INSERVICE TESTING PROGRAM

WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

UNITS 1 & 2

REVISION 3, July 31, 1985

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INTRODUCTION

The Inservice Testing Programs for Point Beach Nuclear Plant, Units 1 and 2, were developed in compliance with the rules and regulations of 10 CFR 50.55a and Section XI of the ASME Boiler and Pressure Vessel Code, 1977 Edition through Summer 1979 Addenda. Where these rules were determined to be impractical, specific relief was written.

Section 1.0 discusses the Inservice Testing Program of applicable ASME Class 1, 2, and 3 pumps. Section 2.0 discusses the Inservice Testing Program of applicable ASME Class 1, 2, and 3 valves.

Both of these programs were initially developed to the guidelines suggested in an NRC letter dated January, 1978. A subsequent resubmittal, Revision 1, was made based on the results of a November 1, 1983, meeting with the NRC. Roughly a year following the submittal of Revision 1, Revision 2 was issued. Revision 2 includes an additional pump relief request (No. 9) and other various minor program changes.

1.0 INSERVICE TESTING OF PUMPS

1.1 General Information

The Inservice Testing Program of applicable ASME Class 1, 2, and 3 pumps was developed in accordance with, and meets the requirements of ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWP, 1977 Edition through Summer 1979 Addenda.

This Inservice Testing Program will remain in effect throughout the second 10-year inservice inspection interval.

Section 3.0 lists all Class 1, 2, and 3 pumps which are to be tested, along with the applicable parameters to be measured.

Pumps that serve a common safety function (i.e., function to serve both units), are included in the Unit 1 inservice testing program list.

1.2 Program Information

The following information is included in the Inservice Testing Program for pumps:

1.2.1 Pump Number lists the pump identification number as shown on the P&ID's.

1.2.2 Pump Name describes the pump's functional identification as it is related to system operation.

1.2.3 Class is the ASME classification of the pump.

1.2.4 Test Parameters indicates the required test quantities measured per Table IWP-3100-1.

1.2.5 Relief Request references the relief request contained in Appendix A that applies to the particular pump. Also included are generic relief requests that are not specifically referenced in this column of the table, but apply to the pump program in general.

1.3 Test Frequency

An inservice test shall be run on each pump nominally every three months during plant operation. If this frequency can reasonably be accomplished during shutdown periods it will be, however, this is not mandatory. Where a pump is not tested on a three month frequency during plant shutdown, it will be tested within one week after the plant is returned to normal operation.

1.4 Request for Relief

Where ASME Section XI requirements were determined to be impractical, a request for relief was written. These requests were developed to the guidelines suggested in an NRC letter dated January 1978, and a November 1, 1983, meeting with the NRC.

Where relief from an ASME Code requirement is granted within the provisions of 10 CFR 50.55a(g)(6)(i), it will be incorporated into Point Beach Units 1 and 2 Inservice Testing Program.

Relief requests are shown in Appendix A.

1.5 Pump Notes

1. Pump discharge pressure is measured and compared with inlet pressure to determine differential pressure.

2. Pump inlet pressure is determined with level in refueling water storage tank.

3. Full-flow test is conducted during refueling periods.

4. Pump inlet pressure is determined with level in circulating water forebay.

5. This pump is operated more frequently than every quarter and will not be stopped for a special test (IWP-3400 b).

2.0 INSERVICE TESTING OF VALVES

2.1 General Information

The Inservice Testing Program for applicable ASME Class 1, 2, and 3 valves was developed in accordance with, and meets the requirements of ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWV, 1977 Edition through Summer 1979 Addenda.

The Inservice Testing Program for valves will remain in effect throughout the second 10-year inservice inspection interval.

The Inservice Testing Program lists all applicable ASME Class 1, 2, and 3 valves that have been assigned valve categories. Except for valves directly in the flow path (B passive), valves exempted per IWV-1200 are not listed. Valves that serve a common safety function (i.e., function to serve both units) are included in the Unit 1 Inservice Testing Program list.

The tables are organized by system in order of the assigned P&ID number and are listed in Section 2.4.

2.2 Program Information

The following information is included in the Inservice Testing Program for valves:

2.2.1 Valve Number lists the valve identification number as shown on the P&ID's.

2.2.2 P&ID and Coordinates references the P&ID on which the valve appears and its coordinates.

2.2.3 Class is the ASME classification of the valve.

2.2.4 Valve Category indicates the category assigned to the valve based on the definitions of IWV-2200.

2.2.5 Valve Size lists the nominal pipe size of the valve in inches.

2.2.6 Valve Type lists the valve design.

2.2.7 Actuator Type lists the type of valve actuator.

2.2.8 Valve Position indicates the normal position of the valve during plant operation; either normally open (O) or normally closed (C).

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

2.2.10 Test lists the test or tests that will be performed for each valve to fulfill the requirements of Subsection IWV.

Seat Leak Test AT
Valve will be seat leak tested at the appropriate functional differential pressure.

Full Stroke Exercise Test BT
Valve will be full stroke exercised for operability in the direction necessary to fulfill its safety function.

Check Valve Exercise Test CVT
Check valve will be exercised to the position required to fulfill its function. This functional test will be verified by the operation of the required system. Thus, "full stroke exercising" a check valve may be accomplished by either providing sufficient flow to fully open the disc, or provide the flow necessary to fulfill its associated safety function.

Check Valve Partial Exercise Test CVP
Check valve will be part stroke exercised, (i.e., disc moves away from seat) when full stroke exercising is impractical.

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

Relief Valve Set Point Check RVT
Relief and safety valve set points will be verified in accordance with IWV-3511.

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

Cold Shutdown CS
Valve testing at cold shutdown is valve testing which commences not later than 48 hours after cold shutdown and continues until required testing is completed or plant startup, whichever occurs first. Completion of all required valve testing is not a requisite to plant startup. Valve testing which is not completed during a cold shutdown will be performed during subsequent cold shutdowns to meet the code specified testing requirements. No valve need be tested more often than once every 90 days.

NOTE: IT IS EXPECTED THAT THE REQUIRED VALVE TESTING WILL NORMALLY BE COMPLETED IN 96 HOURS FOLLOWING COLD SHUTDOWN.

Specific Cold Shutdown E-CS
Valve tests with this designation will be conducted at cold shutdown conditions that also require "Event V" reactor coolant system primary isolation valve testing. "Event V" valve testing requirements may be found in plant Technical Specification 15.3.16.

Normal Operation OP
Valve tests with this designation will be performed once every three months.

Reactor Refueling RR
Valve tests with this designation will be conducted at reactor refueling outages only.

Specific Reactor Refueling *RR
Valve tests with this designation will be conducted at a reactor refueling once every 10-year inservice inspection interval. Any reactor refueling within this period will suffice as long as overall plant conditions, associated with the specific refueling outage, will allow the performance of the required testing (i.e., core off-load if necessary, etc.).

2.2.12 Max Stroke Time lists the maximum allowed full stroke time in seconds for valves requiring test.

2.2.13 Relief Request references the relief request contained in Appendix B that applies to the particular valve.

2.2.14 Remarks lists clarification remarks.

2.3 Valve Position Indicator Verification

Valves with remote position indicators will be observed at least once every two years to verify that remote valve indications accurately reflects valve operation.

2.4 Piping & Instrumentation Drawings

The following P&ID's contain valves which are part of the Inservice Testing program:

TITLE	UNIT 1	UNIT 2
Safety Injection System	110E017 Sheets 1,2,3	110E035 Sheets 1,2,3
Auxiliary Coolant System	110E018 Sheets 1,2,4	110E029 Sheets 1,2 110E018 Sheet 4
Reactor Coolant System	541F091 Sheets 1&2	541F445 Sheets 1&2
Sampling System	541F092	541F448
Chemical & Volume Control	684J741	685J175
Waste Disposal System	684J971 Section 2	684J971 Section 2
Main and Reheat Steam	M-201 Sheet 1	M-2201 Sheet 1
Service Water	M-207 Sheets 1,2,3,4	M-207 Sheets 1,2,3,4
Service Air	M-209	M-209
Instrument Air	M-209 Sheet 5	M-209 Sheet 5
Auxiliary Steam, Heating Steam, Chilled & Hot Water	M-214	M-2214
Heating & Ventilation	M-215	M-2215
Auxiliary Feedwater System	M-217	M-217
Containment Venting System	M-224	M-224
Emergency Diesel Generator Air Start System	M-209 Sheet 10	--
Deionized and Reactor Makeup Water	PBM-231	PBM-231

2.5 Request for Relief

Where ASME Section XI requirements were determined to be impractical, a request for relief was written. These requests were developed to the guidelines suggested in an NRC letter dated January, 1978 (see Appendix B) and a subsequent meeting on November 1, 1983, with the NRC.

