW)

Category 3 - Low Safety Significant Components (low FV & low RAW):

- All other Components that do not fall into category 1 or 2 were ranked low.

ATTACHMENT TO R/R A-1

These rules will be applied to the systems that support the safety functions described herein.

Back-end Risk Importance

It is equally important to identify those pumps and valves that prevent containment failure or bypass that could result in an unacceptable release. Examples might include the valves that provide the boundary between the reactor coolant system and low-pressure systems located outside containment. Various analyses have shown that large releases, though infrequent and of low probability, tend to dominate offsite consequences. Therefore, those IST components identified by back-end analyses will be ranked according to their importance to large early release frequency only.

Containment isolation failures or containment bypass events can, in some accident scenarios, cause a large, early release. The associated valves represent a substantial fraction of components treated by the IST program. However, their importance varies significantly depending on their initial position, their size, the leak path they are in, etc. These factors will be evaluated with a simple model consistent with the PRA back-end analysis. Risk importance of containment functions will be measured by developing quantitative importance measures for accidents contributing to large, early releases.

The large, early releases are more likely to result from accidents with the following attributes:

- A failure in containment exists at the time of the accident, either because the containment fails to isolate or it is bypassed, or
- A high-pressure core meltdown occurs with containment heat removal (sprays) unavailable at the time of core melting.

One cause of a large, early release is a steam generator tube rupture, with immediate failure of core cooling, and failure of the main steam system to isolate. A large but not early release can also occur if the same scenario occurs except that core cooling fails late in the accident rather than immediately. This latter scenario is the most likely source of a large release. However, because adequate time would be available to implement emergency response measures, this source of a large release will not be considered in the importance measure calculation. Instead, the most important sources of main steam isolation failure are considered potentially important and will be reviewed

by the IDP to determine if the associated valves should be categorized as high.

IST Components Not in PRA

Review components not explicitly modeled in the PRA to ensure an IST component is, in fact, low risk.

High-Risk PRA Components Not in the IST Program

Identify other high risk pumps and valves that are not in the IST program but should be tested commensurate with their risk importance.

- Evaluate the PRA modeling assumptions, component failure modes, operator actions, recoveries and any other effects that could substantiate the components risk category as "high risk" even if they are not in the IST Program.
- Determine whether current plant testing is commensurate with the importance of these valves. If not, determine what test, e.g., the IST test, would be the most appropriate.

Other Considerations

Perform sensitivity studies, as needed, to evaluate the cumulative impact of changes in the IST Program test strategies on the total Core Damage Frequency (CDF).

3) Integrated Decision Process

The purpose of utilizing the Integrated Decision Process (IDP) is to confirm or adjust the initial risk ranking developed from the PRA results, and to provide qualitative assessment based on engineering judgement and experience. This qualitative assessment compensates for limitations of the PRA, including cases where adequate quantitative data is not available.

The IDP utilizes deterministic insights, engineering judgement, experience and regulatory requirements as described above in Section 2. The IDP will review the initial PRA risk ranking, evaluate applicable deterministic information, and determine the final safety significance categories. The IDP considerations will be documented for each individual component to allow for future repeatability and scrutiny of the categorization process.

The scope of the IDP includes both categorization and application. The IDP is to provide deterministic insights that might influence categorization. The IDP will identify components whose performance justifies a higher

categorization.

The IDP will determine appropriate changes to testing strategies. The IDP will identify compensatory measures for potentially high components or justify the final categorization. The IDP will also concur on the test interval for components categorized as low.

The end product of the IDP will be components categorized as Low Safety Significant Component (LSSC) or High Safety Significant Component (HSSC).

In making these determinations, the IDP will ensure that key safety principles, namely defense-in-depth and safety margins, are maintained and that the changes in risk for both CDF and LERF are acceptable per the guidelines discussed in Section 2 above. The key safety principles are described below.

Defense in Depth

To ensure that defense-in-depth is maintained by the CPSES RI-IST program, adherence to four basic principles will be reviewed and documented as part of the IDP for any future changes to the program. The following describes these four basic principles:

1. No changes to the plant design or operation's procedures will be made as part of the RI-IST program which either significantly reduce defense-in-depth or place strong reliance on any particular plant feature, human action, or programmatic activity.

2. The results and dominant contributors to core damage risk will be reviewed to ensure that the categorization of components using PRA is done on an evenhanded basis covering the full scope of safety functions. A review will be done to ensure that components which mitigate the spectrum of accidents are not ranked low solely because of initiating event frequency. Further, sensitivity studies will be performed for human actions to ensure that components which mitigate the spectrum of accidents are not ranked low solely because of the reliability of a human action.

3. The methodology for component categorization, namely the selection of importance measures and how they are applied and understanding the basic reasons why components are categorized HSSC or LSSC, will be reviewed to ensure that redundancy and diversity are preserved as the more important principles. If a component is categorized as LSSC solely due to its high reliability, then it must be confirmed that: 1) plant performance has been good and 2) a compensatory measure or feedback mechanism is available to ensure adverse trends in equipment performance can be detected in a timely manner. A review will be done to ensure that relaxation in the RI-IST program occurs only when the

level of redundancy or diversity in the plant design or operation supports it. In this regard, all components that have significant contributions to common cause failure will be reviewed to avoid relaxation of requirements on those components with the lowest level of diversity within the system.

4. The use of multiple risk metrics, including core damage frequency (CDF) and large early release frequency (LERF), with additional checks for large but late releases and consequence mitigation, will be done to ensure a reasonable balance between risk reduction methods.

Other Considerations Related To Defense-In-Depth.

When the PRA does not explicitly model a component, function or mode of operation, a qualitative method may be used to classify the component HSSC or LSSC and to determine whether a compensatory measure is required.

Sufficient Safety Margin is Maintained

The IDP will perform reviews to ensure that sufficient safety margin is maintained when compared to the existing IST program. In performing this review, the IDP will consider such things as proposed changes to test intervals and, where appropriate, test methods. The IDP will ensure that the proposed compensatory measures are effective fault finding tasks, where this is required in the program, to assure safety margin is maintained. To enhance the safety margin, the IDP will also review PRA-important components not in the current IST program for potential inclusion in the RI-IST program.

Categorization Guidelines

Modeled Components/Functions

For modeled components/functions with a FV >0.001 the IDP either confirms the component categorization is HSSC or justification of conservatism in the PRA model will be developed.

For modeled components/functions with a FV <0.001, but a RAW >2.0, the component will be categorized LSSC provided a compensatory measure exists that ensures operational readiness and the components' performance has been acceptable. If a compensatory measure is not available or the component has a history of performance problems, the component will be ranked HSSC.

For modeled components/functions with a FV <0.001 and a RAW <2.0, the component will be categorized as LSSC provided the components' performance has been acceptable. For those components with performance problems, a compensatory measure will be identified to ensure operational readiness or the component will be categorized as HSSC.

ATTACHMENT TO R/R A-1

Non-Modeled Components/Functions

For components not modeled or the safety function not modeled in the PRA, the categorization is as follows:

If the sister train is modeled then the component takes that final categorization.

If the component is implicitly modeled, the FV and RAW are estimated and the deliberation is as discussed for modeled components/functions.

If the component is not implicitly modeled, the system ranking associated with the Maintenance Rule will be confirmed. For confirmed system ranking, the component performance history will be reviewed. For acceptable performance history the component will be categorized as LSSC. For poor performance history, a compensatory measure will be identified to ensure operational readiness and the component categorized as LSSC, or if no compensatory measures are available, categorize the component as HSSC.

Documentation

Documentation of the IDP will be available for review at the plant site.

4) Testing Philosophy

Motor Operated Valves (MOVs)

HSSC Testing will be performed in accordance with Code Case OMN-1 (except the maximum diagnostic test interval will be 6 years), and NRC Generic Letter 89-10 and 96-05 commitments.

LSSC Testing will be performed in accordance with Code Case OMN-1 (except the maximum diagnostic test interval will be 6 years), and NRC Generic Letter 89-10 and 96-05 commitments.

