PGE-1022
Amendment 1
(December 1980)

INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

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June 1979

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TROJAN NUCLEAR PLANT
PUMP AND VALVE
INSERVICE TESTING PROGRAM

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TROJAN NUCLEAR PLANT
PUMP AND VALVE
INSERVICE TESTING PROGRAM

1.0 INTRODUCTION

Title 10, Chapter 1, Code of Federal Regulations - Energy, Part 50, Section 50.55a(g) sets forth the requirements for inservice inspection of nuclear power plant components.

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, is referenced by 10 CFR 50.55a(g) as the standard to be used in developing a program for testing the operational readiness of pumps and valves. The Trojan Nuclear Plant ASME, Section III, Class 1 and 2 components are committed to design and provision for access to enable the performance of tests for the operational readiness of pumps and valves in accordance with the 1971 edition and addenda through the winter of 1972. The effective date for commercial operation of Trojan is May 20, 1976. The initial Pump and Valve Inservice Testing (IST) Program for Trojan has been developed for the first 10 years of commercial operation which extends through May 20, 1986. Tests for the operational readiness of ASME, Section III, Class 1, 2, and 3 pumps and valves which perform a function necessary for the safe shutdown of the plant and/or mitigate the consequences of an accident are required to meet the standards in the 1974 edition and addenda through the summer of 1975. Portland General Electric Company (PGE) has taken the option to use the 1977 edition and addenda through the summer of 1978 which has been approved in 10 CFR 50.55a(b)(2). Category E valves which were deleted in this edition have been retained in the valve listings for information purposes only. (1)

Revisions to the pump and valve IST program are required to be made at 120-month intervals to upgrade the program to reflect subsequently approved editions and addenda of Section XI. Approved editions and addenda are as referenced in the effective issue of 10 CFR 50.55a(b)(2). Successive 120-month intervals are required to meet the standards of the

approved edition and addenda in effect 12 months prior to the commencement of the applicable 120-month period.

(1)

Certain systems at the Trojan Nuclear Plant are safety-related or are required for safe shutdown, but were not designed to ASME, Section III, Class 1, 2, or 3 standards (eg, component cooling water, service water, etc). For the Trojan Nuclear Plant, those systems designated Quality Group 1, 2, 3A and 3B in the Final Safety Analysis Report (FSAR) are included in the IST program to meet the intent of proving operational readiness of components required to function in the event of an accident.

(1)

Subsections IWP and IWV of Section XI of the ASME Code, 1977 edition and addenda through the summer of 1978, give the specific requirements for inservice testing of pumps and valves and are a part of the Trojan Nuclear Plant Pump and Valve Inservice Testing Program. Implementing procedures for the IST program are to comply with these standards.

Those pumps and valves for which conformance with certain provisions of the approved code requirements is impractical are identified by relief request.

2.0 ADMINISTRATIVE CONTROLS

The Inservice Testing Program for pumps and valves is required by the Trojan Nuclear Plant Technical Specifications, Appendix A to Facility Operating License (FOL) NPF-1. The program as described in this topical report will be initially reviewed and recommended for approval by the Plant Review Board (PRB) and Nuclear Operations Board (NOB). Subsequent revisions to this program, as permitted by 10 CFR 50.55a(g), will also be reviewed and approved by the PRB and NOB.

Implementation of the program described in this report will be accomplished through plant procedures in accordance with the Nuclear Plant Quality Assurance Program for Operations. Such procedures will identify the specific plant status, valve lineups, operating steps, and return of valves to a normal lineup to accomplish the required testing at the frequency established in this report. Personnel responsible for performing the testing required by this program will be identified in plant procedures. Compliance with the provisions of the testing requirements of ASME, Section XI, Subsections IWP and IWV shall be assured by an inspector as required by Paragraph IWA-2120. (1)

3.0 INSERVICE TESTING OF PUMPS
ASME, SECTION XI, SUBSECTION IWP

The Inservice Testing Program for Pumps is described in Section 3.1. Section 3.2 provides the requests for relief and bases for these requests.

3.1 DESCRIPTION OF PROGRAM

3.1.1 SUMMARY LISTING

Table 3.1-1 is a complete listing of all pumps to be tested under the Trojan Nuclear Plant Pump and Valve Inservice Testing (IST) program. The listing includes:

(1) The identification number, description, and P&ID location of each pump to be tested;

(2) The applicable ASME Code class designation for each pump;

(3) The test parameters to be measured for each pump; and

(4) The required test frequency for each pump.

Pump design criteria for the Trojan Nuclear Plant is summarized in Section 3.2 and tabulated in Table 3.2-3 of the Final Safety Analysis Report (FSAR). Pump design code designations used in this program for determining IST requirements are summarized below:

ASME Code Class Designation	1	2	3	ASME VIII Division 1
Trojan Quality Group	1	2	3A	3B
Minimum Code Application	ASME III Class A	P&V Class II	P&V Class III	ASME VIII Division 1

Notes:

ASME III: ASME Boiler & Pressure Vessel Code, 1968, Nuclear Vessels plus addenda and code interpretations to the date of purchase award. For purchase awards on or after July 1, 1971, reference to ASME III, should be to ASME Boiler & Pressure Vessel Code, 1971, Nuclear Power Plant Components plus addenda and code interpretations to the date of purchase award.

P&V: the November 1968 Draft ASME Code for Pumps and Valves plus addenda and code interpretations to the date of purchase award.

ASME VIII means ASME Boiler & Pressure Vessel Code, Section VIII, Pressure Vessels, 1968 edition plus addenda and Code interpretations to the date of purchase award. These pumps are to meet the IST requirements for ASME Code Class 3 pumps.

For pumps designed to Quality Group 3(b) operating above 150 psi and 212°F, Section VIII, Division 1 of the Boiler and Pressure Vessel Code was used as a guide in calculating the thickness of the pressure rating parts and in sizing the cover bolting. Below 150 psi and 212°F the manufacturer's standard for service was used.

(1) Abbreviations for measured parameters in Table 3.1-1 are identical to those listed in Table IWP-2100-1 and are repeated below for convenience:

N = Rotative speed (rpm).

Rotative speed is not required to be measured for pumps directly coupled to motor drivers per Paragraph IWP-4400.

P_i = Inlet pressure (psig).

Inlet pressure is measured prior to starting the pump and during testing.

ΔP = Differential pressure across the pump (psi).

This value is determined by measuring the pump discharge pressure (Po) and subtracting pump inlet pressure (P_i) in accordance with Paragraph IWP 4240.

Q = Pump flow rate (gpm).

V = Vibration amplitude (mils).

T_b = Bearing temperature(F°).

3.1.2 PUMP DATA SHEET

An example of the format to be used in summarizing the pump design and manufacturer's acceptance test data is provided in Appendix A-1. This summary is to be filled out with available data for each pump listed in Table 3.1-1 and is to be used as a cover sheet for the data package for that pump. The data in this summary is provided for general information only and is not to be used as a constraint in determining the acceptability of test data. (1)

3.1.3 REFERENCE DATA AND TOLERANCES

An example of the format for documenting the required instrumentation and established reference values for each individual pump is provided in Appendix A-2. These data sheets are to be finalized for each pump in the applicable reference procedure. The test date and test procedure used for establishing reference values are to be indicated. The instruments used for determination of reference values are to be listed and instrument location is to be specified in implementing Plant procedures. Instrumentation must be calibrated prior to taking data which is to be used for reference values.

Reference values are to be determined from the results of testing during the initial inservice test for each pump, and are to be taken from

procedures which are readily reproducible for future testing. Once a set of reference values is established, the values are to remain fixed for comparison with future test data, except as provided in Paragraphs IWP-3111 and IWP-3112.

Paragraph IWP-3111 requires that after a pump has been replaced or repaired in a manner that affects the established reference values, the old reference values are to be reconfirmed or a new set of reference values are to be established within 96 hr of returning the pump to service. Test requirements resulting from repair or replacement of a pump are to be controlled in accordance with Trojan Nuclear Plant administrative orders and maintenance procedures. The reason for changing a set of reference values must be recorded. Tolerance ranges show allowable variation from the reference values for subsequent test data. These ranges are to be established according to the alert ranges listed in Table IWP-3100-2, the acceptance criteria set forth in the Trojan Nuclear Plant Standard Technical Specifications, and limitations imposed by the Trojan FSAR. In any case, the most limiting tolerances are to be used. The operator performing the test shall record the data and sign to signify the data was taken in accordance with the referenced procedure. The shift Supervisor reviews and analyzes the data for acceptability and signs the sheet to indicate his approval of the reference values. Review of the data must be completed within 96 hr from the time of completion of the test.

(1)

3.1.4 TEST DATA

An example of a test data sheet to be filled out for subsequent tests is provided in Appendix A-3. The same procedure used in establishing reference values should be used in conducting future tests. Deviations or revisions to the procedure shall be provided with an evaluation of the potential impact on test data.

Paragraph IWP-3112 defines the criteria for establishing new reference values and is applicable to changes in test procedures. Administrative control of deviations or revisions to procedures should comply with the Trojan Nuclear Plant administrative orders.

Instrumentation should be identical or equivalent to that used for establishment of reference values. Instrument location is to be specified in implementing plant procedures. Calibration for subsequent testing can be accomplished under the standard calibration program in effect (recalibration is not required). However, instrument calibration should be considered prior to taking other corrective action for test data outside the tolerance range.

The operator performing the test analyzes the test data for acceptibility and signs to indicate the recording of measured parameters in accordance with the reference procedure. Test data outside the established tolerance range is to be reported in accordance with the Trojan Nuclear Plant procedure for anomalous indication during periodic surveillance. The Shift Supervisor reviews the data and signs to indicate his concurrence with the test results. Final review is to be completed within 96 hr of completion of the test.

3.1.5 MAINTENANCE OR CORRECTIVE ACTION

An example of the format to be used for documenting maintenance or corrective action on a pump is provided in Appendix A-4. Following completion of the maintenance and/or corrective action, verification and review signatures are to be completed and a copy of Appendix A-4 is to be retained with the applicable Test Data Sheet.

3.1.6 CURRENT STATUS

An example of the table to be maintained to reflect the current status of the pump-testing program is provided in Appendix A-5. Following final review of the test data, the Engineering Supervisor or his delegate is to update the current status of the pump test program by filling in the date of completion (month/day) of the test in the appropriate column. (1)

3.1.7 RETENTION AND ACCESSIBILITY OF RECORDS

(1) Following final review, the Engineering Supervisor is to receive the original of all data for retention. All inservice testing records shall be retained for the service lifetime of the pump. Records shall be readily accessible for review and shall be maintained in accordance with the Trojan Nuclear Plant procedure for the control of plant records.