2.6 Fail Safe Testing of Valves

ASME Section XI, Article IWV 3415 requires that "Valves with fail safe actuators shall be tested by observing the operation of the valves upon loss of actuator power.

Appendix "C" is a listing of all the valves that require fail safe testing and the methods to be used to test the valves.

2.7 Explanation of Abbreviations and Notes

2.7.1 Abbreviations

See attached charts.

2.7.2 Notes

a. Valves

1. This valve is checked for locked closed or locked open position.

2. This valve is a pressure relief valve and will be tested at the frequency stated in IWV-3511.

3. This valve is a passive valve and does not require testing.

4. Exercising this valve during operation could result in overpressurization of a low pressure system if upstream pressure isolation check valves should leak through. There are no pressure monitors installed on the high pressure side of the subject valve to determine status of upstream pressure isolation valves.

4a. Exercising this valve during operation is not possible because the reactor coolant system pressure is higher than the safety injection pump discharge pressure (1500 psig) and the accumulator pressure (700 psig).

5. Exercising this valve during operation is not advisable as the valve alignment required to facilitate valve stroking would prevent boric acid from reaching the safety injection pump suctions.

6. All motor operated valves fail-as-is and therefore do not require a fail safe test per IWV-3415.

7. This valve is exercised during normal operation and therefore does not require a separate test.

8. This valve is tested when the containment spray system is tested per Technical Specification.

9. This valve is "A" passive and will only receive a seat leakage test.

10. The seat leakage test for this valve will be performed in accordance with 10 CFR 50, Appendix J requirements.

11. This valve is within a nonsafety-related system, however, it is used for containment isolation and therefore, will receive a set leakage test in accordance with 10 CFR 50, Appendix J requirements.

12. The valve alignment required to facilitate valve testing during power operation would isolate sodium hydroxide from the spray system.

12a. Full stroke exercising this valve during operation is not possible because the residual heat removal pump discharge pressure cannot overcome reactor coolant system pressure and the recirculation line is not capable of passing the required flow.

13. Exercising this valve during operation would cause a loss of cooling water to the reactor coolant pump, which could result in damage to the pump.

14. It is the NRC's position that the PORV's be exercised at cold shutdown.

15. The PORV block valve will normally be stoke exercised during operation. If a PORV is isolated per the Technical Specifications, the block valve will then be exercised at cold shutdown, not operation.

16. Exercising this valve during power operation produces transients in the charging and letdown system. These transients affect seal injection flow to the reactor coolant pumps and could result in pump seal damage.

17. Exercising this valve during power operation will cause isolation of main steam flow resulting in a turbine-reactor trip.

18. Exercising this valve results in securing service water to the turbine hall. The major components relying on service water cooling in the turbine hall includes the main turbine, main generator, steam generator feedwater pumps and condensate pumps. Thus, exercising this valve during operation could result in significant damage to secondary plant equipment.

19. Exercising this valve during operation would result in thermal shocking the auxiliary feedline to main feedline nozzle.

20. During operation, full stroke exercising of these valves would require injection of relatively cold auxiliary feedwater to the steam generators since the recirculation line cannot pass the required flow. This would result in thermal shocking the auxiliary feedline to main feedline nozzle.

21. Exercising this valve during power operation will cause an interruption of feedwater flow which would result in a reactor trip.

22. These valves are not accessible during power operation due to their location within the reactor containment building.

23. During normal operation, the subject valve is shut and the system/subsystem containing the valve is out of service. Thus, stroke testing the subject valve on a quarterly basis is not required during this period, per IWV-3416. Prior to returning the system to an operable status, the valve will be exercised and the code required schedule will be resumed.

24. This valve must be locked closed and may not be opened unless the reactor is in a cold shutdown or refueling shutdown condition, per the plant's Technical specifications. As long as the subject valve is maintained locked closed, the system is considered to be out of service. Thus, quarterly stroke testing of the subject valve, during any plant condition in which it is locked closed, is not required per IWV-3416. Prior to returning the system to an operable status, the valve will be exercised, and the code required schedule will be resumed.

25. These valves serve no safety-related function. They are presented in this program as a result of a commitment made to the NRC in a letter from Mr. C. W. Fay to Mr. H. R. Denton, dated 02-29-84. Since they serve no safety-related function, no testing is required. However, these valves will be stroke tested during reactor refueling outages to assure their operability.

INSERVICE TESTING PROGRAM
ASME CLASS 1, 2 & 3 VALVES
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

Revision 3
07-31-85
Page UNIT

System Explanation of Abbreviations									P&ID				
Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
					GA								GATE
					GL								GLOBE
					CK								CHECK
					SCK								STOP CHECK
					SV								SAFETY
					RV								RELIEF
					BTF								BUTTERFLY
					DIA VB								DIAPHRAGM VACUUM BREAKER
						SO							SOLENOID
						AO							AIR OPERATOR
						SA							SELF ACTUATED
						MO							MOTOR OPERATOR
						M							MANUAL
									AT				SEAT LEAK TEST
									BT				FULL STROKE EXERCISE TEST

INSERVICE TESTING PROGRAM
ASME CLASS 1, 2 & 3 VALVES
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

Revision 1
01-06-84
Page UNIT

System Explanation of Abbreviations									P&ID				
Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
									CVT				CHECK VALVE EXERCISE TEST
									CVP				PARTIAL CHECK VALVE EXERCISE TEST
									RVT				SAFETY OR RELIEF VALVE TEST
									FST				FAIL SAFE TEST
										CS			COLD SHUTDOWN
										E-CS			COLD SHUTDOWN REQUIRING EVENT V VALVE TESTING
										RR			REACTOR REFUELING
										*RR			AT REACTOR REFUELING ONCE PER 10 YEAR ISI INTERVAL
										OP			NORMAL OPERATION
												VRR	VALVE RELIEF REQUEST

INSERVICE TESTING PROGRAM - PUMPS

UNIT 1

INSERVICE TESTING PROGRAM
ASME CLASS 1, 2 & 3 PUMPS
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

Revision 2
03-21-85

UNIT 1

Pump Number	Pump Name	P&ID and Coordinates	TEST PARAMETERS							Relief Request
			Lube Level	Speed	Inlet Press	Diff Press	Flow Rate	Vib	Brg Temp	
P10A	Residual Heat Removal	110E018 D-8	Yes	NA	Yes	Yes	No	Yes	Yes	RR-1, 4, 9 Notes- 1, 3
P10B	Residual Heat Removal	110E018 C-8	Yes	NA	Yes	Yes	No	Yes	Yes	RR-1, 4, 9 Notes- 1, 3
P14A	Containment Spray	110E017 I-7	Yes	NA	Yes	Yes	No	Yes	Yes	RR-1, 6, 9 Notes- 1, 2
P14B	Containment Spray	110E017 C-7	Yes	NA	Yes	Yes	No	Yes	Yes	RR- 1, 6, 9 Notes- 1, 2
P15A	Safety Injection	110E017 I-8	Yes	NA	Yes	Yes	No	Yes	Yes	RR-1, 3, 9 Notes- 1, 2, 3
P15B	Safety Injection	110E017 H-8	Yes	NA	Yes	Yes	No	Yes	Yes	RR-1, 3, 9 Notes- 1, 2, 3
P29	Auxiliary Feed (Turbine)	M-217 B-4	Yes	Yes	Yes	Yes	No	Yes	Yes	RR-1, 5, 9 Note- 1
P32A	Service Water	M-207 D-1	No	NA	Yes	Yes	No	Yes	No	RR-1, 7, 8, 9 Notes- 1, 4, 5
P32B	Service Water	M-207 D-1	No	NA	Yes	Yes	No	Yes	No	RR-1, 7, 8, 9 Notes- 1, 4, 5
P32C	Service Water	M-207 D-1	No	NA	Yes	Yes	No	Yes	No	RR-1, 7, 8, 9 Notes- 1, 4, 5
P32D	Service Water	M-207 F-1	No	NA	Yes	Yes	No	Yes	No	RR-1, 7, 8, 9 Notes- 1, 4, 5
P32E	Service Water	M-207 F-1	No	NA	Yes	Yes	No	Yes	No	RR-1, 7, 8, 9 Notes- 1, 4, 5