Performance Monitoring (applicable to HSSC and LSSC):

- termination inspection
- stem threads re-lubed
- actuator gear box grease inspection
- T-drain inspection
- limit switch gear box grease inspection
- visual inspection of housings
- stem nut staked and secure

ATTACHMENT TO R/R A-1

Relief Valves

HSSC & LSSC — Testing will be performed in accordance with Code of Record as defined in 10CFR50.55a.

Performance Monitoring (applicable to HSSC and LSSC):

- test results trended
- new valves tested prior to installation
- valves set as close to nominal as practical

Check Valve Testing Strategy

HSSC — Testing will be performed in accordance with the ASME Code of Record as defined by 10CFR50.55a.

Certain HSSC check valves will also be tested in accordance with the Check Valve Reliability Program (CVRP). This program was developed in response to INPO SOER 86-03. Testing for the CVRP includes nonintrusive testing (e.g. acoustic monitoring) and where conditions direct, valve disassembly. The enhanced nonintrusive testing provides for condition monitoring by comparing data from current testing to a known baseline where the valve was operating in a satisfactory manner

LSSC — Testing will be performed in accordance with the ASME Code of Record as defined by 10CFR50.55a except at a test frequency not to exceed 6 years (with 25% margin).

Certain LSSC check valves will be tested in accordance with the CVRP as necessary.

Check valves included in the CVRP are those which have been evaluated to be susceptible to wear, fatigue, or corrosion.

Performance Monitoring (applicable to HSSC and LSSC):

- acoustic monitoring data when taken is trended
- check valve disassembly inspections where necessary

Air Operated Valves (AOVs)

HSSC — Testing will be performed in accordance with the Code of Record as defined by 10CFR50.55a.

LSSC — Testing will be performed in accordance with the Code of Record

as defined by 10CFR50.55a except with a test frequency not to exceed 6 years (with 25% margin). Additionally LSSC AOVs will be stroked at least once during the operating cycle.

Performance Monitoring (applicable to HSSC and LSSC):

- diagnostic testing
- elastomer replacement
- response time testing

Note: TU Electric is participating in a tailored collaboration project with EPRI to develop an AOV program similar to the MOV Program mandated by GL 89-10 and 96-05. This program will evaluate the valve/operator characteristics/capabilities and the design conditions under which the valve is expected to operate. Once this information is developed the valves will be tested and modified as necessary to meet their safety function. AOV's which are being evaluated by the EPRI Tailored Collaboration are:

1) an HSSC AOV from each grouping (i.e. same manufacturer, size)

2) an LSSC AOV from other groups not included from (1) above.

Pumps

HSSC Testing will be performed in accordance with the Code of Record as defined by 10CFR50.55a.

LSSC Testing will be performed in accordance with the Code of Record as defined by 10CFR50.55a except with a test frequency not to exceed 6 years (with 25% margin).

Performance Monitoring (applicable to HSSC and LSSC):

- thermography of the drivers
- lube oil analysis
- alignment checks
- motor current testing
- vibration monitoring
- flange loading checks of connected piping

5) Cumulative Impact

Evaluate the cumulative impact of the test frequency changes on total plant risk (i.e., CDF and LERF) to ensure that the change in plant safety is within the acceptable range.

ATTACHMENT TO R/R A-1

This will be done by performing various sensitivity studies to determine the potential risk impact of increasing in-service testing intervals simultaneously on all low risk significant components.

The unavailabilities of the IST components in the low-risk category will be increased by a factor equivalent to the proposed increase in the component test interval. For each sensitivity case, the PRA cutset results will be requantified using the adjusted component unavailabilities due to the proposed test intervals. The new total CDF and LERF for each case will be obtained. These new values will, then, be compared with the CDF and LERF of the base case to assess the net change in total plant risk due to proposed IST test frequencies.

In addition, component risk importances will be re-evaluated for the following groups of IST components to identify any components that may move up from low safety significant components to high safety significant components:

Group 1: Low FV, high RAW with credit taken for compensatory measures identified by the IDP (i.e., other surveillance tests on the same piece of equipment).

Group 2: Low FV, low RAW with no credit taken for compensatory measures because this category implies that increases in component unavailabilities are not expected to impact risk significantly.

Due to uncertainty in how test interval changes will actually affect the component unavailabilities, a number of conservative assumptions are made as summarized below:

- It is assumed that any increase in test intervals would simultaneously impact the reliability of all IST components in the low safety-significant component (LSSC) category.
- Consistent with the PRA techniques, the component unavailability required to change state, is assumed to be:

$$Q = \lambda_{OD} + \lambda(T/2)$$

Q = total component unavailability

Where λ_{OD} = Component unavailability on demand

Λ = Component failure rate per hour

T = Interval between tests that verify operability of the component

- The component unavailability is assumed to increase by the same factor as the increase in the test interval. For example, a change in the test interval from quarterly to semi-annually is assumed to increase
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- the total component unavailability by a factor of two. This is a very conservative assumption because it assumes that not only the $\lambda(T/2)$ term would be increased by a factor of two, but also the failure on demand term (λ_{OD}) term is assumed to be directly impacted by the change in the test interval.

- Decrease in wear out due to less frequent testing is assumed to be negligible although frequent testing has been seen to cause components to be less available due to wearout.

- It is conservatively assumed that all IST tests are fully effective in finding the causes of component unavailabilities.

The PRA models will be updated to reflect the changes to the test frequency of modeled components, and the PRA study will be re-evaluated to quantify the aggregate impact of the changes. The cumulative impact of the test frequency changes will be reviewed through the IDP.

6) Implementation

Implementation of the RI-IST to LSSC will consist of grouping components and then staggering the testing of the group over the test frequency.

Grouping:

Components will be grouped based on:

- manufacturer

- model

- service condition

- size

The population of the group will be dependent on:

- total population available

- maintaining current testing schedule

Grouping components in this manner and testing on a staggered basis over the test frequency will reduce the importance of common cause failure modes as components in the same staggering failure mode group are continually being tested. This ensures that the component capability will be maintained over the test interval (i.e., 6 years).

Testing of components within the defined group will be staggered over the test interval, typically 6 years. Testing will be scheduled on regular intervals over the 6 year period to ensure all components in the group are tested at least once during the 6 year test interval and not all components are tested

ATTACHMENT TO R/R A-1

at one time. The staggering allows the trending of components in the group to ensure the test frequency selected is appropriate.

Testing will be scheduled/planned such that there is no more than one cycle between tests of components in a group.

7) Corrective Action

When a component on the extended test interval fails to meet established test criteria, corrective actions will be taken in accordance with the CPSES corrective action program as described below for the RI-IST.

For components not meeting the acceptance criteria, an Operation Notification and Evaluation (ONE) Form will be generated. This document initiates the corrective action process. Also, the initiating event for a ONE Form may be from causes other than an unacceptable IST test. Programs exist that provide timely information to the IST coordinator that the performance of a reliable component has degraded. For example, a common compensatory action for pump discharge check valves would be the IST pump test. Since this test can not be considered satisfactory if the check valve fails to perform its risk significant function, a test failure would be recorded and a ONE Form initiated. The recorded information could then be used to assess whether a significant change in component reliability has occurred such that the component would merit a change in test interval.

The initiating event could be any other indication that the component is in a non-conforming condition. The unsatisfactory condition will be evaluated to:

a) Determine the impact on system operability and take appropriate action.

b) Review the previous test data for the component and all components in the group.

c) Perform a root cause analysis.

d) Determine if this is a generic failure. If it is a generic failure whose implications affect a group of components, initiate corrective action for all components in the affected group.

e) Initiate corrective action for failed IST components.

f) Evaluate the adequacy of the test strategy. If a change is required, review the IST test schedule and change as appropriate.