TABLE 3.1-1

INSERVICE TESTING PROGRAM
ASME CODE CLASS 1, 2, AND 3 PUMPS

Pump ID No.	Description	ASME Code Class	P&ID No. (Coordinates)	Measured Parameters[a]	Test Frequency	Relief Request
P102 A	Auxiliary Feedwater (Turbine)	ASME VIII Division 1	M-213 (B-7)	N, P_i, ΔP, V, T_b[b]	Monthly	
P102 B	Auxiliary Feedwater (Diesel)	ASME VIII Division 1	M-213 (B-7)	N, P_i, ΔP, V, T_b[b]	Monthly	
P108 A	Service Water	ASME VIII Division 1	M-218 (F-7)	P_i, ΔP, Q, V	Monthly	Section 3.2.1
P108 B	Service Water	ASME VIII Division 1	M-218 (D-7)	P_i, ΔP, Q, V	Monthly	Section 3.2.1
P108 C	Service Water	ASME VIII Division 1	M-218 (D-7)	P_i, ΔP, Q, V	Monthly	Section 3.2.1
P144 A	Diesel Oil Transfer	ASME VIII Division 1	M-226 (F-7)	P_i, ΔP[b]	Monthly	Section 3.2.2
P144 B	Diesel Oil Transfer	ASME VIII Division 1	M-226 (D-7)	P_i, ΔP[b]	Monthly	Section 3.2.2
P148 A	Service Water Booster	3	M-218 (C-5)	P_i, ΔP, Q, V, T_b	Monthly	
P148 B	Service Water Booster	3	M-218 (C-6)	P_i, ΔP, Q, V, T_b	Monthly	
P148 C	Service Water Booster	3	M-218 (D-5)	P_i, ΔP, Q, V, T_b	Monthly	
P148 D	Service Water Booster	3	M-218 (D-6)	P_i, ΔP, Q, V, T_b	Monthly	

(T) (I)

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(T)

TABLE 3.1-1

(T)

Pump ID No.	Description	ASME Code Class	P&ID No. (Coordinates)	Measured Parameters[a]	Test Frequency	Relief Request
P202 A	Residual Heat Removal	2	M-205 (G-4)	P_i, ΔP, Q, V, T_b	Monthly	
P202 B	Residual Heat Removal	2	M-205 (D-4)	P_i, ΔP, Q, V, T_b	Monthly	
P203 A	Safety Injection	2	M-206 (B-3)	P_i, ΔP, Q, V, T_b	Monthly	
P203 B	Safety Injection	2	M-206 (B-3)	P_i, ΔP, Q, V, T_b	Monthly	
P204 A	Containment Spray	2	M-207 (G-4)	P_i, ΔP, Q, V, T_b	Monthly	
P204 B	Containment Spray	2	M-207 (C-4)	P_i, ΔP, Q, V, T_b	Monthly	
P205 A	Centrifugal Charging	2	M-202 (C-6)	P_i, ΔP, V, T_b[b]	Monthly	
P205 B	Centrifugal Charging	2	M-202 (B-6)	P_i, ΔP, V, T_b[b]	Monthly	
P210 A	Component Cooling Water	3	M-215 (G-2)	P_i, ΔP, Q, V, T_b	Monthly	
P210 B	Component Cooling Water	3	M-215 (C-2)	P_i, ΔP, Q, V, T_b	Monthly	
P210 C	Component Cooling Water	3	M-215 (E-2)	P_i, ΔP, Q, V, T_b	Monthly	

(T)

TABLE 3.1-1

Pump ID No.	Description	ASME Code Class	P&ID No. (Coordinates)	Measured Parameters[a]	Test Frequency	Relief Request
P211 A	Boric Acid Transfer	3	M-202 (C-2)	P_i, ΔP, V, T_b[b]	Monthly	
P211 B	Boric Acid Transfer	3	M-202 (C-1)	P_i, ΔP, V, T_b[b]	Monthly	
P218A	CCW Makeup	3	M-215 (H-1)	P_i, ΔP, V, T_b[b]	Monthly	
P218B	CCW Makeup	3	M-215 (B-3)	P_i, ΔP, V, T_b[b]	Monthly	
P220 A	BIT Recirculation	3	M-206 (C-3)	P_i, ΔP, Q, V. T_b	Monthly	
P220 B	BIT Recirculation	3	M-206 (C-3)	P_i, ΔP, Q, V, T_b	Monthly	

(T)

[a] Lubricant level and/or pressure are to be observed and/or verified to be within manufacturer's tolerances for each individual component. The requirement for observation of lubricant level and/or pressure is to be incorporated into each pump test procedure.

[b] Flow (Q) is not required to be measured for a fixed resistance system.

(T)

3.2 RELIEF REQUEST BASES FOR PUMPS

The Code of Federal Regulations, 10 CFR 50.55a(g)(5)(iii), states that, "If the licensee has det rmined that conformance with certain code requirements is impractical for his facility the licensee shall notify the Commission and submit information to support his determinations."

By interpretation, testing of pumps which does not conform to the standard test requirements for measurement of specific parameters or for the frequency of performance of tests is assumed to be a nonconformance. This section identifies those pumps for which Trojan Nuclear Plant is in nonconformance with the standard test requirements and provides the basis for relief from testing and the provisions for alternate testing of those pumps when applicable. (1) (1)

3.2.1 SERVICE WATER SYSTEM: PUMPS P108A, P108B, P108C

ASME Code Class: ASME VIII, Division 1

Function: The service water pumps provide cooling and make up water for safety-related and non-safety-related equipment and systems. The pumps are also used for dilution of liquid radwaste during discharge.

Test Requirement: Measure pump inlet pressure, vibration amplitude, and bearing temperature.

Basis for Relief: "Instrumentation Not Originally Provided." Class 3 pumps at Trojan are not required to be designed for testing for operational readiness as per 10 CFR 50.55a(g).

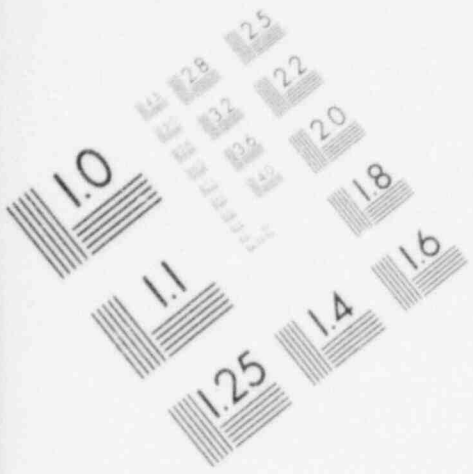
The pumps are totally submerged inside the Intake Structure. Pump bearings are inaccessible and the instrumentation required for measurement of pump inlet pressure, vibration amplitude, and bearing temperature was not provided in the original system design. (1)

Alternate Testing: Inlet pressure for these pumps will be determined by measuring the Intake Structure water level and substituting the measured value into the following formula which relates this level to the pump inlet pressure:

$$P_i = 0.433 \text{ (24.75 - Intake Structure level)}.$$

(1) The pumps are submerged in the Intake Structure and are not accessible for attachment of transducers for displacement measurement of vibration amplitudes during pump operation. The pump motor inboard bearing will be periodically monitored for vibration amplitude. Motor inboard bearing vibration measurements provide indication of pump shaft alignment and deterioration. The pump bearing vibration amplitude will not be measured.

(1) The pump bearing temperature will not be measured.



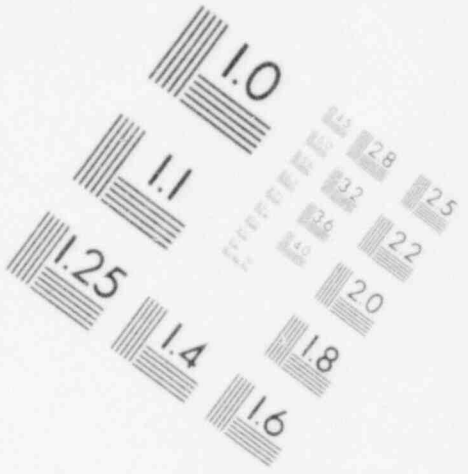
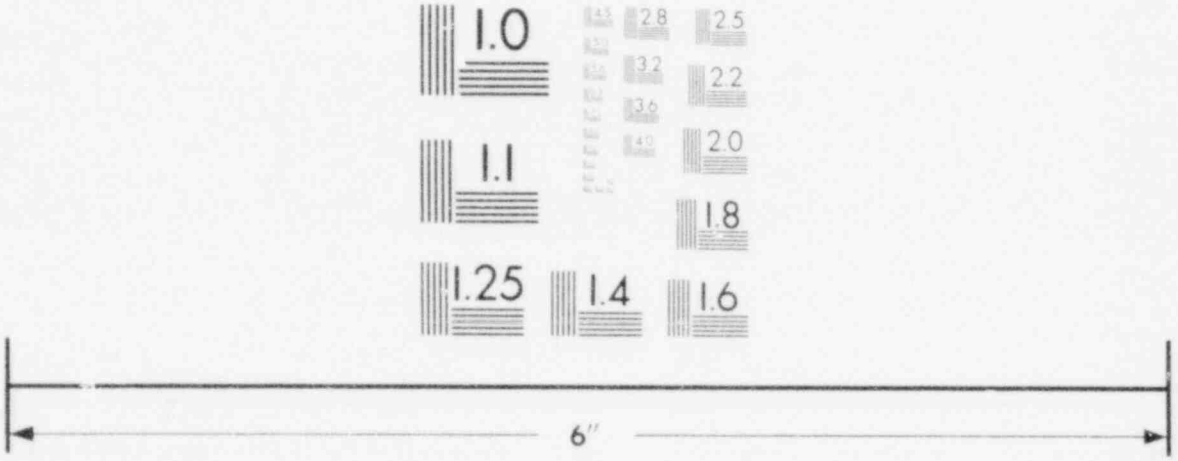
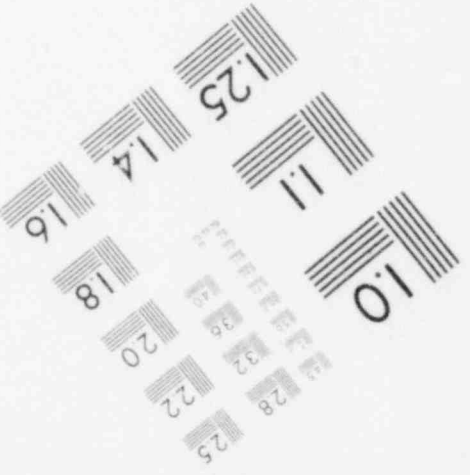
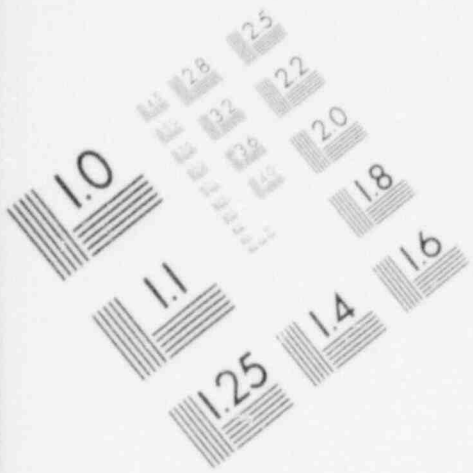


IMAGE EVALUATION TEST TARGET (MT-3)







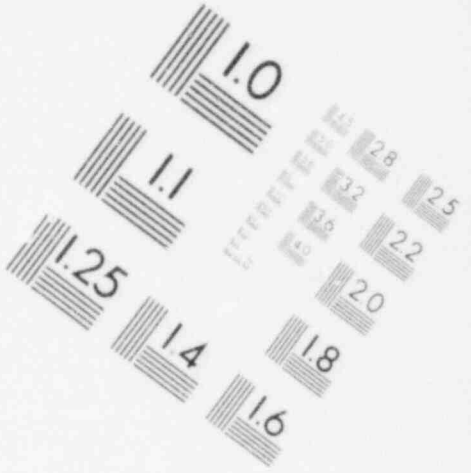
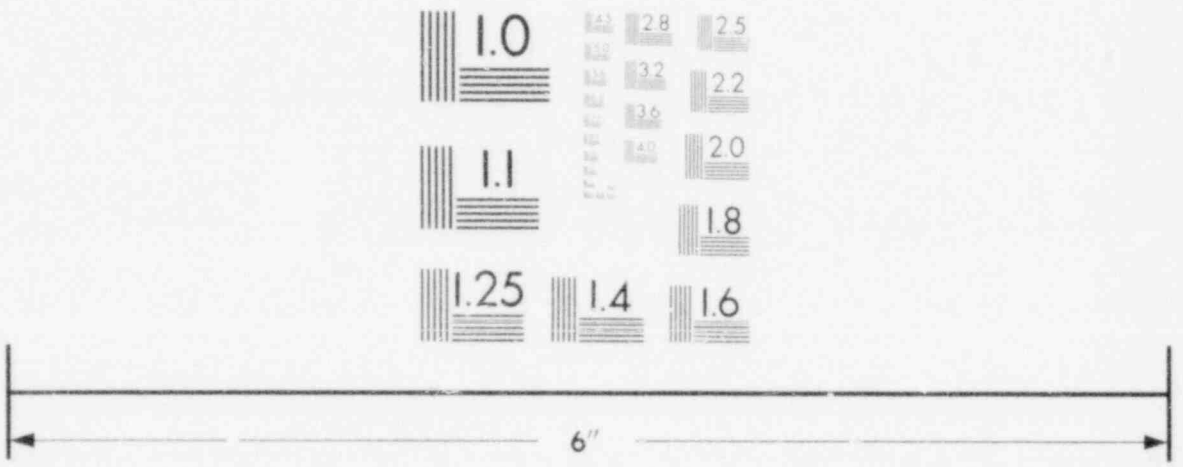
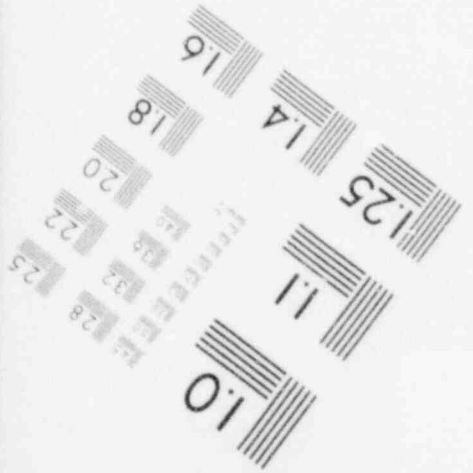
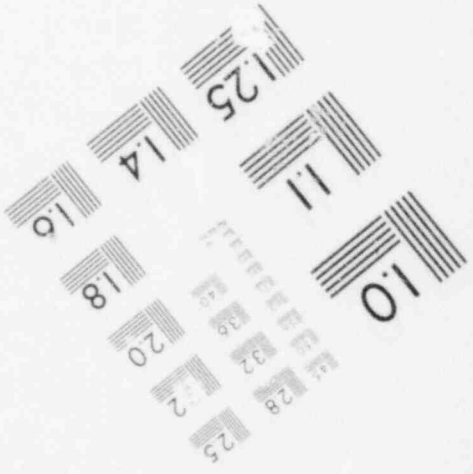


IMAGE EVALUATION TEST TARGET (MT-3)







3.2.2 DIESEL FUEL OIL SYSTEM: PUMPS P144A & P144B

ASME Code Class: ASME VIII, Division 1

Function: The diesel oil transfer pumps provide flow of fuel oil from the diesel oil storage tanks to the fuel oil day tanks.