INSERVICE TESTING PROGRAM
ASME CLASS 1, 2 & 3 PUMPS
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

Revision 2
03-21-85

UNIT 1

Pump Number	Pump Name	P&ID and Coordinates	TEST PARAMETERS							Relief Request
			Lube Level	Speed	Inlet Press	Diff Press	Flow Rate	Vib	Brg Temp	
P32F	Service Water	M-207 F-1	No	NA	Yes	Yes	No	Yes	No	RR-1, 7, 8, 9 Notes- 1, 4, 5
P38A	Auxiliary Feed (Motor)	M-217 D-4	Yes	NA	Yes	Yes	No	Yes	Yes	RR-1, 5, 9 Note- 1
P38B	Auxiliary Feed (Motor)	M-217 F-4	Yes	NA	Yes	Yes	No	Yes	Yes	RR-1, 5, 9 Note- 1

INSERVICE TESTING PROGRAM - PUMPS

UNIT 2

INSERVICE TESTING PROGRAM
ASME CLASS 1, 2 & 3 PUMPS
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

Revision 2
03-21-85

UNIT 2

Pump Number	Pump Name	P&ID and Coordinates	TEST PARAMETERS							Relief Request
			Lube Level	Speed	Inlet Press	Diff Press	Flow Rate	Vib	Brg Temp	
P10A	Residual Heat Removal	110E029 D-8	YES	NA	YES	YES	NO	YES	YES	RR-4, 9 Notes 1, 3
P10B	Residual Heat Removal	110E029 C-8	YES	NA	YES	YES	NO	YES	YES	RR-4, 9 Notes 1, 3
P14A	Containment Spray	110E035 I-7	YES	NA	YES	YES	NO	YES	YES	RR-6, 9 Notes 1, 2
P14B	Containment Spray	110E035 C-7	YES	NA	YES	YES	NO	YES	YES	RR-6, 9 Notes 1, 2
P15A	Safety Injection	110E035 I-8	YES	NA	YES	YES	NO	YES	YES	RR-3, 9 Notes 1, 2, 3
P15B	Safety Injection	110E035 H-8	YES	NA	YES	YES	NO	YES	YES	RR-3, 9 Notes 1, 2, 3
P29	Auxiliary Feed (Turbine)	M-217 G-4	YES	YES	YES	YES	NO	YES	YES	RR-5, 9 Note 1

APPENDIX A

REQUEST FOR RELIEF

FOR PUMPS

PUMP RELIEF REQUEST NO. 1

System:	Safety Related, Unit 1
Component:	All pumps in the program
Class:	2 and 3
Function:	To provide flow to safety systems
Test Requirement:	Comply with the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, Division 1, 1977 Edition and Addenda through Summer, 1978, per the requirements of 10 CFR 50.55a.
Basis For Relief:	To achieve identical inspection basis for both PBNP units for the Section XI pump and valve inservice testing program.
Alternate Testing:	Comply with the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, Division 1, 1977 Edition and Addenda through Summer, 1979.

PUMP RELIEF REQUEST NO. 2

System:	Safety Related, Units 1 and 2
Component:	All pumps in the program
Class:	2 and 3
Function:	To provide flow to safety systems
Test Requirement:	To test the pump nominally each month (IWP-3400a)
Basis For Relief:	Industry data indicates that monthly testing of pump operating parameters is not necessary to assure the reliability of a safety grade pump. In fact, the acceptability of assessing a pump's operational readiness through a testing program based on a three-month interval is evidenced by the recommended program contained in the 1980 edition of Section XI of the ASME Boiler and Pressure Vessel Code.
Alternate Testing:	Test the pump nominally every three months during normal plant operation.

PUMP RELIEF REQUEST NO. 3

System:	Safety Injection, Units 1 and 2
Component:	P15-A&B
Class:	2
Function:	To provide high pressure injection flow for cold leg and core deluge safety injection modes.
Test Requirement:	The resistance of the system shall be varied until either the measured differential pressure or the measured flowrate equals the corresponding reference value. Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1 except bearing temperatures, which shall be measured during at least one inservice test each year.
Basis For Relief:	The inservice testing is accomplished by operating the pumps in a recirculation mode through a flow-restricting orifice. The flow-restricting orifice ensures a fixed-resistance, fixed-flow condition near the horizontal portion of the pump curve which is associated with shutoff head, therefore, flow measuring instrumentation is not indicative of pump performance and consequently does not provide meaningful information in this portion of the pump curve.
Alternate Testing:	During each inservice test, establish the recirculation mode system resistance via the fixed flow-restricting orifice. Measure or observe all required parameters, except flow, and analyze these values per IWP-3200. During reactor refueling outages, when design system flow testing can be achieved, vary the system resistance to obtain flow and developed pump head data at three points along the pump curve and analyze these values per IWP-3200 with respect to the applicable reference values.

PUMP RELIEF REQUEST NO. 4

System: Safety Injection, Units 1 and 2

Component: P10-A&B

Class: 2

Function: To provide low pressure injection flow for cold leg and core deluge safety injection modes.

Test Requirement: the resistance of the system shall be varied until either the measured differential pressure or the measured flowrate equals the corresponding reference value.

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1 except bearing temperatures, which shall be measured during at least one inservice test each year.

Basis For Relief: The inservice testing is accomplished by operating the pumps in a recirculation mode through a flow-restricting orifice. The flow-restricting orifice ensures a fixed-resistance, fixed-flow condition near the horizontal portion of the pump curve which is associated with shutoff head, therefore, flow measuring instrumentation is not indicative of pump performance and consequently does not provide meaningful information in this portion of the pump curve.

Alternate Testing: During each inservice test, establish the recirculation mode system resistance via the fixed flow restricting orifice. Measure or observe all required parameters, except flow, and analyze these values per IWP-3200. During reactor refueling outages, when design system flow testing can be achieved, vary the system resistance to obtain flow and developed pump head data at three points along the pump curve and analyze these values per IWP-3200 with respect to the applicable reference values.

PUMP RELIEF REQUEST NO. 5

System:	Auxiliary Feedwater, Units 1 and 2
Component:	P29, P38-A&B
Class:	3
Function:	To provide auxiliary feedwater flow to the steam generators for heat removal.
Test Requirement:	The resistance of the system shall be varied until either the measured differential pressure or the measured flowrate equals the corresponding reference value. Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1 except bearing temperatures, which shall be measured during at least one inservice test each year.
Basis For Relief:	The inservice testing is accomplished by operating the pumps in a recirculation mode through a flow-restricting orifice. The flow-restricting orifice ensures a fixed-resistance, fixed-flow condition near the horizontal portion of the pump curve which is associated with shutoff head, therefore, flow measuring instrumentation is not indicative of pump performance and consequently does not provide meaningful information in this portion of the pump curve.
Alternate Testing:	During each inservice test, establish the recirculation mode system resistance via the fixed flow restricting orifice. Measure or observe all required parameters, except flow, and analyze these values per IWP-3200. During cold shutdown conditions, when design system flow testing can be achieved without thermal shocking the auxiliary feedwater line to feedline nozzles, obtain flow and developed pump head data with system operation at or near design conditions. Analyze this data per IWP-3200 with respect to the applicable reference values.

PUMP RELIEF REQUEST NO. 6

System:	Containment Spray, Units 1 and 2
Component:	P14-A&B
Class:	2
Function:	To provide containment atmospheric heat removal and, if needed, iodine removal.
Test Requirement:	The resistance of the system shall be varied until either the measured differential pressure or the measured flowrate equals the corresponding reference value. Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1 except bearing temperatures, which shall be measured during at least one inservice test each year.
Basis For Relief:	The inservice testing is accomplished by operating the pumps in a recirculation mode through a flow-restricting orifice. The flow-restricting orifice ensures a fixed-resistance, fixed-flow condition near the horizontal portion of the pump curve which is associated with shutoff head, therefore, flow measuring instrumentation is not indicative of pump performance and consequently does not provide meaningful information in this portion of the pump curve.
Alternate Testing:	During each inservice test, establish the recirculation mode system resistance via the fixed flow restricting orifice. Measure of observe all required parameters, except flow, and analyze these values per IWP-3200.