The results of component testing will be provided to the PRA group for input to PRA model evaluation. (See Section 8)

ATTACHMENT TO R/R A-1

For an emergent plant modification, any new IST component added will initially be included at the current Code of Record test frequency. Only after evaluation of the component through the RI-IST Program (i.e., PRA model evaluation if applicable and IDP review) will this be considered LSSC.

8) Periodic Reassessment

As a living process, components will be reassessed at a frequency not to exceed every other refueling outage (based on Unit 1 refueling outages) to reflect changes in plant configuration, component performance test results, industry experience, and other inputs to the process. The RI-IST reassessment will be completed within 9 months of completion of the outage.

Part of this periodic reassessment will be a feedback loop of information to the PRA. This will include information such as components tested since last reassessment, number and type of tests, number of failures, corrective actions taken including generic implication and changed test frequencies. Once the PRA has been reassessed, the information will be brought back to the IDP for deliberation and confirmation of the existing lists of HSSCs and LCCSs or modification of these lists based on the new data. As part of the IDP, confirmatory measures previously utilized to categorize components as LSSC will be validated. Additionally, the maximum test interval will be verified or modified as dictated by the IDP.

9) Changes to RI-IST after Initial NRC Approval

Changes to the process described above and to the evaluation of risk impact will require prior NRC approval. Changes to the categorization of components and associated testing strategies using the above process will not require prior NRC approval. As changes to component categorization are made, TU Electric will periodically submit them to the NRC for their information.

NRC APPROVAL STATUS	Approved. Reference safety evaluation dated August 14, 1998 for Units 1 & 2.

RELIEF REQUEST NO.	P1	
SYSTEM	Diesel Generator Auxiliaries	
PUMP NUMBER	CP1-DOAPFT-01	CP1-DOAPFT-02
	CP1-DOAPFT-03	CP1-DOAPFT-04
	CP2-DOAPFT-01	CP2-DOAPFT-02
	CP2-DOAPFT-03	CP2-DOAPFT-04
CLASS	3	
DESCRIPTION	Diesel Generator Fuel Oil Transfer	
TEST REQUIREMENT	OM Part 6, para. 6.1, "Acceptance Criteria"	
	OM Part 6, Table 3b, "Ranges for Test Parameters"	

REFERENCES

1. Zudans, John J. "Introduction to ASME/ANSI OMa-1988, Part 6: Inservice Testing of Pumps in Light-Water Reactor Power Plants and Technical Differences Between Part 6 and ASME Section XI, Subsection IWP." Proceedings of the Symposium on Inservice Testing of Pumps and Valves. Washington, DC, August 1-3, 1989, pp. 25-58.
2. Sage, Lawrence. "Introduction to ASME/ANSI OMa-1988, Part 6: Basis of the New Vibration Measurement Criteria and Requirements of Part 6." Proceedings of the Symposium on Inservice Testing of Pumps and Valves. Washington, DC, August 1-3, 1989, pp. 59-74.
3. International Standards Organization Standard: "Mechanical Vibration of Machines with Operating Speeds from 10 to 200 rev/s -Basis for Specifying Evaluation Standards," ISO 2372, First Edition - 1974-11-01.

BASIS FOR RELIEF

Unlike earlier editions of ASME Section XI, OM Part 6 emphasizes the use of bearing vibration measurements as the primary indicator of pump degradation and places less emphasis on hydraulic measurements. Further, OM Part 6 introduces the classification of pumps by type. According to References 1 and 2, pump classification is introduced in recognition of the fact that the quality of vibration measurements varies among pump types. By classifying pumps, different test requirements and acceptance criteria can be specified depending on type. For example, vertical line shaft pump bearings are generally inaccessible

BASIS FOR RELIEF (continued)

for vibration monitoring. So to compensate, OM Part 6 imposes more stringent hydraulic acceptance criteria for these pumps and additionally requires that vibration monitoring be done on the driver bearings.

Another pump type which incurs a "penalty" in hydraulic acceptance criteria in OM Part 6 is reciprocating positive displacement pumps. Reciprocating pumps are characterized by pulsating flow and high, oscillating inertia forces due to the back and forth motion of the pressure producing members. Therefore, diagnosing the mechanical condition of reciprocating pumps using vibration measurements is somewhat difficult and to compensate, OM Part 6 specifies a reduced range of hydraulic acceptance criteria for these pumps.

Throughout OM Part 6 the terms "positive displacement pump" and "reciprocating pump" are used interchangeably. However, from Reference 2 it is clear that the pump type being addressed is the reciprocating variety of positive displacement pumps. Unfortunately, OM Part 6 ignores the other variety of positive displacement pumps, rotary pumps, and in doing so seems to apply the test requirements and acceptance criteria intended for reciprocating pumps to all positive displacement pumps. The Fuel Oil Transfer Pumps are rotary positive displacement pumps which do not share the inherent difficulties and limitations of bearing vibration diagnostics which reciprocating pumps experience. On the contrary, these low inertia, untimed multiple-rotor screw pumps are characterized by low mechanical vibration, pulsation-free axial flow and bearing loadings which do not vary through the pumping cycle. The bearings are quite accessible as the pump bores themselves effectively form continuous hydrodynamic fluid film bearings along the entire length of the rotors. The mechanical condition of screw pumps can be well understood through vibration monitoring.

Reference 2 discusses the pump classification methodology used by the O&M Task Group on Vibration Monitoring in preparing OM Part 6. That task group drew heavily on guidance from Reference 3 in classifying pump types. Of the six classes of pumps recognized in the ISO standard, the group determined that most pumps in nuclear power plant applications fell into one of two ISO classes: Class III or Class V. The primary difference

BASIS FOR RELIEF (continued)	between these classes is that Class III comprises rotating machines whereas Class V comprises reciprocating machines. These ISO classifications were translated into OM Part 6 as two major pump types: centrifugal and reciprocating positive displacement. (Note that vertical line shaft pumps are a special case of centrifugal pumps.) The subject screw type pumps were not specifically considered for classification by the task group. Nonetheless, they are inadvertently classified with reciprocating pumps in OM Part 6 due to the use of the general term "positive displacement". The Fuel Oil Transfer Pumps are most closely ISO Class III pumps and should therefore be subject to the applicable requirements and criteria for centrifugal pumps in OM Part 6.
SUBSTITUTE TEST	For the purpose of determining the Acceptable Range, Alert Range and Required Action Range for Fuel Oil Transfer Pump flow rate (Q), the ranges specified in OM Part 6, Table 3b for centrifugal pump flow rate shall be used. For the purpose of determining the Acceptable Range, Alert Range and Required Action Range for Fuel Oil Transfer Pump discharge pressure (P), the ranges specified in OM Part 6, Table 3b for centrifugal pump differential pressure shall be used. For the purpose of determining the Acceptable Range, Alert Range and Required Action Range for Fuel Oil Transfer Pump vibration (V), the ranges specified in OM Part 6, Table 3a for centrifugal pump vibration shall be used. For the purpose of making Fuel Oil Transfer Pump vibration measurements, the requirements of OM Part 6, para. 4.6.4(a) shall apply.
NRC APPROVAL STATUS	Approved. Reference safety evaluation dated January 29, 1993 for Unit 1. Reference NUREG-0797, SER Supplement 26 for Unit 2.

RELIEF REQUEST NO.	V1
SYSTEM	(See VALVE NUMBER)
VALVE NUMBER	Main Steam

2MS-0021	2MS-0022	2MS-0023	2MS-0024	2MS-0025
2MS-0058	2MS-0059	2MS-0060	2MS-0061	2MS-0062
2MS-0093	2MS-0094	2MS-0095	2MS-0096	2MS-0097
2MS-0129	2MS-0130	2MS-0131	2MS-0132	2MS-0133

Reactor Coolant

2-8010A	2-8010B	2-8010C

CATEGORY	C
CLASS	2 (Main Steam); 1 (Reactor Coolant)
DESCRIPTION	Main Steam Safety Valves; Pressurizer Safety Valves
TEST REQUIREMENT	OM Part 1, para. 7.2, "Testing After Installation Prior to Initial Electric Power Generation" (General requirement)

OM Part 1, para. 7.2.1.1 (Class 1 Safety Valves): "Within 6 months prior to initial fuel loading, each valve shall have its set pressure verified. Set pressure verification shall be determined by pressurizing the system up to the valve set pressure and opening the valve, or the valve may be tested at or below normal system operating pressures with an assist device."