Test Requirement: Measure pump inlet pressure, differential pressure, vibration amplitude and bearing temperature.

Basis for Relief: "Instrumentation Not Originally Provided." Class 3 pumps at Trojan are not required to be designed for testing for operational readiness as per 10 CFR 50.55a(g).

These pumps are located inside the diesel oil storage tanks. The pumps are inaccessible and instrumentation was not provided for measurement of inlet pressure, differential pressure, flow, vibration amplitude, or bearing temperature.

Alternate Testing: Pump discharge pressure will be measured and the inlet pressure will be calculated from tank level and the suction head on the pump. The differential pressure will be taken as the difference between pump discharge pressure and calculated inlet pressure. (1)

The pumps are enclosed within the diesel oil storage tanks and accessability is not available for measuring pump vibration amplitude. The pump motor will be periodically monitored for vibration amplitude. Motor vibration measurements provide indication of pump shaft alignment and deterioration. (1)

The pump bearing temperature will not be measured. (1)

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4.0 INSERVICE TESTING OF VALVES
ASME SECTION XI, SUBSECTION IWV

The Inservice Testing Program for valves is described in Section 4.1. Section 4.2 provides the requests for relief and the bases for these requests.

4.1 DESCRIPTION

4.1.1 VALVE SUMMARY

Table 4.1-1 is a complete listing of all valves to be tested under the Trojan Nuclear Plant Pump and Valve Inservice Testing (IST) program. The listing includes:

(1) The identification number, description, P&ID location, and normal position of each valve to be tested;

(2) The applicable ASME Code Class designation and Section XI category for each valve;

(3) The required tests for each valve; and

(4) The required test frequency for each valve.

Valve design criteria for the Trojan Nuclear Plant are summarized in Section 3.2 and tabulated in Table 3.2-3 of the Final Safety Analysis Report (FSAR). Valve design code designations used in this program for determining IST requirements are summarized below:

ASME Code Class Designation	1	2	3	ANSI B31.1
Trojan Quality Group	1	2	3A	3I
Minimum Code Application	ANSI B16.5 MSS-SP-66	P&V Class II	P&V Class III	Non-nuclear ANSI B31.1

Notes:

P&V: means the November 1968 Draft ASME Code for Pumps and Valves plus addenda and code interpretations to date of purchase award.

Valves designated ANSI B31.1 are to meet the IST requirements for ASME Code Class 3 valves.

Valves whose test requirements deviate from the standard frequency requirements of Subsection IWV are referenced to their applicable relief request.

Valves which have a limitation on their maximum stroke time in fulfilling their accident function have the maximum opening or closing time, as appropriate, annotated in the remarks column.

The following abbreviations are used in Table 4.1-1:

VALVE DESCRIPTION:

AO = Air Operated

MO = Motor Operated

NORMAL POSITION:

C = Closed

O = Open

The test frequency for valves is indicated by one of the following phrases with the attendant definition:

(1) Every 3 months implies at least once every 92 days.

(2) Cold shutdown implies when the plant is in Mode 5 & 6. In the case of frequent cold shutdowns, the test need not be performed if less than 92 days have elapsed since the last performance of the test. (1)

(3) Each refueling implies when the plant has been shutdown for a scheduled refueling outage. Leakage testing is exempted from this program under Paragraph 4.2.10. (1)

(4) At refuelings refers to the schedule for testing of safety and relief valves which has been established to comply with Table IWV-3510-1.

4.1.2 VALVE DATA: CATEGORY A AND B VALVES

An example of the Valve Data Sheet to be filled out with available data for each Category A and B valve listed in Table 4.1-1 is provided in Appendix B-1. Preservice testing of new valves which fall under the cognizance of this program is mandatory. Valves which have been repaired or replaced must be tested prior to being returned to service. Test requirements resulting from maintenance or replacement of a valve are to be controlled in accordance with the Trojan Nuclear Plant administrative orders and maintenance procedures. The design criteria, manufacturer's acceptance test data, and preoperational test data are provided for general information only and are not to be used as acceptance criteria for subsequent testing. (1)

A copy of all available previous test results for the valve is to be retained as a permanent record. This data and subsequent test data are to be used to show performance trends of valve parameters for determination of valve deterioration.

The testing of valves is to be accomplished in accordance with the designated reference procedure. Administrative control of deviations or revisions to procedures shall comply with the Trojan Nuclear Plant administrative orders.

Tolerances are established from design specification criteria, limitations imposed by the Trojan Nuclear Plant Standard Technical Specifications and limitations imposed by the FSAR. Containment isolation valves are not to be tested for seat leakage rate under ASME Section XI. Seat leakage rate testing and analyses are to comply with Appendix J to 10 CFR 50 for establishing Containment isolation valve integrity. Paragraph 4.2.10 provides the relief request and justification for exemption of seat leakage rate testing from the requirements of ASME Section XI. The requirements for testing in-series check valves which provide isolation between the Reactor Coolant System and other systems with a lower design presssure are included within the scope of this program. Table 4.1-1 indentifies all valves which are to be leak tested and lists the required test frequency. (1)

4.1.3 TEST DATA: CATEGORY A AND B VALVES

An example of the format of the Test Data Sheet to be filled out for Category A and B valves tested under this program is provided in Appendix B-2. These data sheets are to be finalized for each valve in the applicable reference procedure. The operator performing the test is responsible for collecting and analyzing data in accordance with the referenced procedure. The Shift Supervisor reviews the data and signs to indicate his concurrence with the test results. Valves whose test data is outside the tolerance ranges are to be evaluated for corrective action in accordance with Paragraphs IWV-3417 and IWV-3427. Test data outside the established tolerance ranges is to be reported in accordance with the Trojan Nuclear Plant procedure for anomalous indication during periodic surveillance. Final review is to be completed within 96 hr of completion of the test.

4.1.4 CATEGORY C (SAFETY AND RELIEF VALVES)

An example of the Valve Data Sheet for Category C, safety and relief valves is provided in Appendix B-3. An example of the format for the Test Data Sheet for these valves is provided in Appendix B-4. The guidelines for performance of tests is the same as that listed above.

The operator performing the test is responsible for collecting and analyzing data in accordance with the referenced procedure. The Maintenance Supervisor reviews the data and signs to indicate his concurrence with the test data. Corrective action for these valves is to be in accordance with Paragraph IWV-3510.

4.1.5 CATEGORY C (CHECK VALVES)

An example of the Valve Data Sheet for Category C, check valves is provided in Appendix B-5. An example of the Test Data Sheet for these valves is provided in Appendix B-6. The guidelines for performance of tests and review of data is the same as that listed for Category A and B valves. Corrective action for these valves is to be in accordance with Paragraph IWV-3520.

4.1.6 MULTIPLE CATEGORY VALVES

When a valve has a multiple category classification, such as AC, the test requirements of both categories must be met; however, duplication of testing is not required. Documentation should meet the requirements of both categories as listed above.

4.1.7 MAINTENANCE OR CORRECTIVE ACTION (1)

An example of the format to be used to document maintenance or corrective action performed on a valve is provided in Appendix B-7. Following completion of maintenance and/or corrective action, verification and review signatures are to be completed and a copy of Appendix B-7 is to be retained with the applicable Test Data Sheet.

4.1.8 CURRENT STATUS

An example of a table to be maintained to reflect the current status of the valve testing program is provided in Appendix B-8. Following final review of the test data, the Engineering Supervisor or his delegate is to update the current status of the Valve Testing Program by filling (1)

in the date of completion (month/day) of the test in the appropriate column.

4.1.9 RETENTION AND ACCESSIBILITY OF RECORDS

(1) Following final review the Engineering Supervisor is to receive the original of all data for retention. All inservice inspection records shall be retained for the service lifetime of the valve. Records shall be readily accessible for review and shall be controlled in accordance with the Trojan Nuclear Plant procedures for the control of plant records.

TABLE 4.1-1

INSERVICE TESTING PROGRAM
ASME CODE CLASS 1, 2, AND 3 VALVES

SYSTEM: Reactor Coolant P&ID NO: M-201

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
PCV-455A	3" AO Relief	H-7	1	BC	C	Every 3 months	NA		10 sec
PCV-456		H-7			C	& at Refuelings			10 sec
MO-8000A	3" MO Gate	H-7	1	B	O	Every 3 months	NA		10 sec
MO-8000B		H-7			O				10 sec
PSV-8010A	6" Safety	H-6	1	C	C	At Refuelings	NA		
PSV-8010B		H-6			C				
PSV-8010C		H-5			C				
CV-8025	3/8" AO Globe	H-1	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-8026		H-2			O				10 sec
CV-8028	3" AO Diaphragm	G-1	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-8032	3/8" AO Globe	D-4	2	B	O	Every 3 months	NA		10 sec
CV-8033	3/4" AO Diaphragm	H-2	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
8046	3" Check	G-2	2	AC	C	Each Refueling	Each Refueling	4.2.1.4 4.2.10.1	
8047	3/4" Check	H-2	2	AC	C	Each Refueling	Each Refueling	4.2.1.4 4.2.10.1	

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SYSTEM: Reactor Coolant

P&ID NO: M-201

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
8069A	3/4" Globe	D-4	2	E	O	NA	NA	4.2.10.3	
8069B		D-4			C				
8079 (I)	4" Check	F-2	2	AC	C	NA	NA	4.2.10.4	Passive
8082	1" Globe	F-3	1	E	LO	NA	NA	4.2.10.3	
8090A	1/8" Manual	G-5	2	A	C	NA	Each Refueling	4.2.10.1	Passive
8090B	Needle	G-5			C				
8900A	1-1/2" Check	B-5	1	C	C	Cold Shutdown	NA	4.2.1.1	
8900B		E-5			C				
8900C		E-4			C				
8900D		B-4			C				
8948A (I)	10" Check	B-5	1	AC	C	Cold Shutdown	Cold Shutdown	4.2.1.2	
8948B		E-5			C			4.2.10.2	
8948C		E-4			C				
8948D		B-4			C				
8949A (I)	6" Check	C-6	1	AC	C	Cold Shutdown	Cold Shutdown	4.2.1.3	
8949B		D-6			C			4.2.10.2	
8949C		C-4			C				
8949D		C-4			C				