PUMP RELIEF REQUEST NO. 7

System:	Service Water, Units 1 and 2
Component:	P32-A, B, C, D, E, F
Class:	3
Function:	To provide vital cooling water to safety-related equipment.
Test Requirement:	To vary system resistance until a reference flowrate is achieved then measure flowrae and ΔP.
Basis For Relief:	Normal plant operation requires a minimum of two pumps to be in operation on a fixed resistance system. With the system resistance the same for each test of paired pumps, a measured ΔP is indicative of pump performance.
Alternate Testing:	Operate a given pair of pumps on a fixed resistance system, measure ΔP and compare the measured ΔP to a reference value for the same flow condition. Perform periodic maintenance inspections (such that each pair of pumps is inspected once during every 10 year ISI interval) on paired pumps to determine if mechanical and/or hydraulic degradation is occurring.

PUMP RELIEF REQUEST NO. 8

System:	Service Water, Units 1 and 2
Component:	32-A, B, C, D, E, & F
Class:	3
Function:	To provide vital cooling water to safety-related equipment.
Test Requirement:	Measure bearing temperature and lubricant level.
Basis For Relief:	These pumps are vertical water lubricated sump pumps located in the circulating water forebay. The pump bearings are submerged in the forebay and are inaccessible for temperature measurements. Lubricant level is also inaccessible and will not be observed.
Alternate Testing:	None

PUMP RELIEF REQUEST NO. 9

System:	Safety Related, Units 1 and 2
Component:	All pumps in the program.
Class:	2 and 3
Function:	To provide flow to safety systems.
Test Requirement:	Articles IWP-3000 and IWP-4000 require that pump vibration monitoring be performed using displacement vibration amplitude (peak-to-peak composite) techniques.
Basis For Relief:	Vibration severity is a function of displacement and frequency. Since vibration velocity is also a function of displacement and frequency, it can be concluded that a measure of vibration velocity is a direct measure of vibration severity. This has been found, through experience, to be true for frequencies between 600 cycles per minute and 60,000 cycles per minute. All of the safety-related pumps at the Point Beach Nuclear Plant fall within this range.
Alternate Testing:	During each inservice test, at least one broadband vibration velocity (in/sec. pk) measurement will be obtained. The allowable ranges of the inservice vibration velocity test data are shown on the following table.

ALLOWABLE VIBRATION RANGES

Reference Vibration Amplitude (in/sec-peak)	Acceptable Range (in/sec-peak)	Alert Range (in/sec-peak)	Required Action Range (in/sec-peak)
$V_R \leq 0.1$	0 to 0.2	0.2 to 0.3	>0.3
$0.1 < V_R \leq 0.3$	0 to 2 V_R	2 V_R to 3 V_R	>3 V_R
$0.3 < V_R \leq 0.6$	0 to V_R + 0.3	V_R + 0.3 to V_R + 0.6	>V_R + 0.6
$V_R > 0.6$	0 to 1.5 V_R	1.5 V_R to 2.0 V_R	>2.0 V_R

V_R = Reference Vibration Amplitude (Unfiltered Velocity)

V = Measured Vibration Amplitude (Unfiltered Velocity)

INSERVICE TESTING PROGRAM - VALVES

UNIT 1

INSERVICE TESTING PROGRAM
ASME CLASS 1, 2 & 3 VALVES
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

Revision 1
01-06-84
 UNIT 1

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
834-A	J-10	2	B	1"	GL	AO	C	C	NA				Note 3
834-B	F-10	2	B	1"	GL	AO	C	C	NA				Note 3
834-C	J-6	2	B	1"	GA	M	O	O	NA				Note 3
835-A	H-10	2	B	1"	GL	AO	C	C	NA				Note 3
835-B	E-10	2	B	1"	GL	AO	C	C	NA				Note 3
839-A	F-8	2	B	3/4"	GL	AO	C	C	NA				Note 3
839-B	F-9	1	B	3/4"	GL	AO	C	C	NA				Note 3
839-C	F-9	2	B	3/4"	GL	AO	C	C	NA				Note 3
839-D	F-8	1	B	3/4"	GL	AO	C	C	NA				Note 3
841-A	H-11	2	B	10"	GA	MO	O	O	NA				Notes 3, 6
841-B	E-11	2	B	10"	GA	MO	O	O	NA				Notes 3, 6
842-A	H-12	1	A/C	10"	CK	SA	C	O	AT CVP CVT	OP ECS *RR		VRR-19	
842-B	E-12	1	A/C	10"	CK	SA	C	O	AT CVP CVT	OP ECS *RR		VRR-19	
843-A	I-10	2	B	3/4"	GL	M	C	C	NA				Note 3
843-B	E-10	2	B	3/4"	GL	M	C	C	NA				Note 3

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
844-A	I-11	2	B	1"	GL	AO	C	C	NA				Note 3
844-B	E-11	2	B	1"	GL	AO	C	C	NA				Note 3
845-A	H-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-B	D-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-C	G-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-D	D-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-E	E-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-F	G-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
846	J-5	2	A	1"	GL	AO	O	C	AT BT FST	RR OP OP	4.5	VRR-0	Note 11
850-A	B-8	2	B	10"	GA	MO	C	O	BT	OP	10		Note 6
850-B	B-11	2	B	10"	GA	MO	C	O	BT	OP	10		Note 6
851-A	B-5	2	B	10"	GA	MO	C	O	BT	OP	130		Note 6
851-B	A-5	2	B	10"	GA	MO	C	O	BT	OP	130		Note 6
852-A	C-12	2	B	6"	GA	MO	C	O	BT	CS	15		Notes 4, 6
852-B	C-12	2	B	6"	GA	MO	C	O	BT	CS	15		Notes 4, 6

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
853-A	C-12	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	
853-B	C-12	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	
853-C	C-14	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	
853-D	C-14	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	
861-A	C-8	2	C	3/4"	RV	SA	C	O	RVT				Note 2
866-A	H-5	2	B	4"	GA	MO	O	O	NA				Note 3
866-B	H-5	2	B	4"	GA	MO	O	O	NA				Note 3
867-A	H-13	1	A/C	10"	CK	SA	C	O	CVP CVT AT	E-CS *RR E-CS		VRR-4	
867-B	E-13	1	A/C	10"	CK	SA	C	O	CVT AT	CS E-CS			Note 4A
878-A	D-12	2	B	2"	GL	MO	C	O	BT	CS	15		Notes 4, 6
878-B	D-12	2	B	2"	GL	MO	O	O	NA				Note 3
878-C	G-12	2	B	2"	GL	MO	C	O	BT	CS	15		Notes 4, 6
878-D	G-12	2	B	2"	GL	MO	O	O	NA				Note 3
878-E	E-12	2	B	2"	GL	M	O	O	NA				Notes 1, 3
878-F	F-12	2	B	2"	GL	M	O	O	NA				Notes 1, 3

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
887	E-6	2	C	3/4"	RV	SA	C	O	RVT				Note 2
830-A	J-10	2	C	1"	RV	SA	C	O	RVT				Note 2
830-B	F-10	2	C	1"	RV	SA	C	O	RVT				Note 2
957	I-6	2	A	1"	GL	AO	C	C	AT	RR			Note 10