OM Part 1, para. 7.2.2.1.a (Main Steam Safety Valves): "After system heatup, but prior to initial reactor criticality, each valve shall be subjected to the following tests.

1. Set pressure verification shall be determined by pressurizing the system up to the valve set pressure and opening the valve, or the valve may be tested at or below normal system operating pressure with an assist device.

2. Compliance with the Owner's seat tightness criteria shall be verified."

BASIS FOR RELIEF

The primary intent of the subject Code paragraphs is to require testing of Class 1 (Pressurizer) and Main Steam Safety Valves shortly before a Pressurized Water Reactor plant is initially started up. This requirement is reasonable when one considers the safety significance of these valves and the fact that years may elapse between

BASIS FOR RELIEF (continued)

the manufacturer's shop test and the time the valves are first placed in service. However, the Code also seems to imply that the required testing, for this specific instance only, should be done with the valves in-place. While in-place testing may apparently offer a convenience in that valve removal and reinstallation is averted, removal of the valves from the system for testing (at a testing lab), can yield equally valid test results and offer some distinct advantages.

In particular, valve maintenance and adjustment can be accomplished more easily in the testing lab environment. For example, the Pressurizer and Main Steam Safety Valves are known to experience seat leakage after cycling. After set pressure verification the valves often must be disassembled (while retaining spring compression) so that the disc insert and nozzle seating surfaces can be lapped. If the set pressure verification was performed in-place, the subsequent seat leakage repairs would entail cooldown and depressurization of the Reactor Coolant and Main Steam Systems. Following valve repair and reassembly the systems would then have to be heated back up and repressurized to conduct a valve seat leakage retest. (Recall that OM Part 1 requires seat leakage testing to be done under the same temperature conditions and using the same fluid media as for the set pressure verification.)

Pressurizer and Main Steam Safety Valve testing and maintenance can be performed at a testing lab, on the other hand, and thereby eliminate the need to cycle the entire reactor plant. The test lab facilities allow the exact operating conditions (fluid media, temperature stability and ambient temperature) of the valves to be simulated for testing and provide easy access to the valves should any maintenance be required. Actual set pressure on steam can be verified at a testing lab without utilizing an assist device. The additional activities associated with testing the valves at a lab such as valve removal, shipping and reinstallation can be accomplished safely by applying the procedural and quality controls normally required for such work. The valves are rigged, boxed, and shipped in the vertical position and are receipt inspected both at the testing lab and upon their return to the plant. Reinstallation involves the routine closure of gasketed joints which is verified subsequently through inservice leakage testing.

BASIS FOR RELIEF (continued)	Based on the above, a valid OM Part 1 performance test of the Pressurizer and Main Steam Safety Valves can be had through either in-place testing or testing in a lab.
SUBSTITUTE TEST	For the purpose of accomplishing Main Steam and Pressurizer Safety Valve testing prior to initial electric power generation, the following requirements will apply: 1. Within 6 months of initial fuel loading, each Pressurizer Safety Valve shall have its set pressure verified. 2. Either before or after installation and within 6 months prior to initial reactor criticality, each Main Steam Safety Valve shall be subjected to the following tests: a) set pressure verification b) compliance with the Owner's seat tightness criteria shall be verified.
NRC APPROVAL STATUS	Approved. Reference NUREG-0797, Supplement 25 for Unit 2. This Relief Request is not applicable to Unit 1.

RELIEF REQUEST NO.	V2
SYSTEM	(See VALVE NUMBER)
VALVE NUMBER	Auxiliary Feedwater

1AF-0215/0216	1AF-0217/0218	1AF-0219/0220
1AF-0221/0222	1AF-0223/0224	1AF-0226/0227
1AF-0228/0229	1AF-0230/0231	1AF-0232/0233
1AF-0234/0235		
2AF-0221/0222	2AF-0223/0224	2AF-0226/0227
2AF-0228/0229	2AF-0230/0231	2AF-0232/0233
2AF-0234/0235	2AF-0236/0291	2AF-0237/0238
2AF-0239/0240		

Component Cooling Water

1CC-1079/1080	1CC-1081/1082
2CC-1091/1092	2CC-1093/1094

Instrument Air (Control Room HVAC)

1CI-0644/0645	1CI-0646/0647

Diesel Generator Auxiliaries

1DO-0058/0063	1DO-0059/0062
1DO-0060/0065	1DO-0061/0064
2DO-0058/0074	2DO-0059/0075
2DO-0060/0076	2DO-0061/0077

Main Steam

1MS-0680/0681	1MS-0682/0683
1MS-0684/0685	1MS-0686/0687
2MS-0663/0664	2MS-0665/0666
2MS-0667/0668	2MS-0669/0670

Safety Injection (Reactor Coolant)

1SI-0166/0167	1SI-0168/0169
2SI-0166/0167	2SI-0168/0169

CATEGORY	A/C, C
CLASS	3

DESCRIPTION	These check valves form the boundary between the non-safety Instrument Air or Nitrogen supply systems and the safety-grade accumulator and receiver tanks. The tanks provide an emergency air or nitrogen supply to certain safety-related components. The check valves are required to close upon failure of the air or nitrogen supply system in order to contain the compressed gas in the tanks.
TEST REQUIREMENT	OM Part 10, para. 4.3.2, "Exercising Tests for Check Valves"
BASIS FOR RELIEF	Each valve listed above is one of two check valves in series at the inlet to a safety-grade accumulator or receiver tank. In each case, only one check valve is required in order to meet the safety class interface criteria of ANSI N18.2a-1975. However, two check valves are provided for added reliability, not for redundancy. The safety-related components served by the accumulator and receiver tanks are redundant to other similar components which have their own dedicated safety-grade air supplies. As long as one of the check valves in the pair is capable of closure, then the safety analysis assumptions for the pair of check valves are met. Some of the check valve pairs do not have provisions for testing each valve individually. However, the closure capability of each pair of check valves can be verified.
SUBSTITUTE TEST	Each pair of series check valves will be exercise tested at the required frequency by some positive means to verify the closure capability of at least one of the valves. No additional exercise testing will be performed unless there is an indication that the closure capability of the pair of valves is questionable. In that case, both valves will be declared inoperable and not returned to service until they are either repaired or replaced.
NRC APPROVAL STATUS	Approved. Reference safety evaluation dated January 29, 1993 for Unit 1. Reference NUREG-0797, SER Supplement 26 for Unit 2.

RELIEF REQUEST NO.	V3
SYSTEM	(See VALVE NUMBER)
VALVE NUMBER	Auxiliary Feedwater

1AF-0215/0216	1AF-0217/0218	1AF-0219/0220
1AF-0221/0222	1AF-0223/0224	1AF-0226/0227
1AF-0228/0229	1AF-0230/0231	1AF-0232/0233
1AF-0234/0235		
2AF-0221/0222	2AF-0223/0224	2AF-0226/0227
2AF-0228/0229	2AF-0230/0231	2AF-0232/0233
2AF-0234/0235	2AF-0236/0291	2AF-0237/0238
2AF-0239/0240		

Component Cooling Water

1CC-1079/1080	1CC-1081/1082
2CC-1091/1092	2CC-1093/1094

Instrument Air (Control Room HVAC)

1CI-0644/0645	1CI-0646/0647

Main Steam

1MS-0680/0681	1MS-0682/0683
1MS-0684/0685	1MS-0686/0687
2MS-0663/0664	2MS-0665/0666
2MS-0667/0668	2MS-0669/0670

Safety Injection (Reactor Coolant)

1SI-0166/0167	1SI-0168/0169
2SI-0166/0167	2SI-0168/0169

CATEGORY	A/C
CLASS	3
DESCRIPTION	These check valves form the boundary between the non-safety Instrument Air or Nitrogen supply systems and the safety-grade accumulator and receiver tanks. The tanks provide an emergency air or nitrogen supply to certain safety-related components. The check valves are required to close upon failure of the air or nitrogen supply system in order to contain the compressed gas in the tanks.
TEST REQUIREMENT	OM Part 10, para. 4.2.2, "Valve Seat Leakage Rate Test".