SYSTEM: Chemical and Volume Control P&ID NO: M-202

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-112B (1)	4" MO Gate	E-5	2	B	O	Every 3 months	NA		10 sec
MO-112C (1)					O				10 sec
MO-112D (1)	8" MO Gate	C-5	2	B	C	Every 3 months	NA		10 sec
MO-112E (1)					C				10 sec
MO-8104	2" MO Globe	D-4	2	B	C	Every 3 months	NA		10 sec
MO-8105 (1)	3" MO Gate	F-7	2	B	O	Cold Shutdown	NA	4.2.2.1	10 sec
MO-8106 (1)		F-7			O			4.2.10.4	10 sec
PSV-8117	3" Safety	H-7	2	AC	C	At Refuelings	NA	4.2.2.2 4.2.10.4	
PSV-8118	3/4" Safety	E-6	2	C	C	At Refuelings	NA		
PSV-8119	2" Safety	H-4	2	C	C	At Refuelings	NA		
PSV-8120	3" Safety	G-5	2	C	C	At Refuelings	NA		
PSV-8124	1" Safety	B-5	2	C	C	At Refuelings	NA		
CV-8149A (1)	2" AO Globe	G-8	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-8149B (1)		G-7			O				10 sec
CV-8149C (1)		G-7			C				10 sec
CV-8152 (1)	2" AO Globe	G-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
8381	3" Check	F-7	2	AC	O	NA	NA	4.2.10.4	Passive

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SYSTEM: Chemical and Volume Control

P&ID #: M-202

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
8392	3/4" Globe	C-7	2	E	LO	NA	NA	4.2.10.3	
8394	4" Gate	D-5	2	E	LO	NA	NA	4.2.10.3	
8435	1" Gate	D-5	2	E	LC	NA	NA	4.2.10.3	
8439	1" Gate	D-5	2	E	LC	NA	NA	4.2.10.3	
8441	2" Gate	C-3	2	E	LC	NA	NA	4.2.10.3	
8471A 8471B	2" Gate	C-6 B-6	2	E	LO LO	NA	NA	4.2.10.3	
8481A 8481B	4" Check	C-6 B-6	2	C	O O	Every 3 months	NA	4.2.2.3	
8482	4" Gate	F-6	2	E	LC	NA	NA	4.2.10.3	
8546	8" Check	C-5	2	C	C	Cold Shutdown	NA	4.2.2.4	

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SYSTEM: Chemical and Volume Control P&ID NO: M-203

Valve ID No.	alve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-8100	4" MO Gate	F-2	2	A	O	Cold Shutdown	Each Refueling	4.2.2.5 4.2.10.1	10 sec
MO-8110	2" MO Globe	C-3	2	B	O	Every 3 months	NA		10 sec
MO-8111		G-3			O				10 sec
MO-8112	4" MO Gate	F-2	2	A	O	Cold Shutdown	Each Refueling	4.2.2.5 4.2.10.1	10 sec
PSV-8121	2" Safety	F-2	2	C	C	At Refuelings	NA		
PSV-8123	2" Safety	H-2	2	C	C	At Refuelings	NA		
8180	3/4" Check	F-2	2	AC	C	NA	Each Refueling	4.2.10.1	Passive
8368A	2" check	B-7	2	AC	O	NA	NA	4.2.10.4	Passive
8368B		B-6			O				
8368C		B-4			O				
8368D		B-3			O				
8369A	1" Needle	B-7	2	AC	O	NA	NA	4.2.10.4	Passive
8369B		B-6			O				
8369C		B-4			O				
8369D		B-3			O				

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SYSTEM: Residual Heat Removal

P&ID NO: M-205

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
HCV-606	8" AO Butterfly	F-7	2	B	O	Every 3 months	NA		40 sec
HCV-607		D-7			O				40 sec
FCV-610	2" MO Globe	H-5	2	B	C	Every 3 months	NA		10 sec
FCV-611		C-5			C				10 sec
CV-1782	3/4" Globe	H-7	2	B	C	Every 3 months	NA		10 sec
CV-1783		B-6			C				10 sec
MO-8700A	14" MO Gate	F-3	2	B	O	Every 3 months	NA	4.2.10.4	120 sec
MO-8700B		E-3			O				120 sec
MO-8701	14" MO Gate	E-2	1	B	C	Cold Shutdown	NA	4.2.3.1	120 sec
MO-8702		D-2			C			4.2.10.4	120 sec
MO-8703	12" MO Gate	B-2	2	B	C	Cold Shutdown	NA	4.2.3.4. 4.2.10.4	120 sec
PSV-8708	3" Safety	E-3	2	C	C	At Refuelings	NA	4.2.10.4	
PSV-8709	3/4" Safety	B-3	2	C	C	At Refuelings	NA		
MO-8716A	8" MO Gate	F-7	2	B	O	Every 3 months	NA		40 sec
MO-8716B		D-7			O				40 sec
8730A	8" Check	F-4	2	C	C	Every 3 months	NA	4.2.3.5	
8730B		D-4			C				
8735	8" Gate	D-8	2	E	LC	NA	NA	4.2.10.3	

SYSTEM: Residual Heat Removal P&ID NO: M-205

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
8724A	8" Gate	F-5	2	E	LO	NA	NA	4.2.10.3	
8724B		D-5			LO				
8726A	8" Gate	F-5	2	E	LC	NA	NA	4.2.10.3	
8726B		D-5			LC				
8728A	8" Gate	F-5	2	E	LO	NA	NA	4.2.10.3	
8728B		D-5			LO				
8736A	8" Check	C-2	1	AC	C	Cold Shutdown	Cold Shutdown	4.2.3.2	
8736B		B-2			C			4.2.10.2	
MO-8804A	8" MO Gate	G-7	2	B	C	Cold Shutdown	NA	4.2.3.6	40 sec
MO-8804B		B-7			C				
MO-8809A	8" MO Gate	G-7	2	B	O	Every 3 months	NA	4.2.10.4	40 sec
MO-8809B		C-7			O				40 sec
MO-8811A	14" MO Gate	G-3	2	A	C	Every 3 months	Each Refueling	4.2.10.1	17 sec
MO-8811B		D-3			C				
MO-8812	14" MO Gate	E-4	2	B	O	Cold Shutdown	NA	4.2.3.7	120 sec
8818A	6" Check	G-8	1	AC	C	Cold Shutdown	Cold Shutdown	4.2.3.3	
8818B		G-8			C			4.2.10.2	
8818C		C-8			C				
8818D		C-8			C				
CV-8825	3/4" AO Globe	C-2	2	A	C	NA	NA	4.2.10.4	
PSV-8856A	2" Safety	G-7	2	C	C	At Refuelings	NA		
PSV-8856B		C-7			C				
CV-8890A	3/4" AO Globe	F-8	2	A	C	NA	NA	4.2.10.4	
CV-8890B		E-2			C				
8958	14" Check	E-3	2	C	C	Each Refueling	NA	4.2.3.8	

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SYSTEM: Safety Injection

P&ID NO: M-206

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-8801A	4" MO Gate	D-6	2	B	C	Every 3 months	NA	4.2.10.4	10 sec
MO-8801B		D-6			C				10 sec
MO-8802A	4" MO Gate	B-6	2	B	C	Every 3 months	NA	4.2.10.4	20 sec
MO-8802B		A-6			C				20 sec
MO-8803A	4" MO Gate	C-4	2	B	C	Every 3 months	NA		10 sec
MO-8803B		C-4			C				10 sec
MO-8806	8" MO Gate	B-2	2	B	O	Cold Shutdown	NA	4.2.4.7	40 sec
MO-8807A	6" MO Gate	C-2	2	B	C	Every 3 months	NA		30 sec
MO-8807B		C-2			C				30 sec
MO-8808A	10" MO Gate	F-7	1	B	O	Cold Shutdown	NA	4.2.4.1	12 sec passive
MO-8808B		F-6			O				12 sec passive
MO-8808C		F-4			O				12 sec passive
MO-8808D		F-3			O				12 sec passive
8810A	1-1/2" Globe	E-8	2	E	LO	NA	NA	4.2.10.3	
8810B		D-8			LO				
8810C		D-8			LO				
8810D		D-8			LO				

SYSTEM: Safety Injection P&ID NO: M-206

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-8813	2" MO Globe	F-2	2	B	O	Cold Shutdown	NA	4.2.4.8	10 sec
MO-8814					O				10 sec
8815	3" Check	E-7	1	C	C	Cold Shutdown	NA	4.2.4.2 4.2.10.4	
8816A	2" Globe	B-7	2	E	LO	NA	NA	4.2.10.3	
8816B		A-7			LO				
8816C		B-7			LO				
8816D		A-7			LO				
8819A	2" Check	D-8	1	AC	C	Cold Shutdown	Cold Shutdown	4.2.4.3	
8819B		C-8			C			4.2.10.4	
8819C		C-8			C			4.2.10.2	
8819D		C-8			C				
MO-8821A	4" MO Gate	B-5	2	B	O	Every 3 months	NA		20 sec
MO-8821B		B-5			O				20 sec
8822A	2" Globe	D-8	2	E	LO	NA	NA	4.2.10.3	
8822B		C-8			LO				
8822C		C-8			LO				
8822D		C-8			LO				
CV-8823	3/4" AO Globe	C-7	2	A	C	NA	NA	4.2.10.4	10 sec
CV-8824		A-6			C				10 sec
MO-8835	4" MO Gate	C-6	2	B	O	Cold Shutdown	NA	4.2.4.7 4.2.10.4	20 sec

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SYSTEM: Safety Injection P&ID NO. M-206

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CV-8843	3/4" AO Globe	D-6	2	A	C	NA	NA	4.2.10.4	10 sec
PSV-8851	3/4" Safety	B-6	2	C	C	At Refuelings	NA		
PSV-8852	3/4" Safety	E-6	2	C	C	At Refueling	NA		
PSV-8853A	3/4" Safety	B-6	2	C	C	At Refuelings	NA		
PSV-8853B		B-6			C				
PSV-8855A	1" Safety	G-7	2	C	C	At Refuelings	NA		
PSV-8855B		G-6			C				
PSV-8855C		G-4			C				
PSV-8855D		G-3			C				
PSV-8858	3/4" Safety	B-2	2	C	C	At Refuelings	NA		
CV-8870A	1" AO Globe	D-6	2	B	O	Every 3 months	NA		10 sec
CV-8870B		D-5			O				10 sec
CV-8871	3/4" AO Globe	E-3	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-8880	1" AO Globe	H-7	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-8881	3/4" AO Globe	C-6	2	A	C	NA	NA	4.2.10.4	10 sec
CV-8883	1" AO Globe	C-4	2	B	O	Every 3 months	NA		10 sec
CV-8888	3/4" AO Globe	A-6	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec

SYSTEM: Safety Injection P&ID NO: M-206

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
8905A	2" Check	B-7	1	C	C	Cold Shutdown	Cold Shutdown	4.2.4.4	
8905B		A-7			C			4.2.10.2	
8905C		B-7			C				
8905D		A-7			C				
8915	1" Globe	C-5	2	E	LC	NA	NA	4.2.10.3	
8919A	3/4" Check	B-4	2	C	C	Every 3 months	NA		
8919B		A-4							
8920A	3/4" Globe	B-4	2	E	LO	NA	NA	4.2.10.3	
8920B		A-4			LO				
8921A	4" Gate	B-4	2	E	LO	NA	NA	4.2.10.3	
8921B		A-4			LO				
8922A	4" Check	B-4	2	C	C	Every 3 months	NA	4.2.4.9	
8922B		B-4							
MO-8923A	6" MO Gate	B-2	2	B	O	Every 3 months	NA		30 sec
MO-8923B		B-2			O				30 sec
MO-8924	6" MO Gate	C-2	2	B	O	Every 3 months	NA		30 sec
8925	1" Globe	C-3	2	AE	LC	NA	NA	4.2.10.3 4.2.10.4	
8926	8" Check	B-2	2	C	C	Every 3 months	NA	4.2.4.9	
8956A	10" Check	F-7	1	C	C	Cold Shutdown	NA	4.2.4.5	
8956B		F-6							
8956C		F-4							
8956D		F-3							
CV-8964	3/4" AO Globe	E-2	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
8968	1" Check	H-7	2	AC	C	Each Refueling	Each Refueling	4.2.4.6 4.2.10.1	

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SYSTEM: Containment Spary P&ID NO: M-207