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
825-A	H-5	2	B	10"	GA	MO	C	O	BT	OP	20		Note 6
825-B	H-5	2	B	10"	GA	MO	C	O	BT	OP	20		Note 6
825-C	H-5	2	B	2"	GA	AO	O	O	NA				Note 3
826-A	J-6	3	B	8"	GA	MO	O	O	NA				Notes 3, 6
826-B	J-7	3	B	8"	GA	MO	C	O	BT	CS	15		Notes 5, 6
826-C	J-7	3	B	8"	GA	MO	C	O	BT	CS	15		Notes 5, 6
827-A	J-8	3	B	8"	GA	M	O	O	NA				Note 3
827-B	J-8	3	B	8"	GA	M	O	O	NA				Note 3
829-A	H-11	2	B	4"	GA	M	C	C	NA				Notes 1, 3
829-B	H-11	2	B	4"	GA	M	C	C	NA				Notes 1, 3
854-A	E-4	2	C	10"	CK	SA	C	O	CVT	RR		VRR-6	
854-B	E-4	2	C	10"	CK	SA	C	O	CVT	RR		VRR-6	
856-A	E-4	2	B	10"	GA	MO	O	O	NA				Notes 3, 6
856-B	E-4	2	B	10"	GA	MO	O	O	NA				Notes 3, 6
857-A	F-8	2	B	6"	GA	M	C	C	NA				Note 3

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
857-B	F-7	2	B	6"	GA	M	C	C	NA				Note 3
876-A	F-9	2	B	2"	GL	M	O	O	NA				Notes 1, 3
876-B	F-9	2	B	2"	GL	M	O	O	NA				Notes 1, 3
879-B	F-13	2	B	3/4"	GL	M	C	C	NA				Notes 1, 3
884	F-10	2	B	3/4"	GL	M	C	C	NA				Notes 1, 3
888-A	I-10	2	B	6"	GA	M	O	O	NA				Notes 1, 3
888-B	H-10	2	B	6"	GA	M	O	O	NA				Notes 1, 3
889-A	I-10	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-7	
889-B	H-10	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-7	
891-A	G-10	2	C	2"	CK	SA	C	O	CVT	OP			
891-B	G-9	2	C	2"	CK	SA	C	O	CVT	OP			
894	H-5	2	B	2"	GL	M	O	O	NA				Note 3
895	H-5	2	C	2"	CK	SA	C	C	NA				Note 3
896-A	I-7	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6
896-B	H-7	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
897-A	H-1	2	B	2"	GL	AO	O	C	BT FST	OP OP	4.5	VRR-0	
897-B	H-1	2	B	2"	GL	AO	O	C	BT FST	OP OP	4.5	VRR-0	
898	I-3	2	B	3/4"	GL	M	C	C	NA				Note 3

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 3

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
831-A	F-6	3	B	2"	GL	M	O	O	NA				Notes 1, 3
831-B	E-7	3	B	2"	GL	M	O	O	NA				Notes 1, 3
831-C	D-7	3	B	2"	GL	M	C	C	NA				Notes 1, 3
831-D	D-6	3	B	2"	GL	M	C	C	NA				Notes 1, 3
840-A	G-5	3	C	3/4"	VB	SA	C	O	CVT	RR		VRR-5	
840-B	G-5	3	C	3/4"	VB	SA	C	O	CVT	RR		VRR-5	
847-A	H-8	2	C	2"	CK	SA	C	O	CVT	OP			
847-B	D-8	2	C	2"	CK	SA	C	O	CVT	OP			
858-A	I-3	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-8	
858-B	C-3	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-8	
860-A	I-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
860-B	I-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
860-C	C-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
860-D	C-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
862-A	I-11	2	A/C	6"	CK	SA	C	O	CVT AT	RR RR		VRR-9	Note 10

System SAFETY INJECTION SYSTEM | P&ID 110E017 Sheet 3

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
862-B	C-11	2	A/C	6"	CK	SA	C	O	CVT AT	RR RR		VRR-9	Note 10
863-A	F-5	3	B	3/4"	GL	M	C	C	NA				Note 3
868-A	I-12	2	B	6"	GA	M	O	O	NA				Notes 1, 3
868-B	C-12	2	B	6"	GA	M	O	O	NA				Notes 1, 3
870-A	I-3	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6
870-B	C-3	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6
871-A	I-5	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
871-B	C-5	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
874-A	H-8	2	B	2"	GL	M	O	O	NA				Notes 1, 3
874-B	D-8	2	B	2"	GL	M	O	O	NA				Notes 1, 3
HCV-836-A	F-7	3	B	2"	GL	AO	C	O	BT FST	CS CS	20		Note 12
HCV-836-B	E-7	3	B	2"	GL	AO	C	O	BT FST	CS CS	20		Note 12
872	G-6	3	C	3/4"	RV	SA	C	O	RVT				
864-A	H-11	2	B	3/4"	GL	M	C	C	AT	RR			Note 10
864-B	C-11	2	B	3/4"	GL	M	C	C	AT	RR			Note 10

System AUXILIARY COOLANT SYSTEM | P&ID 110E018 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
700	B-13	1	B	10"	GA	MO	C	C	NA				Notes 3, 6
701	B-13	1	B	10"	GA	MO	C	C	NA				Notes 3, 6
704-A	D-9	2	B	8"	GA	M	O	O	NA				Note 3
704-B	C-10	2	B	8"	GA	M	O	O	NA				Note 3
709-A	D-6	2	B	8"	GA	M	O	O	NA				Notes 1, 3
709-B	D-5	2	B	8"	GA	M	O	O	NA				Notes 1, 3
710-A	D-6	2	C	8"	CK	SA	C	O	CVP CVT	OP CS			Note 12A
710-B	C-6	2	C	8"	CK	SA	C	O	CVP CVT	OP CS			Note 12A
712	F-11	2	B	3/4"	GL	M	C	C	NA				Note 3
713-B	D-5	2	B	8"	GA	M	C	C	NA				Note 3
714-A	E-8	2	B	6"	GA	M	O	O	NA				Note 3
715-A	F-7	2	B	8"	GA	M	O	O	NA				Notes 1, 3
715-B	F-5	2	B	8"	GA	M	O	O	NA				Notes 1, 3
715-C	F-7	2	B	1"	GL	M	C	C	NA				Note 3
716-A	G-10	2	B	8"	GA	M	O	O	NA				Notes 1, 3

System AUXILIARY COOLANT SYSTEM | P&ID 110E018 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
716-B	G-10	2	B	8"	GA	M	O	O	NA				Notes 1, 3
716-C	G-10	2	B	8"	GA	M	C	C	NA				Note 3
716-D	G-10	2	B	8"	GA	M	C	C	NA				Note 3
720	D-13	1	B	10"	GA	MO	C	C	NA				Note 3
733-A	E-9	2	B	2"	GL	M	O	O	NA				Note 3
733-B	B-9	2	B	2"	GL	M	O	O	NA				Note 3
742	H-10	2	B	8"	GA	M	C	C	NA				Notes 1, 3
HCV-624	G-9	2	B	8"	BTF	AO	O	O	NA				Note 3
HCV-625	G-9	2	B	8"	BTF	AO	O	O	NA				Note 3

System AUXILIARY COOLANT SYSTEM | P&ID 110E018 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
754-A	F-13	2	A	4"	GA	MO	O	C	AT BT	RR CS	15		Notes 6, 11, 13
754-B	F-10	2	A	4"	GA	MO	O	C	AT BT	RR CS	15		Notes 6, 11, 13
755-A	E-13	2	A/C	4"	CK	SA	O	C	AT CVT	RR RR		VRR-10	Note 11
755-B	E-10	2	A/C	4"	CK	SA	O	C	AT CVT	RR RR		VRR-10	Note 11
759-A	F-11	2	A	4"	GA	MO	O	C	AT BT	RR CS	15		Notes 6, 11, 13
759-B	F-8	2	A	4"	GA	MO	O	C	AT BT	RR CS	15		Notes 6, 11, 13
767	E-7	2	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-15	Note 11
769	F-5	2	A	2"	GL	AO	O	C	BT AT	Or RR	4.5	VRR-0	Note 11

System AUXILIARY COOLANT SYSTEM | P&ID 110E018 Sheet 4

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
811	H-9	2	B	2"	DIA	M	C	C	NA				Note 3
819	H-9	2	B	2"	GL	M	C	C	NA				Note 3
820	C-7	2	B	2"	GL	M	C	C	NA				Note 3