BASIS FOR RELIEF	Each valve listed above is one of two check valves in series at the inlet to a safety-grade accumulator or receiver tank. In each case, only one check valve is required in order to meet the safety class interface criteria of ANSI N18.2a-1975. However, two check valves are provided for added reliability, not for redundancy. The safety-related components served by the accumulator and receiver tanks are redundant to other similar components which have their own dedicated safety-grade air supplies. As long as one of the check valves in the pair is capable of meeting its leakage rate criteria, then the safety analysis assumptions for the pair of check valves are met. Some of the check valve pairs do not have provisions for testing each valve individually. However, the leakage rate of each pair of check valves can be verified.
SUBSTITUTE TEST	Each pair of series check valves will be leakage rate tested at the required frequency to verify acceptable seat leak-tightness of at least one of the valves. No additional leakage rate testing will be performed unless there is an indication that the seat leak-tightness of the pair of valves is questionable. In that case, both valves will be declared inoperable and not returned to service until they are either repaired or replaced.
NRC APPROVAL STATUS	Approved. Reference safety evaluation dated January 29, 1993 for Unit 1. Reference NUREG-0797, SER Supplement 26 for Unit 2.

RELIEF REQUEST NO.	V4
SYSTEM	Containment Spray
VALVE NUMBER	1CT-0142, 1CT-0145, 1CT-0148, 1CT-0149 2CT-0142, 2CT-0145, 2CT-0148, 2CT-0149
CATEGORY	A/C, C
CLASS	2
DESCRIPTION	Containment Spray Header Check Valves (CT-0142, CT-0145) Containment Spray Pump Suction Check Valves from the Recirculation Sumps (CT-0148, CT-0149)
TEST REQUIREMENT	OM Part 10, para. 4.3.2.4(c), "...disassembly every refueling outage to verify operability of check valves may be used."
BASIS FOR RELIEF	The subject valves are burdensome to disassemble and inspect every refueling outage. A significant amount of borated and potentially contaminated water must be drained from the system and disposed of to accomplish the disassemblies. Further, disassembly of these large valves diverts considerable manpower away from the refueling activity. The valves are all of the same design (manufacturer, size, model number, and materials of construction) and have the same service conditions including valve orientation. No wear related degradation is anticipated for these valves because they are all located in portions of the system which do not experience flow during normal operation. Due to the similarities between these valves, the condition of the valve inspected during the Substitute Test will be representative of the other valves in the group.
SUBSTITUTE TEST	Verify operability of the subject check valves through disassembly and inspection of one of the four valves in each unit at each refueling outage for that unit. The disassembled valve will be verified to be capable of full-stroking and it will be verified that the internals of the valve are structurally sound (no loose or corroded parts). Also, the disk will be manually exercised.

SUBSTITUTE TEST (continued)	A different valve from each unit will be disassembled, inspected and manually full-stroke exercised at each successive refueling outage until the entire group for that unit has been tested. If the disassembled valve is not capable of being full-stroke exercised or there is binding or failure of valve internals, the remaining valves in the group for that unit will also be disassembled, inspected, and manually full-stroke exercised during the same outage. Once this is completed, the sequence of disassembly will be repeated unless extension of the interval can be justified.
NRC APPROVAL STATUS	This Relief Request is pre-approved by Generic Letter 89-04, Attachment 1, Position 2. (Also reference safety evaluation dated January 29, 1993 for Unit 1 and NUREG-0797, SER Supplement 26 for Unit 2.)

RELIEF REQUEST NO.	V5	
SYSTEM	Chemical and Volume Control	
VALVE NUMBER	1CS-8350A/1CS-8367A 1CS-8350C/1CS-8367C 1-8378A/1-8378B	1CS-8350B/1CS-8367B 1CS-8350D/1CS-8367D 1-8379A/1-8379B
	2CS-8350A/2CS-8367A 2CS-8350C/2CS-8367C 2-8378A/2-8378B	2CS-8350B/2CS-8367B 2CS-8350D/2CS-8367D 2-8379A/2-8379B
CATEGORY	C	
CLASS	1	
DESCRIPTION	RCP Seal Injection Lines and Charging/Alternate Charging Lines/Reactor Coolant Pressure Boundary Isolation Check Valves	
TEST REQUIREMENT	OM Part 10, para. 4.3.2, "Exercising Tests for Check Valves".	

BASIS FOR RELIEF

Each pair of valves listed above constitutes two check valves in series at a CVCS/RCS interface. Two Safety Class 1 check valves are provided in accordance with the safety class interface criteria of ANSI N18.2a-1975 in order to isolate the interfacing Class 2 system.

Either of the check valves provided can perform this function. The system design, however, does not include the test connections necessary to close exercise test each of the series check valves individually. The system design does include sufficient test connections to verify the check function of each pair of valves (i.e., verification that at least one of the valves will close).

Offsetting the inability to separately test each series check valve are the following design features:

1. Both of the Class 1 check valves at each interface lie within the secondary shield wall inside containment and thus are afforded protection from dynamic events and missiles generated elsewhere in containment.

2. The interfacing portions of the CVCS system are designed and constructed as Safety Class 2 and are seismically qualified.

BASIS FOR RELIEF (continued)	3.	The interfacing portions of the CVCS system are designed for pressures greater than or equal to RCS pressure.
	4.	Upstream of each of the subject check valve pairs, the interfacing CVCS lines contain a separate Containment Isolation check valve and power operated valve which are close exercise tested individually.
SUBSTITUTE TEST		Each pair of series check valves will be exercise tested at the required frequency by some positive means to verify the closure capability of at least one of the valves. No additional exercise testing will be performed unless there is an indication that the closure capability of the pair of valves is questionable. In that case, both valves will be declared inoperable and not returned to service until they are either repaired or replaced.
NRC APPROVAL STATUS		Denied. The substitute testing described above may continue to be implemented until startup from the third refueling outage for Unit 1 and until startup from the first refueling outage for Unit 2. However, by July 1, 1993 either this relief request must be revised and resubmitted for NRC staff approval or a test method must be developed for verifying each valve's closed function and the relief request withdrawn. Reference safety evaluation dated January 29, 1993 for Unit 1. Reference NUREG-0797, SER Supplement 26 for Unit 2.

RELIEF REQUEST NO.	V6	
SYSTEM	Demineralized and Reactor Makeup Water	
VALVE NUMBER	1DD-0006/1DD-0065 2DD-0002/2DD-0006	1DD-0064/1DD-0066 2DD-0008/2DD-0009
CATEGORY	C	
CLASS	3	
DESCRIPTION	These check valve pairs form the boundary between the non-safety Demineralized Water System or Waste Processing System and the safety-grade Reactor Makeup Water Storage Tank (RMWST) to preclude draining the RMWST upon failure of the non-safety systems.	
TEST REQUIREMENT	OM Part 10, para. 4.3.2, "Exercising Tests for Check Valves".	
BASIS FOR RELIEF	Each pair of valves listed above constitutes two check valves in series at a Class 3/Non-Safety piping interface. Two Safety Class 3 check valves are provided in accordance with the safety class interface criteria of ANSI N18.2a-1975 in order to isolate the interfacing non-safety system. Either of the check valves provided can perform this function. The system design, however, does not include the test connections necessary to close exercise test each of the series check valves individually. The system design does include sufficient test connections to verify the check function of each pair of valves (i.e., verification that at least one of the valves will close). Offsetting the inability to separately test each series check valve is the availability of the other unit's RMWST. Each unit'' RMWST normally provides inventory for makeup to various safety-related systems in that unit via the Reactor Makeup Water Pumps. The two units' Reactor Makeup Water Pumps, however, are cross-connected (but normally isolated) at their suctions, discharges and miniflow lines such that either the Unit 1 RMWST or the Unit 2 RMWST can be aligned to supply any of the Reactor Makeup Water users in either unit. In the unlikely event that one unit's tank contents are lost through a makeup line failure in combination with the failure of both makeup line check valves to close, the other unit's tank would be unaffected.	