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
2-GCB-CK	2" Check	E-4	2	C	C	Every 3 months	NA		
2-GCB-CK		D-4			C				
10-HCB-CK	10" Check	G-7	2	C	C	5 years	NA	4.2.5.1	
10-HCB-CK		C-7			C				
14-HCB-CK	14" Check	F-3	2	C	C	Every 3 months	NA	4.2.5.2	
14-HCB-CK		C-2			C				
MO-2050A	14" MO Gate	G-3	2	E	LO	NA	NA	4.2.10.3	
MO-2050B		C-2							
MO-2052A	14" MO Gate	F-3	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-2052B		C-2			C				10 sec
MO-2053A	10" MO Gate	G-7	2	B	C	Every 3 months	NA	4.2.10.4	10 sec
MO-2053B		C-7			C				10 sec
MO-2056A	2" MO Globe	D-4	2	B	C	Every 3 months	NA		10 sec
MO-2056B		D-4			C				10 sec
MO-2069A	18" MO Gate	D-2	2	A	O	Every 3 months	Each Refueling	4.2.10.1	17 sec
MO-2069B					O				
CS-001	14" Gate	G-3	2	E	LO	NA	NA	4.2.10.3	
CS-002		C-3			LO				
CS-003	2" Globe	D-4	2	E	LO	NA	NA	4.2.10.3	
CS-004		D-4			LO				

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SYSTEM: Containment Spray

P&ID NO: M-207

Valve ID No.	Valve Description	Dwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CS-005	2" Globe	D-4	2	E	LC	NA	NA	4.2.10.3	
CS-006		E-4			LC				
CS-007	3" Globe	F-5	2	E	LO	NA	NA	4.2.10.3	
CS-008		C-5			LO				
CS-011	1" Globe	F-6	2	E	LC	NA	NA	4.2.10.3	
CS-012		C-6			LC				
CS-013	3" Gate	C-6	2	E	LC	NA	NA	4.2.10.3	
CS-014		G-6			LC				
CS-015	3" Glob	H-2	2	E	LC	NA	NA	4.2.10.3	
CS-016	10" Gate	G-6	2	E	LO	NA	NA	4.2.10.3	
CS-017	10" Gate	C-6	2	E	LO	NA	NA	4.2.10.3	
CS-020	1" Globe	D-5	2	E	LC	NA	NA	4.2.10.3	

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SYSTEM: Main Steam

P&ID NO: M-208

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MS-001	1-1/2" Globe	H-7	2	E	LC	NA	NA	4.2.10.3	
MS-002		F-7			LC				
MS-003		D-7			LC				
MS-004		C-7			LC				
MS-021	6" Gate	H-3	2	E	LO	NA	NA	4.2.10.3	
MS-022		F-3			LO				
MS-023		D-3			LO				
MS-024		C-3			LO				
MS-026	3" Globe	F-2	2	E	LO	NA	NA	4.2.10.3	
MS-027		C-2			LO				
MS-143		B-2			LO				
MS-144		D-2			LO				
SG-064	3/4" Globe	G-7	2	E	LC	NA	NA	4.2.10.3	
SG-066		E-7			LC				
SG-068		C-7			LC				
SG-070		B-7			LC				
CV-2210	6" AO Relief	H-3	2	BC	C	Every 3 months	NA		
PSV-2211	6" Safety	H-3	2	C	C	At Refuelings	NA		
PSV-2212		H-3			C				
PSV-2213		H-3			C				
PSV-2214		H-2			C				
PSV-2215		H-2			C				

SYSTEM: Main Steam P&ID NO: M-208

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CV-2216 (I)	28" Piston Op Check	H-2	2	BC	O	Cold Shutdown	NA	4.2.6.1	5 sec
MO-2218	3" MO Gate	G-2	2	B	C	Every 3 months	NA		15 sec
MO-2228 (I)		E-3			C				15 sec
CV-2230	6" AO Relief	F-3	2	BC	C	Every 3 months	NA		
PSV-2231	6" Safety	F-3	2	C	C	At Refuelings	NA		
PSV-2232		F-3			C				
PSV-2233		F-3			C				
PSV-2234		F-2			C				
PSV-2235		F-2			C				
CV-2236	28" Piston Op Check	F-2	2	BC	O	Cold Shutdown	NA	4.2.6.1	5 sec
MO-2238	3" MO Gate	D-3	2	B	C	Every 3 months	NA		15 sec
MO-2248 (I)		C-2			C				15 sec
CV-2250	6" AO Relief	D-3	2	BC	C	Every 3 months	NA		
PSV-2251	6" Safety	D-3	2	C	C	At Refuelings	NA		
PSV-2252		D-3			C				
PSV-2253		D-3			C				
PSV-2254		D-2			C				
PSV-2255		D-2			C				

SYSTEM: Main Steam P&ID NO: M-208

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CV-2256 (1)	28" Piston Op Check	D-2	2	BC	O	Cold Shutdown	NA	4.2.6.1	5 sec
CV-2270	6" AO Relief	C-3	2	BC	C	Every 3 months	NA		
PSV-2271	6" Safety	C-3	2	C	C	At Refuelings	NA		
PSV-2272		C-3			C				
PSV-2273		C-3			C				
PSV-2274		C-2			C				
PSV-2275		C-2			C				
CV-2276 (1)	28" Piston Op Check	B-2	2	BC	O	Cold Shutdown	NA	4.2.6.1	5 sec
CV-2277	3" Piston Op Globe	G-2	2	B	O	Every 3 months	NA		10 sec
CV-2278 (1)		F-2			O				10 sec
CV-2279		D-2			O				10 sec
CV-2280 (1)		B-2			O				10 sec
CV-2294	1" AO Gate	E-4	2	B	O	Every 3 months	NA		10 sec
CV-2295 (1)		C-4			O				10 sec
CV-2296		A-4			O				10 sec
CV-2297 (1)		G-3			O				10 sec
3-EBD-CK	3" Check	G-2	ANSI B31.1	C	C	Every 3 months	NA		
3-EBD-CK		E-3			C				
3-EBD-CK		D-3			C				
3-EBD-CK		C-2			C				

SYSTEM: Main and Auxiliary Feedwater

P&ID NO: M-213

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
2-CCC-CK	2" Check	G-7	ANSI B31.1	C	C	Cold Shutdown	NA	4.2.7.2	
2-CCC-CK		G-6			C				
2-CCC-CK		G-6			C				
2-CCC-CK		G-5			C				
3-EBE-CK	3" Check	H-7	2	C	C	Cold Shutdown	NA	4.2.7.2	
3-EBE-CK		H-7			C				
3-EBE-CK		H-6			C				
3-EBE-CK		H-6			C				
3-DBE-CK	3" Check	H-7	2	C	C	Cold Shutdown	NA	4.2.7.2	
3-DBE-CK		H-6			C				
3-DBE-CK		H-6			C				
3-DBE-CK		H-5			C				
6-DBD-CK	6" Check	C-8	ANSI B31.1	C	C	Cold Shutdown	NA	4.2.7.2	
6-DBD-CK		B-8							
6-HBD-CK	6" Check	B-7	ANSI B31.1	C	C	NA	NA	4.2.7.4	
6-HBD-CK		B-7			C				
6-HBD-CK	6" Check	B-7	ANSI B31.1	C	C	Every 3 months	NA	4.2.7.3	
6-HBD-CK		B-7			C				
2-HKD-CK	2" Check	A-7	ANSI B31.1	C	C	Every 3 months	NA		
6-HKD-CK	6" Check	C-7	ANSI B31.1	C	C	Every 3 months	NA		
14-EBE-CK	14" Check	G-7	2	C	O	Cold Shutdown	NA	4.2.7.5	
14-EBE-CK		G-6							
14-EBE-CK		G-6							
14-EBE-CK		G-7							

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SYSTEM: Main and Auxiliary Feedwater

P&ID NO: M-213

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
FW-087	3" Gate	H-5	2	E	O	NA	NA	4.2.10.3	
FW-088		H-6			O				
FW-089		H-6			O				
FW-090		H-7			O				
FW-091	3" Gate	G-5	2	E	O	NA	NA	4.2.10.3	
FW-092		G-6			O				
FW-093		G-6			O				
FW-094		G-7			O				
FW-103	3" Gate	G-7	ANSI B31.1	E	O	NA	NA	4.2.10.3	
FW-104		G-7			O				
FW-105		G-6			O				
FW-106		G-6			O				
FW-107	3" Gate	G-6	ANSI B31.1	E	O	NA	NA	4.2.10.3	
FW-108		G-6			O				
FW-109		G-5			O				
FW-110		G-5			O				
FW-111	6" Gate	B-7	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
FW-112		B-7			LO				
FW-113	6" Butterfly	B-7	ANSI B31.1	E	O	NA	NA	4.2.10.3	
FW-114		B-7			O				
FW-115	1" Globe	B-7	ANSI B31.1		C	NA	NA	4.2.10.3	
FW-116		B-7			C				
FW-117	2" Gate	B-8	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
FW-118		B-8			LO				

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SYSTEM: Main and Auxiliary Feedwater

P&ID NO: M-213

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
FW-119	6" Gate	C-8	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
FW-120		B-8			LO				
MO-3045A	6" MO Gate	B-7	ANSI B31.1	B	C	Every 3 months	NA		10 sec
MO-3045B		B-7			C				10 sec
MO-3060A	2" MO Butterfly	A-7	ANSI B31.1	B	C	Every 3 months	NA		10 sec
MO-3060B	6" MO Butterfly	C-7	ANSI B31.1	B	C	Every 3 months	NA		30 sec
CV-3004A1	3" MO Globe	G-7	ANSI B31.1	B	O	Every 3 months	NA		15 sec
CV-3004B1		G-5			O				15 sec
CV-3004C1		G-6			O				15 sec
CV-3004D1		G-6			O				15 sec
CV-3004A2	2" MO Globe	H-7	ANSI B31.1	B	O	Every 3 months	NA		10 sec
CV-3004B2		H-5			O				10 sec
CV-3004C2		H-6			O				10 sec
CV-3004D2		H-6			O				10 sec

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SYSTEM: Main and Auxiliary Feedwater

P&ID NO: M-214

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-3071	4" MO Globe	B-4	ANSI B31.1	B	C	Every 3 months	NA		10 sec (1)
MO-3170		B-4		B	O				10 sec

SYSTEM: Component Cooling Water P&ID NO: M-215

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-3210A	12" MO Butterfly	F-8	ANSI B31.1	B	C	Every 3 months	NA		120 sec
MO-3210B (1)		D-8			C				120 sec
CV-3287	18" AO Butterfly	F-4	ANSI B31.1	B	O	Every 3 months	NA		22 sec
CV-3288		D-4			O				22 sec
MO-3290	14" AO Butterfly	C-4	2	B	O	Cold Shutdown	NA	4.2.8.1	120 sec
MO-3291 (1)		G-4			O			4.2.10.4	120 sec
MO-3292		H-4			O				120 sec
MO-3293	14" MO Butterfly	G-8	ANSI B31.1	B	O	Every 3 months	NA		17 sec
MO-3294	6" MO Gate	H-4	ANSI B31.1	B	O	Cold Shutdown	NA	4.2.8.1	10 sec
MO-3295 (1)	8" MO Butterfly	D-5	ANSI B31.1	B	O	Cold Shutdown	NA	4.2.8.2	10 sec
MO-3296	4" MO Gate	C-4	ANSI B31.1	B	O	Cold Shutdown	NA	4.2.8.1	10 sec
MO-3300	6" MO Gate	G-6	ANSI B31.1	B	O	Cold Shutdown	NA	4.2.8.1	10 sec
CV-3303	18" AO Butterfly	E-1	ANSI B31.1	B	O	Every 3 months	NA		10 sec
CV-3304					O				10 sec
MO-3319 (1)	8" MO Butterfly	C-6	ANSI B31.1	B	O	Cold Shutdown	NA	4.2.8.2	10 sec
MO-3320	4" MO Gate	B-6	ANSI B31.1	B	O	Cold Shutdown	NA	4.2.8.1	10 sec

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SYSTEM: Component Cooling Water