System REACTOR COOLANT SYSTEM | P&ID 541FO91 Sh. 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
549	D-6	1	B	3/4"	GL	M	C	C	NA				Note 3
PCV-430	H-5	1	B	3"	GL	AO	C	C	BT	CS	4.5	VRR-0	Note 14
PCV-431-C	I-5	1	B	3"	GL	AO	C	O	BT	CS	4.5	VRR-0	Note 14
PCV-434	I-7	1	C	4"	RV	SA	C	O	RVT				Note 2
PCV-435	I-6	1	C	4"	RV	SA	C	O	RVT				Note 2
515	I-5	1	B	4"	GA	MO	O	C	BT	OP(CS)	60		Note 15
516	H-5	1	B	4"	GA	MO	O	C	BT	OP(CS)	60		Note 15

System REACTOR COOLANT SYSTEM | P&ID 541F091 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
508	D-2	2	A	2"	DIA	AO	O	C	AT BT FST	RR OP OP	15		Note 11
528	D-3	2	A/C	3/4"	CK	SA	O	C	AT CVT	RR RR		VRR-11	Note 11
529	D-3	2	A/C	2"	CK	SA	C	C	AT CVT	RR RR		VRR-18	Note 11
538	E-3	2	A	3/4"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 11
539	E-3	2	A	3/4"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 11
570A	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
570B	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
575A	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
575B	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
580A	G-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
580B	G-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
595	D-3	2	A	1"	DIA	M	O	C	AT	RR			Note 11

System SAMPLING SYSTEM | P&ID 541F092

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
966-A	G-10	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 10
966-B	F-10	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 10
966-C	E-10	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 10
951	E-12	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP CS	15		Notes 10, 22
953	F-12	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP CS	15		Notes 10, 22
955	E-12	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP CS	15		Notes 10, 22

System CHEMICAL & VOLUME CONTROL SYSTEM | P&ID 684J741

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
304-C	A-14	1	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-12	Note 11
304-D	A-15	1	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-12	Note 11
313	C-12	2	A	3"	GA	MO	O	C	AT BT	RR CS	15		Notes 11, 16, 6
313-A	C-13	2	A	2"	GA	AO	O	C	AT BT FST	RR CS CS	15		Notes 11, 16
370	C-13	2	A/C	3"	CK	SA	O	C	AT CVT	RR RR		VRR-13	Note 11
371	D-13	2	A	2"	GL	AO	O	C	AT BT FST	RR CS CS	4.5	VRR-0	Notes 11, 16
371-A	D-13	1	A	2"	GL	AO	O	C	AT BT FST	RR CS CS	20		Notes 11, 16
1296	A-14	1	A	2"	GL	AO	C	C	AT	RR			Notes 9, 11

System WASTE DISPOSAL SYSTEM | P&ID 6845J971 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
816	C-6	2	A	4"	DIA	M	C	C	AT	RR			Notes 9, 11
1003-A	C-6	2	A	3"	DIA	AO	O	C	AT BT FST	RR OP OP	25		Note 11
1003-B	C-6	2	A	3"	DIA	AO	O	C	AT BT FST	RR OP OP	25		Note 11
1698	C-6	2	A	2"	DIA	AO	C	C	AT	RR			Notes 9, 11
1713	B-5	2	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-14	Note 11
1721	C-6	2	A	4"	DIA	AO	O	C	AT BT FST	RR OP OP	75		Note 11
1723	D-6	2	A	3"	DIA	AO	C	C	AT	RR	30		Notes 9, 11
1728	D-6	2	A	3"	DIA	AO	C	C	AT	RR	30		Notes 9, 11
1786	B-5	2	A	1"	DIA	AO	O	C	AT BT FST	RR OP OP	20		Note 11
1787	B-5	2	A	1"	DIA	AO	O	C	AT BT FST	RR OP OP	15		Note 11
1788	B-5	2	A	3/4"	DIA	AO	C	C	AT	RR	10		Notes 9, 11
1789	B-5	2	A	3/4"	DIA	AO	C	C	AT	RR			Notes 9, 11
1793	B-5	2	A	1"	DIA	M	C	C	AT	RR			Notes 9, 11

System MAIN AND REHEAT STEAM | P&ID M-201-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
CV-2015	H-7	2	B	6"	GL	AO	C	C	NA				Note 3
CV-2016	E-7	2	B	6"	GL	AO	C	C	NA				Note 3
CV-2017	G-7	2	C	30"	CK	AO	O	C	CVT FST	CS CS	4.5	VRR-0	Note 17
CV-2018	D-9	2	C	30"	CK	AO	O	C	CVT FST	CS CS	4.5	VRR-0	Note 17
CV-5958	B-10	2	B	2"	GL	AO	O	C	BT FST AT	OP OP RR	15		Note 10
CV-5959	E-10	2	B	2"	GL	AO	O	C	BT FST AT	OP OP RR	15		Note 10
CV-2083	B-9	2	B	3/4"	DIA	AO	O	C	BT FST AT	OP OP RR	4.5	VRR-0	Note 10
CV-2084	F-9	2	B	3/4"	DIA	AO	O	C	BT FST AT	OP OP RR	4.5	VRR-0	Note 10
MS-126	C-5	2	B	3"	GA	M	O	O	NA				Notes 1, 3
MS-235	E-8	2	B	3"	GA	M	O	O	NA				Notes 1, 3
MS-237	F-8	2	B	3"	GA	M	O	O	NA				Notes 1, 3
MS-251	E-6	2	B	3/4"	GA	M	O	O	NA				Notes 1, 3
MS-252	F-6	2	B	3/4"	GA	M	O	O	NA				Notes 1, 3
MS-2017-A	G-4	2	C	30"	CK	SA	O	C	CVT	CS			Note 17
MS-2018-A	D-4	2	C	30"	CK	SA	O	C	CVT	CS			Note 17

System MAIN AND REHEAT STEAM | P&ID M-201-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
RV-2005	G-8	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2006	G-8	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2007	G-7	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2008	G-7	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2010	D-8	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2011	D-8	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2012	D-7	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2013	D-7	2	C	6"	RV	SA	C	O	RVT				Note 2
SA-9	F-7	2	B	3"	GA	AO	O	C	BT FST	OP OP	15		
TV-2082	B-5	2	B	2"	DIA	AO	O	C	BT	OP	4.5	VRR-0	
MOV-2019	F-6	2	C	3"	SCK	MO	C	O	CVT	OP	20		Note 6
MOV-2020	E-6	2	C	3"	SCK	MO	C	O	CVT	OP	20		Note 6

System SERVICE WATER | P&ID M-207-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
4	D-2	3	B	24"	BTF	M	O	O	NA				Notes 1, 3
9	D-2	3	B	24"	BTF	M	O	O	NA				Notes 1, 3
10	D-2	3	B	16"	BTF	M	O	O	NA				Notes 1, 3
11	D-1	3	B	16"	BTF	M	O	O	NA				Notes 1, 3
12	D-1	3	B	16"	BTF	M	O	O	NA				Notes 1, 3
13	F-1	3	B	16"	BTF	M	O	O	NA				Notes 1, 3
14	F-1	3	B	16"	BTF	M	O	O	NA				Notes 1, 3
15	F-1	3	B	16"	BTF	M	O	O	NA				Notes 1, 3
16	G-2	3	B	24"	BTF	M	O	O	NA				Notes 1, 3
21	G-2	3	B	24"	BTF	M	O	O	NA				Notes 1, 3
32-A	D-1	3	C	16"	CK	SA	C	O	CVT	OP			
32-B	D-1	3	C	16"	CK	SA	C	O	CVT	OP			
32-C	D-1	3	C	16"	CK	SA	C	O	CVT	OP			
32-D	F-1	3	C	16"	CK	SA	C	O	CVT	OP			
32-E	F-1	3	C	16"	CK	SA	C	O	CVT	OP			