SUBSTITUTE TEST	Each pair of series check valves will be exercise tested at the required frequency by some positive means to verify the closure capability of at least one of the valves. No additional exercise testing will be performed unless there is an indication that the closure capability of the pair of valves is questionable. In that case, both valves will be declared inoperable and not returned to service until they are either repaired or replaced.
NRC APPROVAL STATUS	Approved. Reference safety evaluation dated January 29, 1993 for Unit 1. Reference NUREG-0797, SER Supplement 26 for Unit 2.

RELIEF REQUEST NO.	V7			
SYSTEM	Safety Injection			
VALVE NUMBER	1-8956A 2-8956A	1-8956B 2-8956B	1-8956C 2-8956C	1-8956D 2-8956D
CATEGORY	A/C			
CLASS	1			

DESCRIPTION

Check valves in the ECCS flowpath from the Safety Injection Accumulators to the Reactor Coolant System/Reactor Coolant System pressure isolation valves.

TEST REQUIREMENT

OM Part 10, para. 4.3.2.4(c), "...disassembly every refueling outage to verify operability of check valves may be used."

BASIS FOR RELIEF

The subject valves are burdensome to disassemble and inspect every refueling outage. Because of their location below the RCS cold leg elevations and the fact that no positive isolation provisions exist between these valves and the RCS, the RCS must be maintained in a reduced inventory condition for the duration of the valve disassemblies. Also, the main Residual Heat Removal System flowpaths (for which these check valves form a boundary) and portions of the Safety Injection System must be removed from service and drained to facilitate the valve disassemblies. Draining of these systems produces significant amounts of liquid radwaste which must subsequently be processed. The valve disassembly activity itself can result in significant personnel radiation exposures depending on fuel performance and due to the valves' close proximity to the reactor coolant loops. Further, disassembly of these large valves diverts considerable manpower away from the refueling activity.

The valves are all of the same design (manufacturer, size, model number, and materials of construction) and have the same service conditions including valve orientation. No wear related degradation is anticipated for these valves because they are all located in portions of the system which do not experience flow during normal operation.

Due to the similarities between these valves, the condition of the valve inspected during the Substitute Test will be representative of the other valves in the group.

SUBSTITUTE TEST	Verify operability of the subject check valves through disassembly and inspection of one of the four valves in each unit at each refueling outage for that unit. The disassembled valve will be verified to be capable of full-stroking and it will be verified that the internals of the valve are structurally sound (no loose or corroded parts). Also, the disk will be manually exercised. A different valve from each unit will be disassembled, inspected, and manually full-stroke exercised at each successive refueling outage until the entire group for that unit has been tested. If the disassembled valve is not capable of being full-stroke exercised or there is binding or failure of valve internals, the remaining valves in the group for that unit will also be disassembled, inspected, and manually full-stroke exercised during the same outage. Once this is completed, the sequence of disassembly will be repeated unless extension of the interval can be justified.
NRC APPROVAL STATUS	This Relief Request is pre-approved by Generic Letter 89-04, Attachment 1, Position 2. (Also reference safety evaluation dated January 29, 1993 for Unit 1 and NUREG-0797, SER Supplement 26 for Unit 2.) Beginning with the fifth refueling outage for Unit 1 and the third refueling outage for Unit 2, this relief request will no longer be used.

RELIEF REQUEST NO.	V-8, Revision 2
SYSTEM	See attached table
VALVE NUMBER	See attached table
CATEGORY	See attached table
CLASS	See attached table
DESCRIPTION	See attached table
BASIS FOR RELIEF	As discussed in NRC GL 96-05 stroke time testing of MOV's has been recognized as an ineffectual method of ensuring MOV operational readiness. Also as required in NRC GL 96-05 each licensee is to develop a periodic verification program to ensure operational readiness for the life of the plant. The GL provides guidance on the periodic verification program. As such, the performance of such testing (i.e. exercising each MOV during a fuel cycle, static diagnostic testing and confirmatory dynamic testing linked with a preventative maintenance program) will more adequately ensure operational readiness.
TEST REQUIREMENT	OM Part 10 para. 4.2.1.4(b), "... The stroke time of all power-operated valves shall be measured to at least the nearest second." Test intervals are defined in OM Part 10 para. 4.2.1.2.
SUBSTITUTE TEST	Motor Operator Valve (MOV) performance will be verified in accordance with the NRC GL 96-05, "Period Verification of Design Basis Capability of Safety-Related Motor Operated Valves" requirement. The CPSES commitment for satisfying GL 96-05 is described in TU Electric's response to GL 96-05. CPSES MOV periodic verification testing will comply with the requirements of ASME O&M Code Case OMN-1, "Alternate Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants, OM Code-1995 Edition, Subsection ISTC," with the following limitations: 1) The potential benefits (such as identification of decreased thrust output and increase thrust requirements) and potential adverse effects (such as accelerated aging or valve damage) will be considered when determining the appropriate testing for each MOV. 2) Where the selected inservice test frequency extends beyond 6 years or 4 refueling outages (whichever is longer), performance and test experience obtained from valve testing conducted during the first 6 year

or 4 refueling outage time period shall be evaluated to justify the longer periodic verification frequency.

3) The risk insights determined during TU Electric's participation in the Electric Power Research Institute (EPRI) Risk-Informed Inservice Testing Pilot Project (ref. EPRI TR-105869) and on-going development of an updated risk-informed categorization process based upon ASME Research guidance and Codes as applicable will be used in accordance with the requirements of the ASME OM Code Case OMN-1.

Inservice testing shall be conducted in the "as-found" condition only. "As-found" referring to: no maintenance activities that may affect the performance of an MOV shall be conducted prior to performing inservice testing. MOV Preventative Maintenance (PM) activities (including stem lubrication) will be performed on time based intervals to ensure the MOV is maintained in optimum working condition. PM activities will be scheduled separately and frequencies determined independently from MOV inservice test requirements. Performance of a MOV PM will not alter an MOVs "as-found" status with regards to performing inservice testing. The effects of PM activities on MOV operational readiness will be assessed to ensure the PM activities do not affect the validity of the MOV inservice test results.

Inservice testing shall be sufficient to assess changes in MOV functional margin. Therefore, MOVs requiring maintenance prior to their scheduled inservice test frequency shall be evaluated to determine whether or not performance of an inservice test prior to the maintenance activity will provide sufficient and/or valuable information in assessing changes in the MOVs functional margin. This evaluation, as a minimum, shall consider: inservice test frequency, time from last inservice or preservice test, functional margin, maintenance activity to be performed, grouping, MOV history, risk significance, and a review of the last inservice or preservice test performed. In addition, this evaluation shall be documented for future reference.

Any OMN-1 Code Case requirements that are not currently included in the CPSES MOV program will be implemented using a controlled process in accordance with OMN-1 and evaluated under 10 CFR 50.59.

TU Electric intends to take the following exceptions to the requirements in ASME Code Case OMN-1 as described below:

1) Paragraph 3.3.1, items (a) & (b) - The initial inservice test frequency for each MOV shall be determined based upon the MOV's risk significance category (i.e. High or Low) and magnitude of margin. See Figure 1 for initial inservice test frequency details. The inservice test frequency may change when sufficient test data has been collected and analyzed to determine a more appropriate test frequency. No test frequency shall exceed 10 years.

2) Paragraph 6.4.3 - In order to maintain consistency and compatibility with the Joint Owners Group (JOG) MOV Periodic Verification Program, "Functional Margin" will be redefined to agree with the definition of "Margin" as detailed in Topical Report MPR-1807 (Reference 1). The terms "Functional Margin" and "Margin" shall be synonymous within the CPSES MOV Periodic verification program.