P&ID NO: M-215

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
PSV-3323A	2" Safety	F-7	ANSI B31.1	C	C	At Refueling	NA		
PVS-3323B		C-7			C				
(I) MO-3346	14" MO Butterfly	B-4	2	B	O	Cold Shutdown	NA	4.2.8.1 4.2.10.4	120 sec
MO-3347	14" MO Butterfly	B-6	ANSI B31.1	B	C	Every 3 months	NA		17 sec
24-HBD-CK	24" Check	G-3	ANSI B31.1	C	O	Every 3 months	NA		
24-HBD-CK		G-3			O				
24-HBD-CK		D-3			O				
24-HBD-CK		C-3			O				
CC-009	24" Butterfly	G-3	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
CC-010		C-3			LO				
CC-011		F-3			LC				
CC-012		E-3			LC				
CC-013		G-3			LO				
CC-014		C-3			LO				
(I) CC-021		F-4			LO				
CC-022		D-4			LO				
CC-049		G-2			LO				
CC-050		C-2			LO				
CC-151		F-2			LC				
CC-152		D-2			LC				
CC-153		F-2			LC				
CC-154		E-2			LC				

SYSTEM: Service Water

P&ID NO: M-218

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CV-3712A	8" AO Butterfly	G-4	ANSI B31.1	B	C	Every 3 months	NA		10 sec
CV-3712B		H-4			C				10 sec
CV-3714	8" AO Butterfly	H-4	ANSI B31.1	B	O	Every 3 months	NA		10 sec
CV-3720A	8" AO Butterfly	C-4	ANSI B31.1	B	O	Every 3 months	NA		10 sec
CV-3720B		C-6			O				10 sec
PSV-3708A	1" Safety	F-3	ANSI B31.1	C	C	At Refueling	NA		
PVS-3708B		E-3			C				
CV-3725	8" AO Butterfly	H-4	ANSI B31.1	B	O	Every 3 months	NA		10 sec
CV-3803	3" AO Butterfly	D-7	ANSI B31.1	B	O	Every 3 months	NA		10 sec
CV-3804		E-7			O				10 sec
PSV-3832A	2" Globe	G-3	ANSI B31.1	C	C	At Refuelings	NA		
PVS-3832B		G-1			C				
PVS-3832C		G-3			C				
PVS-3832D		H-3			C				
PSV-3833A	3/4" Safety	H-3	ANSI B31.1	C	C	At Refuelings	NA		
PSV-3833B		G-2			C				
PSV-3834	2" Safety	G-7	ANSI B31.1	C	C	At Refuelings	NA		
PSV-3835	1-1/2" Safety	G-8	ANSI B31.1	C	C	At Refuelings	NA		

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SYSTEM: Service Water

P&ID NO: M-218

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
10-HFD-CK	10" Check	C-6	ANSI B31.1	C	O	Every 3 months	NA		
10-HFD-CK		D-6			O				
10-HFD-CK		C-4			O				
10-HFD-CK		D-4			O				
30-HFD-CK	30" Check	F-7	ANSI B31.1	C	O	Every 3 months	NA		
30-HFD-CK		E-7			O				
30-HFD-CK		C-7			O				
SW-003	30" Check	F-7	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-004		C-7			LO				
SW-008	30" Butterfly	E-7	ANSI B31.1	E	LC	NA	NA	4.2.10.3	
SW-009		D-7			LC				
SW-010		E-7			LC				
SW-011		D-7			LC				
SW-041	30" Butterfly	E-2	ANSI B31.1	E	LC	NA	NA	4.2.10.3	
SW-042					LC				
SW-043		E-2			LO				
SW-044					LO				
SW-137	12" Butterfly	C-5	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-138		D-5			LO				
SW-139	10" Butterfly	C-6	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-140		D-6			LO				
SW-141	12" Butterfly	C-5	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-142		D-5			LO				

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SYSTEM: Service Water P&ID NO: M-218

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
SW-143	10" Butterfly	C-4	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-144		D-4			LO				
SW-156	4" Gate	C-6	ANSI B31.1	E	LC	NA	NA	4.2.10.3	
SW-157		C-4			LC				
SW-158	8" Butterfly	H-4	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-159	2" Globe	H-3	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-160		G-3			LO				
SW-165	6" Globe	G-2	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-174		G-2			LO				
SW-179	2" Globe	H-1	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-180		G-1			LO				
SW-181	8" Butterfly	G-4	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-182	2" Globe	G-3	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-183		G-3			LO				
SW-188	6" Globe	G-2	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-197					LO	NA	NA	4.2.10.3	
SW-202	2" Globe	G-1	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
SW-203		G-1			LO				

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TABLE 4.1-1

SYSTEM: Clean Radioactive Waste P&ID NO: M-220

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CV-4000	1" AO Globe	G-8	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-4005	3" MO Gate	F-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-4006	3" AO Gate	F-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
1-GBB-CK	1" Check	G-8	2	AC	C	Each Refueling	Each Refueling	4.2.9.1 4.2.10.1	

(I)

SYSTEM: Dirty Radioactive Waste P&ID NO: M-221

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-4180	3" MO Gate	H-8	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-4181	3" AO Gate	H-8	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec

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TABLE 4.1-1

SYSTEM: Radioactive Gaseous Waste P&ID NO: M-222

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-4300	3" MO Gate	E-8	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-4301	3" AO Gate	E-8	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec

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SYSTEM: Instrument and Service Air P&ID NO: M-223

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CV-4470	2" AO Globe	D-1	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-4471	2" AO Globe	F-1	2	A	O	Each Refueling	Each Refueling	4.2.9.2 4.2.10.1	10 sec
2-HBE-CK	2" Check	D-1	2	AC	C	Each Refueling	Each Refueling	4.2.9.2 4.2.10.1	
2-HBE-CK	2" Check	F-1	2	AC	O	Each Refueling	Each Refueling	4.2.9.2 4.2.10.1	

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SYSTEM: Diesel Fuel Oil

P&ID NO: M-226

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-4903A	3" Gate	F-5	ANSI B31.1	B	C	Every 3 months	NA		10 sec
MO-4903B (I)		B-5			C				10 sec
MO-4907A	2" MO Globe	C-6	ANSI B31.1	B	C	Every 3 months	NA		[illegible] sec
MO-4907B (I)		B-6			C				10 sec
3-HBD-CK	3" Check	F-7	ANSI B31.1	C	C	Every 3 months	NA		
3-HBD-CK		D-7			C				
DO-001	3" Gate	F-7	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
DO-002		D-7			LO				
DO-005		G-5			LO				
DO-006		D-5			LO				
DO-007		F-5			LC				
DO-008		E-5			LC				
DO-009		E-5			LC				
DO-010		D-5			LO				
DO-011		G-5			LO				
DO-014 (I)	1" Globe	B-8	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
DO-015		E-4			LC				
DO-016		C-4			LC				
DO-017	3" Gate	E-4	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
DO-018		C-4			LO				
DO-019		E-4			LC				
DO-020	2" Globe	B-7	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
DO-021		E-5			LO				

SYSTEM: Diesel Fuel Oil P&ID NO: M-226

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
DO-022	3" Gate	D-4	ANSI B31.1	E	LC	NA	NA	4.2.10.3	
DO-023		D-4			LC				
(1) DO-032	2" Globe	D-5	ANSI B31.1	E	LO	NA	NA	4.2.10.3	
DO-033		B-7			LO				
DO-034		B-7			LO				
DO-036	1" Globe	B-7	ANSI B31.1	E	LC	NA	NA	4.2.10.3	

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TABLE 4.1-1

SYSTEM: Spent Fuel Pool Cooling P&ID NO: M-227

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
SF-046	8" Gate	F-2	2	AE	LC	NA	Each Refueling	4.2.10.1	Passive
SF-051		E-1			LC			4.2.10.3	
SF-062	3" Gate	E-2	2	AE	LC	NA	Each Refueling	4.2.10.1	Passive
SF-063		E-2						4.2.10.3	
SF-073	10" Gate	B-2	2	AE	LC	NA	Each Refueling	4.2.10.1	Passive
SF-074		B-2						4.2.10.3	
SF-075	10" Gate	A-3	2	E	LC	NA	NA	4.2.10.3	Passive
SF-080	8" Gate	F-2	2	A	C	NA	Each Refueling	4.2.10.1	Passive
CV-5075	4" AO Gate	A-6	3	B	C	Every 3 months	NA		10 sec
CV-5076		A-6			C				10 sec

(T)

SYSTEM: Make-up Water Treatment

P&ID NO: M-228

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MD-059	3" Manual Gate	F-1	2	AE	LC	NA	Each Refueling	4.2.10.1 4.2.10.3	Passive
(1) [illegible]	3" Check	F-1	2	AC	C	NA	Each Refueling	4.2.10.1	Passive

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SYSTEM: Sampling P&ID NO: M-231

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
CV-2809	3/4" AO Globe	H-6	2	B	O	Every 3 months	NA		10 sec
CV-2811		H-7			O				10 sec
CV-2814		H-6			O				10 sec
CV-2880		H-7			O				10 sec
MO-5651A	3/4" MO Globe	H-4	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5651B		H-4			C				10 sec
MO-5651C		H-4			C				10 sec
MO-5651D		H-4			C				10 sec
CV-5652	3/4" AO Globe	G-4	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5653	3/8" MO Globe	H-6	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5654		H-5			C				10 sec
CV-5655	3/4" AO Globe	G-6	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-5656	3/4" MO Globe	H-5	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-5657	3/4" AO Globe	G-5	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5658	3/4" MO Globe	H-5	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-5659	3/4" AO Globe	G-5	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5660	3/4" MO Globe	C-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
CV-5661	3/4" AO Globe	B-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec

(1)

SYSTEM: Containment Ventilation P&ID NO: M-243

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-5663	1" MO Globe	E-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5671	1" MO Globe	E-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5672		E-6			O				10 sec
MO-5673	1" MO Globe	E-7	2	A	O	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5674	1" MO Globe	E-7	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5675		F-7			C				10 sec
MO-5676	1" MO Globe	E-7	2	A	C	Every 3 months	Each Refueling	4.2.10.1	10 sec
MO-5677		F-8							10 sec
MO-5678		E-8							10 sec
CV-10001	54" AO Butterfly	D-2	2	A	C	Cold Shutdown	Each Refueling	4.2.9.3 4.2.10.1	3 sec
MO-10002	54" MO Butterfly	D-2	2	A	C	Cold Shutdown	Each Refueling	4.2.9.3	5 sec
MO-10003		D-7						4.2.10.1	5 sec
CV-10004	54" AO Butterfly	D-7	2	A	C	Cold Shutdown	Each Refueling	4.2.9.3 4.2.10.1	3 sec
MO-10005	8" MO Butterfly	C-2	2	A	C	Every 3 months	Each Refueling	4.2.9.4	5 sec
MO-10006		C-2			C			4.2.10.1	5 sec
MO-10007		C-2			C				5 sec
MO-10008		C-2			C				5 sec
MO-10009		C-7			C				5 sec
MO-10010		C-7			C				5 sec
MO-10011		C-7			C				5 sec
MO-10012		C-7			C				5 sec
10610A	3/4" Gate	D-7	2	AE	LC	NA	Each Refueling	4.2.10.1	Passive
10610B		D-7			LC			4.2.10.3	
10611A		C-7			LC				
10611B		C-7			LC				

(T)

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TABLE 4.1-1

SYSTEM: Chilled Water P&ID NO: M-248

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-10013	4" MO Butterfly	B-4	2	A	O	Every 3 months	Each Refueling	4.2.10.1	5 sec
CV-10014	4" AO Butterfly	B-4	2	A	O	Every 3 months	Each Refueling	4.2.10.1	3 sec
CV-10015					O				3 sec
MO-10016	4" WO Butterfly	B-4	2	A	O	Every 3 months	Each Refueling	4.2.10.1	5 sec

(I)

SYSTEM: Steam Generator Blowdown

P&ID NO: M-348

Valve ID No.	Valve Description	Drwg Locn	ASME Code Class	Sect XI Cat	Norm Pos	Test Frequency		Relief Request	Remarks
						Exercise	Leakage		
MO-2808	2" MO Globe	F-7	2	B	O	Evecy 3 months	NA		10 sec
MO-2810		H-5			O				10 sec
MO-2812		G-7			O				10 sec
MO-2813		G-6			O				10 sec
MO-6716		H-8			O				10 sec
MO-6717		G-8			O				10 sec
MO-6718		G-8			O				10 sec
MO-6719		G-8			O				10 sec

(1)

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4.2 RELIEF REQUEST BASIS FOR VALVES

The Code of Federal Regulations, 10 CFR 50.55a(g)(5)(iii) requires that . . . "If the licensee has determined that conformance with certain code requirements is impractical for his facility the licensee shall notify the Commission and submit information to support his determinations". (1)

By interpretation, any valves which do not conform to the standard test requirements for measurement of specific parameters or for the frequency of the test are assumed to be in nonconformance. This section identifies those valves for which testing under this program does not comply with the standard test requirements and provides the bases for relief from testing and provisions for alternate testing. (1)

4.2.1 REACTOR COOLANT SYSTEM (RCS)

4.2.1.1 Valves: 8900A, 8900B, 8900C, 8900D

Category: C (check valve)

Class: 1

Function: Each of these valves prevents backflow from its respective RCS cold leg into the boron injection tank during normal operation and allows flow from the boron injection tank to the RCS during safety injection. (1)

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Exercising these valves would require injection of concentrated boric acid into the RCS causing a power transient that could result in a reactor trip. (1)

(1)

Alternative Testing: These valves will be full stroke exercised for verification of operability during cold shutdown.