System SERVICE WATER P&ID M-207-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
32-F	F-1	3	C	16"	CK	SA	C	O	CVT	OP			
42	B-2	3	B	24"	BTF	M	O	O	NA				Notes 1, 3
43	B-3	3	B	4"	GA	M	O	O	NA				Notes 1, 3
47	B-4	3	B	8"	GA	M	O	O	NA				Notes 1, 3
48	B-3	3	B	6"	GA	M	O	O	NA				Notes 1, 3
49	B-2	3	B	6"	GL	M	O	O	NA				Note 3
57	C-3	3	B	6"	GA	M	O	O	NA				Notes 1, 3
58	C-2	3	B	6"	GL	M	O	O	NA				Note 3
61	C-3	3	B	4"	GA	M	O	O	NA				Notes 1, 3
63	H-2	3	B	30"	BTF	M	O	O	NA				Notes 1, 3
129	E-7	3	B	4"	GA	M	O	O	NA				Notes 1, 3
132	E-5	3	B	1½"	GA	M	O	O	NA				Notes 1, 3
132-B	E-5	3	B	1½"	GA	M	O	O	NA				Notes 1, 3
133	D-5	3	B	1½"	GL	M	O	O	NA				otes 1, 3
140	B-5	3	B	8"	GA	M	O	O	NA				Notes 1, 3

System SERVICE WATER | P&ID M-207-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
146	B-5	3	B	20"	BTF	M	O	O	NA				Notes 1, 3
221	B-8	3	B	14"	BTF	M	O	O	NA				Notes 1, 3
224	H-8	3	B	14"	BTF	M	O	O	NA				Notes 1, 3
CV-2838	C-3	3	B	4"	GA	AO	C	O	BT	OP	4.5	VRR-0	
CV-2839	B-3	3	B	4"	GA	AO	C	O	BT	OP	4.5	VRR-0	
MOV-2869	H-8	3	B	14"	BTF	MO	O	O	NA				Notes 1, 3, 6
MOV-2870	B-8	3	B	14"	BTF	MO	O	O	NA				Notes 1, 3, 6
MOV-2890	E-2	3	B	24"	BTF	MO	O	O	NA				Notes 1, 3, 6
MOV-2891	E-2	3	B	24"	BTF	MO	O	O	NA				Notes 1, 3, 6
SV-2090	C-7	3	B	1½"	GL	SO	C	O	BT	OP		VRR-20	

System SERVICE WATER | P&ID M-207-2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
1-MOV-2880	F-5	3	B	6"	GA	MO	O	C	BT	CS	20		Notes 6, 18

System SERVICE WATER | P&ID M-207-3

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
286	G-6	3	B	12"	GA	M	O	O	NA				Note 3
288	G-6	3	B	12"	BTF	M	C	C	NA				Note 3
289	G-5	3	B	12"	BTF	M	C	C	NA				Note 3
290	G-5	3	B	12"	GA	M	C	C	NA				Note 3
294	G-5	3	B	12"	BTF	M	C	C	NA				Note 3
295	G-5	3	B	12"	BTF	M	C	C	NA				Note 3
296	G-4	3	B	12"	GA	M	O	O	NA				Note 3
307	E-4	3	B	12"	GL	M	O	O	NA				Note 3
322	E-6	3	B	12"	GL	M	O	O	NA				Note 3
MOV-2816	B-2	3	B	6"	GA	MO	O	C	BT	OP	40		Note 6
315	E-5	3	B	12"	GL	M	O	O	NA				Note 3
282	H-4	3	B	20"	BTF	M	O	O	NA				Notes 1, 3
TCV-12A	E-6	3	B	2"	GA	AO	O	O	NA				Note 3
TCV-12B	E-4	3	B	2"	GA	AO	O	O	NA				Note 3
TVLW-61	G-4	3	B	8"	GA	AO	O	C	BT FST	OP OP	10		

System SERVICE WATER | P&ID M-207-3

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
TVLW-62	G-2	3	B	8"	GA	AO	O	C	BT FST	OP OP	10		
MOV-2930-A	C-6	3	B	8"	GA	MO	O	C	BT	OP	25		Note 6
MOV-2930-B	B-6	3	B	8"	GA	MO	O	C	BT	OP	25		Note 6

System SERVICE WATER | P&ID M-207-4

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
15-A	B-4	3	C	8"	CK	SA	O	O	NA				Note 3
15-B	B-2	3	C	8"	CK	SA	O	O	NA				Note 3
15-C	B-3	3	C	8"	CK	SA	O	O	NA				Note 3
15-D	B-2	3	C	8"	CK	SA	O	O	NA				Note 3
144	G-4	3	B	8"	GL	M	O	O	NA				Note 3
182	E-3	3	B	8"	GL	M	O	O	NA				Note 3
185	E-4	3	B	8"	GL	M	O	O	NA				Note 3
188	E-2	3	B	8"	GL	M	O	O	NA				Note 3
191	E-3	3	B	8"	GL	M	O	O	NA				Note 3
194	B-1	3	B	2"	GA	M	O	O	NA				Note 3
207	B-2	3	B	8"	GA	M	O	O	NA				Notes 1, 3
209	B-3	3	B	8"	GA	M	O	O	NA				Notes 1, 3
215	B-2	3	B	8"	GA	M	O	O	NA				Notes 1, 3
217	B-4	3	B	8"	GA	M	O	O	NA				Notes 1, 3
219	B-3	3	B	8"	GA	M	O	O	NA				Notes 1, 3

System SERVICE WATER | P&ID M-207-4

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Strcke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
1-MOV-2907	G-2	3	B	12"	GA	MO	C	O	BT	OP	40		Notes 1, 6
1-MOV-2908	G-3	3	B	12"	GA	MO	C	O	BT	OP	40		Notes 1, 6
220	B-2	3	B	8"	GA	M	O	O	NA				Notes 1, 3

System SERVICE AIR | P&ID M-209

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
2C	F-7	2	A/C	4"	CK	SA	O	C	AT CVT	RR OP			Notes 9, 11, 23
SA-14	F-7	2	A	4"	GA	M	O	C	AT	RR			Notes 9, 11, 23

System INSTRUMENT AIR | P&ID M-209 Sheet 5

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
3047	D-5	2	A	2"	GA	AO	O	C	AT BT FST	RR OP OP	4.5	VRR-0	Note 11
3048	D-5	2	A	2"	GA	AO	O	C	AT BT FST	RR OP OP	4.5	VRR-0	Note 11
IA-33-A	D-5	2	A/C	2"	CK	SA	O	C	CVT AT	OP RR			Note 11
IA-34-A	D-5	2	A/C	2"	CK	SA	O	C	CVT AT	OP RR			Note 11

System: AUXILIARY STEAM, HEATING STEAM, CHILLED & HOT WATER — P&ID: M-214

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
HV-632	C-7	2	A	3"	GA	M	C	C	AT	RR			Notes 9, 11
HV-633	A-7	2	A	1½"	GA	M	C	C	AT	RR			Notes 9, 11
HV-818	C-7	2	A	3"	GA	M	C	C	AT	RR			Notes 9, 11
HV-808	A-7	2	A	1½"	GA	M	C	C	AT	RR			Notes 9, 11
HV-809	A-7	2	A	1½"	GA	M	C	C	AT	RR			Notes 9, 11

System HEATING AND VENTILLATION | P&ID M-215

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
3200-A CHK	G-4	2	A/C	1"	CK	SA	O	C	AT CVT	RR RR		VRR-16	Note 11
CV-3200-A	G-3	2	A	1"	GA	SO	O	C	AT BT	RR OP	4.5	VRR-0	Note 11
CV-3200-B	F-3	2	A	1"	GA	SO	O	C	AT BT	RR OP	4.5	VRR-0	Note 11
CV-3200-C	F-4	2	A	1"	GA	SO	O	C	AT BT	RR OP	4.5	VRR-0	Note 11
CV-3212	G-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24
CV-3213	G-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24
CV-3244	E-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24
CV-3245	E-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24

System AUXILIARY FEEDWATER SYSTEM | P&ID M-217

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
18	B-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
19	D-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
30	D-5	3	B	3"	GA	M	C	C	NA				Notes 1, 3
31	B-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
43	E-5	3	B	3"	GA	M	C	C	NA				Notes 1, 3
44	C-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
75	E-5	3	B	1"	GA	M	C	C	NA				Note 3
78	E-5	3	B	1"	GA	M	C	C	NA				Note 3
80	F-5	3	B	1"	GA	M	C	C	NA				Note 3
84	D-5	3	B	1"	GA	M	C	C	NA				Note 3
87	C-6	3	B	1"	GA	M	C	C	NA				Note 3
89	E-5	3	B	1"	GA	M	C	C	NA				Note 3
100	B-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
101	D-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
102	B-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19