   "Margin", as defined in Reference 1, is dependent upon "Required Thrust." At CPSES "Required Thrust" for rising stem MOVs has been determined from stem thrust measurements taken during extensive baseline testing performed in response to GL 89-10 under both static and dynamic test conditions. Valve factors have been determined by statistical means for each group of rising stem MOVs; these factors will be reviewed/verified as new data is obtained from CPSES testing and results are received from the JOG Periodic Verification Program."

REFERENCES

1. 'Joint BWR, Westinghouse and Combustion Engineering Owners' Group Program on Periodic Verification on Motor-Operated Valves (MOV) Periodic Verification, Topical Report MPR-1807, Revision 2, July 1997"

System	Valve Number	Category	Class	Description
Auxiliary Feedwater	HV-2480	B	3	Auxfeedwater Pump Emergency Supply Flowpath
	HV-2481	B	3	Auxfeedwater Pump Emergency Supply Flowpath
	HV-2482	B	3	Auxfeedwater Pump Emergency Supply Flowpath
	HV-2484	B	3	Condensate System to Condensate Storage Tank Isolation to Preclude Tank Over pressurization
	HV-2485	B	3	Condensate System to Condensate Storage Tank Isolation to Preclude Tank Over pressurization
	HV-2491A	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation
	HV-2491B	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation
	HV-2492A	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation
	HV-2492B	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation
	HV-2493A	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation
	HV-2493B	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation
	HV-2494A	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation
	HV-2494B	B	2	Containment Isolation & AFW to Faulted SG Flow Isolation

System	Valve Number	Category	Class	Description
Component Cooling Water	X-PV-3583	B	3	CR A/C Condenser Cooling Flow Control
	X-PV-3584	B	3	CR A/C Condenser Cooling Flow Control
	X-PV-3585	B	3	CR A/C Condenser Cooling Flow Control
	X-PV-3586	B	3	CR A/C Condenser Cooling Flow Control
	HV-4512	B	3	Train A to Train B Crosstie Isolation
	HV-4513	B	3	Train A to Train B Crosstie Isolation
	HV-4514	B	3	Train A to Train B Crosstie Isolation
	HV-4515	B	3	Train A to Train B Crosstie Isolation
	HV-4524	B	3	Non-Safety Loop Flowpath Isolation
	HV-4525	B	3	Non-Safety Loop Flowpath Isolation
	HV-4526	B	3	Non-Safety Loop Flowpath Isolation
	HV-4527	B	3	Non-Safety Loop Flowpath Isolation
	HV-4572	B	3	RHR Heat Exchanger Cooling Flowpath
	HV-4573	B	3	RHR Heat Exchanger Cooling Flowpath
	HV-4574	B	3	Containment Spray Heat Exchanger Cooling Flowpath
	HV-4575	B	3	Containment Spray Heat Exchanger Cooling Flowpath
	HV-4696	A	2	Containment Isolation & RCP Thermal Barrier Rupture Isolation
	HV-4699	B	2	Passive Pipe Break Isolation (Inside Containment)
	HV-4700	A	2	Containment Isolation & Passive Pipe Break Isolation (Inside Containment)
	HV-4701	A	2	Containment Isolation
	HV-4708	A	2	Containment Isolation
	HV-4709	A	2	Containment Isolation & RCP Thermal Barrier Rupture Isolation

System	Valve Number	Category	Class	Description
Chemical & Volume Control	LCV-0112B	B	2	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level) & Boron Dilution Flowpath Isolation
	LCV-0112C	B	2	ECCS Flowpath Boundary & Isolation of VCT Cover Gas from Charging Pumps' Suction Header (upon low VCT level) & Boron Dilution Flowpath Isolation
	LCV-0112D	B	2	ECCS Injection Flowpath & Boration Flowpath/ECCS Recirc Flowpath Boundary
	LCV-0112E	B	2	ECCS Injection Flowpath & Boration Flowpath/ECCS Recirc Flowpath Boundary
	8100	A	2	Containment Isolation
	8104	B	2	Boration Flowpath
	8105	A	2	Boration Flowpath/ECCS Flowpath Boundary & Containment Isolation
	8106	B	2	Boration Flowpath/ECCS Flowpath Boundary
	8109	B	2	ECCS Flowpath Boundary
	8110	B	2	ECCS Flowpath Boundary
	8111	B	2	ECCS Flowpath Boundary
	8112	A	2	Containment Isolation
	8351A	B	2	Containment Isolation
	8351B	B	2	Containment Isolation
	8351C	B	2	Containment Isolation
	8351D	B	2	Containment Isolation
	8511A	B	2	High Head Safety Injection Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
	8511B	B	2	High Head Safety Injection Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
	8512A	B	2	ECCS Recirculation Flowpath Boundary
	8512B	B	2	ECCS Recirculation Flowpath Boundary

System	Valve Number	Category	Class	Description
Containment Spray	LV-4754	B	3	Chemical Additive Flowpath/Chemical Additive Tank Isolation
	LV-4755	B	3	Chemical Additive Flowpath/Chemical Additive Tank Isolation
	HV-4758	B	2	Sump Recirculation Flowpath Boundary
	HV-4759	B	2	Sump Recirculation Flowpath Boundary
	FV-4772-1	B	2	Pump Miniflow Flowpath/Containment Spray Flowpath Boundary
	FV-4772-2	B	2	Pump Miniflow Flowpath/Containment Spray Flowpath Boundary
	FV-4773-1	B	2	Pump Miniflow Flowpath/Containment Spray Flowpath Boundary
	FV-4773-2	B	2	Pump Miniflow Flowpath/Containment Spray Flowpath Boundary
	HV-4776	A	2	Containment Spray Flowpath/Containment Isolation
	HV-4777	A	2	Containment Spray Flowpath/Containment Isolation
	HV-4782	B	2	Sump Recirculation Flowpath/Containment Isolation
	HV-4783	B	2	Sump Recirculation Flowpath/Containment Isolation

System	Valve Number	Category	Class	Description
Reactor Coolant	8000A	B	1	Post Accident Vent Path/Vent Path Isolation & Reactor Coolant Pressure Boundary
	8000B	B	1	Post Accident Vent Path/Vent Path Isolation & Reactor Coolant Pressure Boundary

System	Valve Number	Category	Class	Description
Residual Heat Removal	FCV-0610	B	2	Pump Miniflow Path/ECCS & RHR Flowpath Boundary
	FCV-0611	B	2	Pump Miniflow Path/ECCS & RHR Flowpath Boundary
	8701A	A	1	RHR Flowpath/Containment Isolation & Reactor Coolant Pressure Boundary
	8701B	A	1	RHR Flowpath/Containment Isolation & Reactor Coolant Pressure Boundary
	8702A	A	1	RHR Flowpath/Reactor Coolant Pressure Boundary
	8702B	A	1	RHR Flowpath/Reactor Coolant Pressure Boundary
	8716A	B	2	ECCS Injection Flowpath/ECCS Recirculation Flowpath Boundary
	8716B	B	2	ECCS Injection Flowpath/ECCS Recirculation Flowpath Boundary

System	Valve Number	Category	Class	Description
Safety Injection	8801A	B	2	ECCS to Cold Legs Flowpath & Boration Flowpath/ Containment Isolation & Passive Pipe Break Isolation
	8801B	B	2	ECCS to Cold Legs Flowpath & Boration Flowpath/ Containment Isolation & Passive Pipe Break Isolation
	8802A	B	2	ECCS to Hot Legs Flowpath/ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
	8802B	B	2	ECCS to Hot Legs Flowpath/ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
	8804A	B	2	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
	8804B	B	2	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
	8806	B	2	ECCS Flowpath Boundary (during Recirculation)
	8807A	B	2	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
	8807B	B	2	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
	8808A	B	2	ECCS from Accumulators to RC Cold Legs
	8808B	B	2	ECCS from Accumulators to RC Cold Legs
	8808C	B	2	ECCS from Accumulators to RC Cold Legs
	8808D	B	2	ECCS from Accumulators to RC Cold Legs
	8809A	A	2	ECCS to Cold Legs Flowpath/ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation & Containment Isolation
	8809B	A	2	ECCS to Cold Legs Flowpath/ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation & Containment Isolation