4.2.1.2 Valves: 8948A, 8948B, 8948C, 8948D

(1)

Category: AC (check valve)

Class: 1

Function: Each of these valves prevents backflow from its respective RCS cold leg and sequentially allows flow from the SIS accumulators, the SIS pump discharge, and the Residual Heat Removal System (RHRS) during safety injection.

(1)

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Exercising of these valves would require injection of concentrated boric acid into the RCS causing a power transient that could result in a reactor trip. During power operation, the SIS accumulators, SIS pumps or RHRS pumps cannot overcome RCS pressure.

(1)

Alternative Testing: These valves will be partial stroke exercised for verification of operability during cold shutdown using RHRS flow.

4.2.1.3 8949A, 8949B, 8949C, 8949D

Category: AC (check valve)

Class: 1

Function: Each of these valves prevents backflow from its respective RCS hot leg to the SIS pump discharge during normal operation and allows flow when RCS pressure drops below the SIS pump discharge pressure during shutdown. The RHRS pump discharge is also aligned to provide flow to RCS Loops 2 and 4 through the respective check valves during cooldown and refueling operations.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: During power operation the SIS and RHRS pumps cannot overcome RCS pressure.

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown.

4.2.1.4 Valve: 8046 and 8047

Category: C (check)

Class: 2

Function: These valves are internal Containment isolation valves which prevent backflow of Containment/ Pressurizer Relief Tank contents under accident conditions.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: These valves cannot be verified shut during power operation because the test connections

(1)

are located inside the Containment. The only available method to verify valve closure is during leak rate testing during refueling outages. (1)

Alternate Testing: These valves will be exercised for verification of operability during each refueling.

4.2.2 CHEMICAL AND VOLUME CONTROL SYSTEM (CVCS)

4.2.2.1 Valves: MO-8105 and MO-8106

Category: B (MO-8105, MO-8106) (1)

Class: 2

Function: These normally open series valves allow flow to the RCS for the normal and alternate charging lines and for pressurizer auxiliary spray. The motor-operated valves (MO-8105 and MO-8106) shut on a safety injection signal to redirect the charging pump discharge to the boron injection tank. The check valve (8381) prevents backflow from the RCS to the charging pump discharge.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of any of these valves in a closed position would result in loss of pressurizer level control.

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown. (1)

4.2.2.2 Valve: PSV-8117

Category: AC

Class: 2

Function: This safety valve provides overpressure protection for the CVCS letdown flow path and acts as an internal Containment isolation barrier between the pressurizer relief tank and the CVCS system.

Test Requirement: Test for leakage at each refueling.

Basis for Relief: This safety valve is inside the Containment and is on the Containment side of the isolation valves. As such it is labeled a Containment barrier isolation valve with a specified leakage. An increase in pressure on the pressurizer relief tank side of the valve tends to seat the valve tighter, however, the design of the bellows is such that high pressure is directed to the inside of the bellows and testing with pressure external to the bellows could result in damage to the relief-actuating mechanism. Additionally, Paragraph IWV-3512 allows that safety and relief valves which are tested for their setpoint are not required to be additionally leak tested. (1)

Alternate Testing: This valve will be tested for its relief setpoint at refuelings in accordance with the schedule for testing safety and relief valves.

4.2.2.3 Valves: 8481A and 8481B

Category: C (Check)

Class: 2 (1)

Function: Each of these valves is on the discharge of a centrifugal charging pump and prevents backfl. .

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: During power operation, the charging flow path cannot accommodate full flow except through the Boron Injection Tank which would require injection of concentrated boric acid into the RCS causing a power transient that could result in a reactor trip. (1)

Alternate Testing: These valves will be partial stroke exercised at power every 3 months and full stroke exercised at cold shutdown.

4.2.2.4 Valve: 8546

Category: C (check)

Class: 1

Function: This valve prevents backflow of water from the volume c trol tank (T-213) to the Refueling Water Storage Tank (RWST) during normal operation and allows flow from the RWST to the centrifugal charging pump suctions during safe shutdown.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Exercising of this valve would require injection of concentrated boric acid from the RWST into the RCS, causing a power transient which could result in a reactor trip. (1)

Alternate Testing: This valve will be full stroke exercised for verification of operability during cold shutdown. (1)

4.2.2.5 Valves: MO-8100 and MO-8112

Category: A

Class: 2

Function: These normally open Containment isolation valves, close on a CIS to isolate the reactor coolant pump seal water return.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of either of these valves in a closed position would result in loss of seal leakoff flow.

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown when the reactor coolant pumps are shutdown. (1)

4.2.3 RESIDUAL HEAT REMOVAL SYSTEM (RHRS)

4.2.3.1 Valves: MO-8701 and MO-8702

Category: B

Class: 1

Function: These normally closed series valves connect the suction of the RHRS pumps to the RCS Loop 4 hot leg. These valves are interlocked to prevent opening with RCS pressure greater than 425 psig and to automatically close when RCS pressure exceeds 600 psig.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Exercising of these valves during normal operation would require overriding of a safety interlock. The potential for overpressurization of the RHRS and depressurization of the RCS make testing of these valves at normal RCS pressure unsafe.

(1)

Alternate Testing: These valves will be exercised for verification of operability during cold shutdown.

4.2.3.2 Valves: 8736A, 8736B

(1)

Category: AC (check)

Class: 1

Function: These valves prevent backflow from the RCS Loops 2 and 4 hot legs into the RHRS during normal operation.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: During normal operation, the RHRS pumps cannot overcome RCS pressure.

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown. (1)

4.2.3.3 Valves: 8818A, 8818B, 8818C, 8818D (1)

Category: AC

Class: 1

Function: Each of these valves prevents backflow from one of the RCS cold legs into the RHRS during normal operation and allow flow from the RHRS into the RCS during the RHR cooldown.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Exercising of these valves would require reducing RCS pressure to an unacceptable level for normal operation. (1)

Alternate Testing: These valves will be exercised for verification of operability during cold shutdown.

4.2.3.4 Valve: MO-8703 (1)

Category: B

Class: 2

Function: This normally closed valve isolates the RHRS flow path to the RCS loop 2 and 4 hot legs during normal operation.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of this valve in the open position would redirect low head safety injection flow from the safety injection flow path.

Alternate Testing: This valve will be full stroke exercised for verification of operability during cold shutdown.

4.2.3.5 Valves: 8730A and 8730B

Category: C (check)

Class: 2 (1)

Function: Valves 8730A and 8730B are on the discharge of the RHRS pumps and prevent backflow through their respective pump.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: During power operation, the RHR pumps cannot overcome RCS pressure and the only flow path which can accommodate full flow is on recirculation to the RWST. This flow path is unacceptable because it would require repositioning of the RWST return isolation valve, 8735 (normally locked closed), which would render the RHRS injection system inoperable.

Alternate Testing: Valves 8730A and 8730B will be partial stroke exercised on miniflow during power operation and full stroke exercised during cold shutdown.

4.2.3.6 Valves: MO8804A and MO-8804B

Category: B

Class: 2

Function: These normally closed valves isolate the RHR pumps discharge from the safety injection and charging pump suctions.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of either of these valves in the open position would result in redirection of the safety analysis flow.

Alternate Testing: These valves will be full stroke exercised during cold shutdown.

4.2.3.7 valve: MO-8812

Category: B

Class: 2

Function: This normally open valve is repositioned to isolate the RWST from the RHRS pump suction during the accident recirculation phase.

Basis for Relief: Failure of this valve in the closed position would render the entire RHRS system inoperable.

(1)

Alternate Testing: This valve will be full stroke exercised for verification of operability during cold shutdown.

4.2.3.8 Valve 8958

Category: C

Class: 2

Function: Valve prevents backflow from RHR suction header to the refueling water storage tank.

Test Requirement: Exercise for operability every 3 months.

(1)

Basis for Relief: Exercising this valve requires the RHR pumps drawing suction on the RWST. Operating modes do not allow this because there is no place to store the water unless initiating large scale RWST recirculation (opening manual valve 8735). However, this is not feasible due to the RHR system operating in a degraded condition (see Relief 4.2.3.5). Cold shut-shutdown is not feasible because the RHR is in circulation to the RCS. The only feasible plant condition where this valve can be exercised is during refueling when the RHR system is utilized to fill the refueling cavity.

Alternate Testing: Valve 8958 will be full stroke exercised during refueling outages when the refueling cavity is filled.

4.2.4 SAFETY INJECTION SYSTEM (SIS)

4.2.4.1 Valves: MO-8808A, MO-8808B, MO-8808C, MO-8808D

Category: B (passive)

Class: 1

Function: These normally open valves provide isolation for the SIS accumulators. The valves are designed to open on receipt of a Safety Injection Signal. (1)

Test Requirement: None

Basis for Relief: These valves are categorized as B passive in that under normal operating conditions they are open and remain open in performance of their safety function. The valves have been included in the IST program for testing due to their critical location in a safety-related system and the imposed administrative requirements which require plant shutdown for failure of one of these valves in a closed position. (1)

Alternate Testing: Exercise for verification of operability during cold shutdown.

4.2.4.2 Valve: 8815

Category: C (check)

Class: 1

Function: This valve prevents backflow from the RCS cold legs into the boron injection tank during normal operation

and allows injection concentrated boric acid from the boron injection during a safety injection. (1)

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Exercising of this valve would require injection of concentrated boric acid into the RCS causing a power transient that could result in a reactor trip. (1)

Alternate Testing: This valve will be full stroke exercised for verification of operability during cold shutdown.

4.2.4.3 Valves: 8819A, 8819B, 8819C, 8819D

Category: AC (check) (1)

Class: 1

Function: Each of these valves prevents backflow from its respective RCS loop cold leg and allows flow from the discharge of the SIS pumps during shutdown.

Basis for Relief: Exercising of these valves would require injection of concentrated boric acid into the RCS that could result in a reactor trip. During power operation the SIS pumps cannot overcome RCS pressure. (1)

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown.

4.2.4.4 Valves: 8905A, 8905B, 8905C, 8905D

Category: C (check)

Class: 1

Function: Each of these valves prevents backflow from its respective RCS loop hot leg and allows flow from the discharge of the SIS pumps during shutdown.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Exercising of these valves would require injection of concentrated boric acid into the RCS causing a power transient that could result in a reactor trip. During power operation, the SIS pumps cannot overcome RCS pressure. (1)

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown.

4.2.4.5 Valves: 8956A, 8956B, 8956C, and 8956D

Category: C (check)

Class: 2

Function: These normally closed valves prevent backflow from the RCS into the accumulators during normal operation. (1)

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: During normal operation, the accumulator cannot overcome RCS pressure. Full stroke testing is not feasible due to limited plant conditions for testing.

Alternate Testing: These valves will be partial stroke exercised during cold shutdown.

4.2.4.6 Valve: 8968

Category: AC (check)

Class: 2

Function: This internal isolation valve prevents backflow out of the Containment from the accumulators and is on the nitrogen overpressure supply line.

Test Requirements: Exercise for operability every 3 months.

Basis for Relief: There are no provisions for verifying the valve to be in the shut position during normal operation.

(1)

Alternate Testing: This valve will be exercised and verified shut during leak rate testing at refueling outages.

4.2.4.7 Valves: MO-8806 and MO-8835

Category: B

Class: 2

Function: These normally open valves isolate the RWST from the SIS pump suction (MO-8806) and the cold leg safety injection into the RCS (MO-8835).

Test Requirement: Exercise for operability every 3 months.

Alternate Testing: These valves will be partial stroke exercised during cold shutdown.

4.2.4.6 Valve: 8968

Category: AC (check)

Class: 2

Function: This internal isolation valve prevents backflow out of the Containment from the accumulators and is on the nitrogen overpressure supply line.

Test Requirements: Exercise for operability every 3 months.

Basis for Relief: There are no provisions for verifying the valve to be in the shut position during normal operation.

(1)

Alternate Testing: This valve will be exercised and verified shut during leak rate testing at refueling outages.

4.2.4.7 Valves: MO-8806 and MO-8835

Category: B

Class: 2

Function: These normally open valves isolate the RWST from the SIS pump suction (MO-8806) and the cold leg safety injection into the RCS (MO-8835).

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of either valve in the closed position would render SIS inoperable.

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown.

4.2.4.8 Valves: MO-8813 and MO-8814

Category: B

Class: 2

Function: These normally open series valves isolate the SIS pump miniflow return flow path to the RWST.

Basis for Relief: Failure of either valve in a closed position would render the SIS pumps inoperable. A minimum flow rate through the pumps is required to ensure pump cooling. The miniflow flow path guarantees this minimum flow during the Safety Injection initiation.

Alternate Testing: These valves will be full stroke exercised for verification of operability during cold shutdown.

4.2.4.9 Valves: 8922A, 8922B, and 8926

Category: C (check)

Class: 2

Function: Valves 8922A and 8922B are on the discharge of the SIS pumps and prevent backflow through the respective

(1)

(1)

pump. Valve 8926 is between the SIS pumps suction and the RWST and prevents backflow into the RWST.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: The SIS pumps cannot overcome RCS pressure during power operation and as a result full flow cannot be accommodated.

Alternate Testing: These valves will be partial stroke exercised during power operation and full stroke exercised for verification of operability during cold shutdown.

4.2.5 CONTAINMENT SPRAY SYSTEM

4.2.5.1 Valves: 10-HCB-CK (two)

Category: C

Class: 2

Function: These valves prevent backflow of air from the Containment atmosphere through the Containment spray ring header.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: These valves do not have provision for testing under normal conditions. Exercising the valves would require injection of the test medium into the Containment through the spray nozzles with no means available for verification of flow. Equipment damage and requirements for extensive cleanup of the Containment would result.

(1)

Alternate Testing: These valves are part al stroke exercised during Containment smoke testing at a maximum interval of 5 yr under Technical Specification 4.6.2.1.

4.2.5.2 Valves: 14-HCB-CK (two)

Category: C

Class: 2

Function: These valves prevent backflow into the RWST from the Containment spray suction header.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Full stroke exercising of these valves would require injection of the test medium into the Containment. Equipment damage and requirements for extensive cleanup of the Containment would result.

Alternate Testing: These valves will be partial stroke exercised with flow through the Containment spray pump miniflow lines every 3 months.

(1)

4.2.6 MAIN STEAM SYSTEM

4.2.6.1 Valves: CV-2216, CV-2236, CV-2256, CV-2276

Category: BC

Class: 3

Function: These valves provide main steam isolation in each of the respective main steam headers.

Basis for Relief: Shutting of one of these valves during operation would result in three loop operation, thereby causing abnormal RCS flow. This results in unnecessary distortion of the reactor flux causing a decrease in the design thermal safety margins. Failure of a valve in the closed position would remove its respective steam generator from operation.

(1)

Alternate Testing: These valves will be exercised for verification of operability during cold shutdown.

4.2.7 MAIN AND AUXILIARY FEED

4.2.7.1 Deleted

4.2.7.2 Valves: 2-CCC-CK, 3-DBE-CK, and 3-EBE-CK, and 6-DBD-CK

Category: C (check)

Class: 2 and ANSI B31.1

Function: These valves prevent backflow from the main feed lines to the auxiliary feed system during normal operation.

(1)

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: These valves cannot be exercised during power operation without thermal shocking of the feed system nozzles.

Alternate Testing: These valves will be full stroke exercised during cold shutdown.

4.2.7.3 Valves: 6-HBD-CK (two)

Category: C (check)

Class: ANSI B31.1

Function: These valves are on the suction lines to the auxiliary feed pumps from the condensate storage tank and prevent backflow into the tank when the pumps are lined up to the Service Water System.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: The only flow path which will accommodate full flow is into the steam generators. Feeding the steam generators during power operation would result in thermal shocking of the feed system nozzles.

Alternate Testing: These valves will be partial stroke exercised every 3 months on recirculation and full stroke exercised at cold shutdown.

(1)

4.2.7.4 Valves: 6-HBD-CK (two)

Category: C

Class: ANSI B31.1

Function: These normally closed check valves are in the suction line to the auxiliary feed pumps from the Service Water System and prevent backflow into the SWS when the pumps are lined up to take suction from the condensate storage tank.

Test Requirements: Exercise for operability every 3 months.

Basis for Relief: The only flow path which will accommodate full flow is into the steam generators. Taking suction on the SWS would result in injecting contaminants in the Steam Generators and/or condensate storage tanks.

Alternate Testing: No testing of these valves will be done.

4.2.7.5 Valves: 14-EBE-CK (four)

Category: C

Class: 2

(1)

Function: These valves prevent backflow from the steam generators into the main feed system.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Shutting this valve during power operation would secure feed to the respective steam generator causing the associated MSIV to be shut and resulting in a reactor trip.

Alternate Testing: This valve will be full stroke exercised during cold shutdown.

4.2.8 COMPONENT COOLING WATER (CCW)

4.2.8.1 Valves: MO-3290, MO-3291, MO-3292, MO-3294, MO-3296, MO-3300, MO-3320, MO-3346

Category: B

Class: 2 (MO-3290, MO-3291, MO-3292, MO-3346, and ANSI B31.1
(MO-3294, MO-3296, MO-3300, MO-3320)

Function: These normally open valves are on the supply and return lines of the component cooling water supply to the reactor coolant pumps.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of one of these valves in the closed position would result in loss of cooling water to the reactor coolant pumps.

(1)

Alternate Testing: These valves will be exercised for verification of operability at cold shutdown.

4.2.8.2 Valves: MO-3295 and MC-3319

Category: B

Class: ANSI B31.1

Function: These are the inlet and outlet isolation valves on the letdown and seal water heat exchangers. The valves are normally open and close on receipt of a Containment isolation signal.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of either of these valves in the closed position would result in loss of cooling water to the RCS letdown and the RCS pump seal water heat exchangers requiring reactor shutdown.

(1)

Alternate Testing: These valves will be exercised for verification of operability during cold shutdown.

4.2.9 OTHER SYSTEMS

4.2.9.1 Valve: 1-GBB-CK

Category: C

Class: 2

Function: This valve is a Containment isolation valve for the N_2 supply line to the Reactor Coolant Drain Tank and prevents back flow out of Containment.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: The valve can only be verified in the closed position during leak rate testing at refueling outage.

Alternate Testing: Exercise for operability at each refueling outage.

4.2.9.2 Valves: CV-4471 and 2-HBE-CK (two)

Category: A and C, respectively

Class: 2

Function: These normally open series valves are Containment isolation valves for the instrument air supply to pneumatic valves and instrumentation inside the Containment. The valves close on receipt of a Containment isolation signal.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: Failure of either of these valves in a closed position removes the air supply to the Containment air-operated valves and pneumatic instrumentation. 2-HBE-CK can only be verified shut during leak testing at refueling outages.

Alternate Testing: These valves will be full stroke exercised for verification of operability during leak rate testing at refueling.

4.2.9.3 Valves: CV-10001, MO-10002, MO-10003, CV-10004

Category: A

Function: These valves are the Containment isolation valves for the Main Containment Purge System.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: PGE has committed to maintaining these valves in the closed position during Modes 1, 2, 3, and 4 in response to an NRC concern over Containment purging during normal operation. (1)

Alternate Testing: These valves will be full stroke exercised during cold shutdown.

4.2.9.4 Valves: MO-10005, MO-10006, MO-10007, MO-10008, MO-10009, MO-10010, MO-10011, MO-10012

Category: A

Function: These valves are the Containment isolation valves for the Hydrogen Vent System.

Test Requirement: Exercise for operability every 3 months.

Basis for Relief: PGE has committed to limiting the opening of these valves to 50° to ensure closure under the most severe design basis flow conditions.

(1)

Alternate Testing: These valves will be partial stroke exercised every 3 months.

4.2.10 GENERIC RELIEF REQUESTS

4.2.10.1 Valves: Containment Isolation Valves

Category: A

Class: 1 and 2

Function: These valves provide Containment isolation during reactor operation and/or isolate the Containment to prevent the release of radioactive products following a design accident.

Test Requirement: Test for seat leakage rate at each refueling.

Basis for Relief: The Containment isolation valves are tested for seat leakage under the criteria of Appendix J to 10 CFR 50. These valves are tested and analyzed for seat tightness in accordance with the Trojan Nuclear Plant "Containment Local Leak Rate Test". This procedure provides for local leak rate testing of valves. The acceptance criteria for allowable leakage rate under Appendix J to 10 CFR 50 varies from the acceptance criteria of Subsection IWV of ASME, Section XI, in that the allowed leakage is based on the total Containment leakage rate rather than

(1)

on individual valve seat leakage criteria. This test program provides adequate documentation and individual analysis for valves to verify maintenance of Containment integrity. Failure of any valve to provide adequate seat tightness in maintaining Containment integrity will require the same corrective action for repair and replacement of the valve. Therefore, based on provisions in Section XI which allow the owner to specify the valve seat leakage criteria, testing under the Section XI requirements would only require duplication of documentation without any added benefit as far as testing or analyzing of test data for assurance of leakage integrity. (1)

Alternate Testing: These valves are tested for seat leakage rate during local leakage rate testing in accordance with Appendix J to 10 CFR 50 and will not be tested under this program.

4.2.10.2 Valves: WASH-1400, Event V Configuation Valves

Category: A

Class: 1

Function: These valves are designated from a configuration of inseries check valves which provide a boundary between a high-pressure system and a system with a design pressure below that of the normal operating pressure of the high-pressure system. (1)

Test Requirement: Test for seat leakage rate at each cold shutdown.

Basis for Relief: The present system at Trojan for testing inseries check valves is designed for testing the second inseries check valve at normal operating pressure only in the event that the first valve demonstrates leakage. The WASH-1400 report does not consider added assurance of protection from periodic testing of the first valve.

Alternate Testing: The second valve will be leak tested at reduced pressures at cold shutdown except for check Valves 8905B and 8905D, which will be tested with the in-series check valve to determine the combined leakage across the two valves.

4.2.10.3 Valves: Valves Designated Category E

(1)

Category: E

Class: 1, 2, and 3

Function: The valves under this category are those which are normally locked open or locked closed to fulfill their function.

Test Requirement: Operational checks, with appropriate record entries, shall record the position of these valves before operations are performed and after operations are completed and shall verify that each valve is locked or sealed.

Basis for Relief: Under 10 CFR 50.55a(b)(2), the most recently approved edition of ASME, Section XI, is 1977 with addenda through the summer of 1978. Category E was deleted from this edition. Valves at Trojan which are locked

or sealed in position are covered by appropriate administrative procedures and documentation. The IST program would only duplicate existing requirements. In an effort to prevent conflicting and confusing reports which would not provide any safety margin over the existing administrative procedures, these valves have been listed for convenience but will not be separately documented under this program.

Alternate Testing: Existing administrative procedures.

4.2.10.4 Valves: Valves Designated for review Under the Criteria for Appendix J to 10 CFR 50

These valves were identified by NRC staff during the preliminary meeting for resolving IST comments and are being reviewed by the NRC for applicability to Appendix J Containment boundary criteria. The valves have been included within this program for administrative documentation only. Testing of these valves will be reevaluated upon completion of the NRC review.

(1)