System	Valve Number	Category	Class	Description
Safety Injection	8811A	B	2	ECCS Recirculation Flowpath/Containment Isolation & Passive Pipe Break Isolation
	8811B	B	2	ECCS Recirculation Flowpath/Containment Isolation & Passive Pipe Break Isolation
	8812A	B	2	ECCS Recirculation Flowpath Boundary & Shutdown Cooling Flowpath Boundary (during Safety Grade Cold Shutdown)
	8812B	B	2	ECCS Recirculation Flowpath Boundary & Shutdown Cooling Flowpath Boundary (during Safety Grade Cold Shutdown)
	8813	B	2	ECCS Recirculation Flowpath Boundary
	8814A	B	2	ECCS Recirculation Flowpath Boundary
	8814B	B	2	ECCS Recirculation Flowpath Boundary
	8821A	B	2	ECCS to Cold Legs Flowpath/ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation
	8821B	B	2	ECCS to Cold Legs Flowpath/ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation
	8835	B	2	ECCS to Cold Legs Flowpath/ECCS to Hot Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
	8840	A	2	ECCS to Hot Legs Flowpath/ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
	8923A	B	2	Passive Pipe Break Isolation
	8923B	B	2	Passive Pipe Break Isolation
	8924	B	2	Passive Pipe Break Isolation

System	Valve Number	Category	Class	Description
Service Water	HV-4286	B	3	Service Water Flowpath/Throttling during Pump Start
	HV-4287	B	3	Service Water Flowpath/Throttling during Pump Start
	HV-4393	B	3	Service Water Flowpath
	HV-4394	B	3	Service Water Flowpath
	HV-4395	B	3	AFW Pump Emergency Supply Flowpath
	HV-4396	B	3	AFW Pump Emergency Supply Flowpath

System	Valve Number	Category	Class	Description
Containment Isolation	HV-6082	A	2	Containment Isolation
	HV-6083	A	2	Containment Isolation
	HV-6084	A	2	Containment Isolation
	HV-4075B	A	2	Containment Isolation
	HV-4075C	A	2	Containment Isolation
	HV-5540	A	2	Containment Isolation
	HV-5541	A	2	Containment Isolation
	HV-5542	A	2	Containment Isolation
	HV-5543	A	2	Containment Isolation
	HV-5562	A	2	Containment Isolation
	HV-5563	A	2	Containment Isolation

LEGEND: Category A = Valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their required safety function(s).

Category B = Valves for which seat leakage in the closed position is inconsequential for fulfillment of their required safety function(s).

Class = Code class

Figure 1

Initial Inservice Test Frequency

MARGIN

RISK	Low	Medium	High
High	1 cycle	2 cycles	3 cycles
Low	2 cycles	4 cycles	6 cycles*

* Not to exceed 10 years

Notes:

1. Criteria for MOV Margin Categories

   Low Margin: < 10%

   Medium Margin: ≥ 10% and < 15%

   High Margin: ≥ 15%

2. Criteria for Risk Categories

   High Risk: Risk-Informed IST Program

   Low Risk: Risk-Informed IST Program

NRC APPROVAL STATUS: Approved. Reference safety evaluation dated August 14, 1998 for Units 1 & 2.

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

EFFECTIVE PAGE LISTING

BELOW IS A LEGEND FOR THE EFFECTIVE PAGE LISTING:

Revision 0	August 3, 2004
Page	Revision/Date
Record of Changes	August 3, 2004
Cover Sheet	Rev. 0
i (Table of Contents)	Rev. 0
1-1	Rev. 0
1-2	Rev. 0
1-3	Rev. 0
1-4	Rev. 0
2-1	Rev. 0
2-2	Rev. 0
2-3	Rev. 0
2-4	Rev. 0
Table 0, Page 1 of 5	Rev. 0
Table 0, Page 2 of 5	Rev. 0
Table 0, Page 3 of 5	Rev. 0
Table 0, Page 4 of 5	Rev. 0
Table 0, Page 5 of 5	Rev. 0
3-1	Rev. 0
3-2	Rev. 0
3-3	Rev. 0
3-4	Rev. 0
3-5	Rev. 0
Valve Table Index, Page 1 of 3	Rev. 0
Valve Table Index, Page 2 of 3	Rev. 0
Valve Table Index, Page 3 of 3	Rev. 0
Table 1, Page 1 of 10	Rev. 0
Table 1, Page 2	Rev. 0
Table 1, Page 3	Rev. 0
Table 1, Page 4	Rev. 0
Table 1, Page 5	Rev. 0
Table 1, Page 6	Rev. 0
Table 1, Page 7	Rev. 0
Table 1, Page 8	Rev. 0
Table 1, Page 9	Rev. 0
Table 1, Page 10	Rev. 0
Table 2, Page 1 of 8	Rev. 0
Table 2, Page 2	Rev. 0

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

EFFECTIVE PAGE LISTING

Table 2, Page 3	Rev. 0
Table 2, Page 4	Rev. 0
Table 2, Page 5	Rev. 0
Table 2, Page 6	Rev. 0
Table 2, Page 7	Rev. 0
Table 2, Page 8	Rev. 0
Table 3, Page 1 of 2	Rev. 0
Table 3, Page 2	Rev. 0
Table 4, Page 1 of 9	Rev. 0
Table 4, Page 2	Rev. 0
Table 4, Page 3	Rev. 0
Table 4, Page 4	Rev. 0
Table 4, Page 5	Rev. 0
Table 4, Page 6	Rev. 0
Table 4, Page 7	Rev. 0
Table 4, Page 8	Rev. 0
Table 4, Page 9	Rev. 0
Table 5, Page 1 of 4	Rev. 0
Table 5, Page 2	Rev. 0
Table 5, Page 3	Rev. 0
Table 5, Page 4	Rev. 0
Table 6, Page 1 of 3	Rev. 0
Table 6, Page 2	Rev. 0
Table 6, Page 3	Rev. 0
Table 7, Page 1 of 6	Rev. 0
Table 7, Page 2	Rev. 0
Table 7, Page 3	Rev. 0
Table 7, Page 4	Rev. 0
Table 7, Page 5	Rev. 0
Table 7, Page 6	Rev. 0
Table 8, Page 1 of 7	Rev. 0
Table 8, Page 2	Rev. 0
Table 8, Page 3	Rev. 0
Table 8, Page 4	Rev. 0
Table 8, Page 5	Rev. 0
Table 8, Page 6	Rev. 0
Table 8, Page 7	Rev. 0
Table 9, Page 1 of 14	Rev. 0
Table 9, Page 2	Rev. 0
Table 9, Page 3	Rev. 0
Table 9, Page 4	Rev. 0
Table 9, Page 5	Rev. 0

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

EFFECTIVE PAGE LISTING

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

EFFECTIVE PAGE LISTING

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

EFFECTIVE PAGE LISTING

COMANCHE PEAK STEAM ELECTRIC STATION UNITS 1 & 2
INSERVICE TESTING PLAN FOR PUMPS & VALVES
SECOND INTERVAL

EFFECTIVE PAGE LISTING

A-45	Rev. 0
A-46	Rev. 0
A-47	Rev. 0
A-48	Rev. 0
A-49	Rev. 0
A-50	Rev. 0
A-51	Rev. 0
A-52	Rev. 0
A-53	Rev. 0
A-54	Rev. 0
A-55	Rev. 0
EPL-1	August 3, 2004
EPL-2	August 3, 2004
EPL-3	August 3, 2004
EPL-4	August 3, 2004
EPL-5	August 3, 2004
EPL-6	August 3, 2004