System AUXILIARY FEEDWATER SYSTEM P&ID M-217

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
104	C-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
106	B-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
107	D-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
108	B-4	3	C	4"	CK	SA	C	O	CVT	CS			Note 19
109	D-4	3	C	3"	CK	SA	C	O	CVT	CS			Note 19
110	F-4	3	C	3"	CK	SA	C	O	CVT	CS			Note 19
111	C-3	3	C	6"	CK	SA	O	C	CVP CVT	OP CS			Note 20
112	D-3	3	C	4"	CK	SA	O	C	CVP CVT	OP CS			Note 20
113	F-3	3	C	4"	CK	SA	O	C	CVP CVT	OP CS			Note 20
466-A	C-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
466-B	C-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
114	G-4	3	C	1"	CK	SA	C	C	NA				Note 3
115	D-4	3	C	1"	CK	SA	C	C	NA				Note 3
116	F-4	3	C	1"	CK	SA	C	C	NA				Note 3
117	A-5	3	C	3"	CK	SA	C	C	NA				Note 3

System AUXILIARY FEEDWATER SYSTEM | P&ID M-217

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
476-A	D-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
476-B	D-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
CV-4002	B-3	3	B	1"	GA	AO	C	C	NA				Note 3
CV-4007	D-4	3	B	1"	GA	AO	C	C	NA				Note 3
CV-4012	D-4	3	B	3"	GA	AO	C	O	FST BT	RR OP	10		Note 3
CV-4014	E-4	3	B	1"	GA	AO	C	C	NA				Note 3
CV-4019	F-4	3	B	3"	GA	AO	C	O	FST BT	RR OP	10		Note 3
MOV-4000	D-7	3	B	3"	GL	MO	O	O	NA				Notes 1, 3, 6
MOV-4001	B-7	3	B	3"	GL	MO	O	O	NA				Notes 1, 3, 6
MOV-4006	C-3	3	B	6"	GA	MO	C	O	BT	OP	40		Note 6
MOV-4009	D-3	3	B	4"	GA	MO	C	O	BT	OP	40		Note 6
MOV-4016	E-3	3	B	4"	GA	MO	C	O	BT	OP	40		Note 6
MOV-4020	F-5	3	B	3"	GA	MO	O	C	BT	OP	25		Notes 1, 3, 6
MOV-4021	F-5	3	B	3"	GA	MO	O	C	BT	OP	25		Notes 1, 3, 6
MOV-4022	D-6	3	B	3"	GA	MO	O	C	BT	OP	25		Notes 1, 3, 6

System AUXILIARY FEEDWATER SYSTEM | P&ID M-217

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
MOV-4023	D-6	3	B	3"	GA	MO	O	C	BT	OP	25		Notes 1, 3, 6

System POST ACCIDENT CONTAINMENT VENTING SYSTEM | P&ID M-224

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
4	E-6	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11
5	E-6	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11
8	E-5	2	A	3/4"	DIA	M	C	C	AT	RR			Notes 9, 11
9	E-5	2	A	3/4"	DIA	M	C	C	AT	RR			Notes 9, 11
12	D-6	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11
13	D-5	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11

System EMERGENCY DIESEL AIR STARTING SYSTEM (3D) | P&ID M-209 Sheet 10

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
3-31	E-7	3	C	1½"	CK	SA	C	C	NA				
3-3	E-7	3	B	1½"	GL	M	O	O	NA				
3-5	D-7	3	B	1½"	GL	M	O	O	NA				
3-7	C-6	3	B	1½"	GL	M	O	O	NA				
3-9	C-6	3	B	1½"	GL	M	O	O	NA				
3-17	E-7	3	B	1½"	GA	M	O	O	NA				
3-19	D-7	3	B	1½"	GA	M	O	O	NA				
CV-3057-B	B-5	3	B	1½"	GL	AO	C	O	BT	OP		VRR-17	
3-32	D-4	3	B	1½"	GA	M	C	C	NA				
3-28	E-4	3	C	1½"	CK	SA	C	C	NA				
3-30	E-4	3	C	1½"	CK	SA	C	C	NA				
3-4	E-4	3	B	1½"	GL	M	O	O	NA				
3-6	D-3	3	B	1½"	GL	M	O	O	NA				
3-8	C-3	3	B	1½"	GL	M	O	O	NA				
3-10	C-3	3	B	1½"	GL	M	O	O	NA				

System EMERGENCY DIESEL AIR STARTING SYSTEM (3D) P&ID M-209 Sheet 10

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
CV-3057-A	B-4	3	B	1½"	GL	AO	C	O	BT	OP		VRR-17	
RV-3057-B	E-6	3	C	3/4"	RV	SA	C	O	RVT				Note 2
RV-3057-A	E-4	3	C	3/4"	RV	SA	C	O	RVT				Note 2

System EMERGENCY DIESEL AIR STARTING SYSTEM (4D) P&ID M-209 Sheet 10

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
4-31	E-7	3	C	1½"	CK	SA	C	C	NA				
4-3	E-7	3	B	1½"	GL	M	O	O	NA				
4-5	D-7	3	B	1½"	GL	M	O	O	NA				
4-7	C-6	3	B	1½"	GL	M	O	O	NA				
4-9	C-6	3	B	1½"	GL	M	O	O	NA				
4-17	E-7	3	B	1½"	GA	M	O	O	NA				
4-19	D-7	3	B	1½"	GA	M	O	O	NA				
CV-3058-B	B-5	3	B	1½"	GL	AO	C	O	BT	OP		VRR-17	
4-32	D-4	3	B	1½"	GA	M	C	C	NA				
4-28	E-4	3	C	1½"	CK	SA	C	C	NA				
4-30	E-4	3	C	1½"	CK	SA	C	C	NA				
4-4	E-4	3	B	1½"	GL	M	O	O	NA				
4-6	D-3	3	B	1½"	GL	M	O	O	NA				
4-8	C-3	3	B	1½"	GL	M	O	O	NA				
4-10	C-3	3	B	1½"	GL	M	O	O	NA				

System EMERGENCY DIESEL AIR STARTING SYSTEM (4D) | P&ID M-209 Sheet 10

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
CV-3058-A	B-4	3	B	1½"	GL	AO	C	O	BT	OP		VRR-17	
RV-3058-B	E-6	3	C	3/4"	RV	SA	C	O	RVT				Note 2
RV-3058-A	E-4	3	C	3/4"	RV	SA	C	O	RVT				Note 2

System DEIONIZED AND REACTOR MAKEUP WATER | P&ID PBM-231

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
IDI-9	D-9	2	B	2"	DIA	M	O	C	AT	RR			Note 11,23
IDI-11	D-11	2	B	2"	DIA	M	O	C	AT	RR			Note 11,23

INSERVICE TESTING PROGRAM - VALVES

UNIT 2

INSERVICE TESTING PROGRAM
ASME CLASS 1, 2 & 3 VALVES
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT

Revision 1
01-06-84
 UNIT 2

System SAFETY INJECTION SYSTEM | P&ID 110E035 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
834-A	J-10	2	B	1"	GL	AO	C	C	NA				Note 3
834-B	F-10	2	B	1"	GL	AO	C	C	NA				Note 3
834-C	J-6	2	B	1"	GL	M	O	O	NA				Note 3
835-A	H-10	2	B	1"	GL	AO	C	C	NA				Note 3
835-B	E-10	2	B	1"	GL	AO	C	C	NA				Note 3
839-A	F-8	2	B	3/4"	GL	AO	C	C	NA				Note 3
839-B	F-9	1	B	3/4"	GL	AO	C	C	NA				Note 3
839-C	F-9	2	B	3/4"	GL	AO	C	C	NA				Note 3
839-D	F-8	1	B	3/4"	GL	AO	C	C	NA				Note 3
841-A	H-11	2	B	10"	GA	MO	O	O	NA				Notes 3, 6
841-B	E-11	2	B	10"	GA	MO	O	O	NA				Notes 3, 6
842-A	H-12	1	A/C	10"	CK	SA	C	O	AT CVP CVT	OP E-CS *RR		VRR-19	
842-B	E-12	1	A/C	10"	CK	SA	C	O	AT CVP CVT	OP E-CS *RR		VRR-19	
843-A	I-10	2	B	3/4"	GL	M	C	C	NA				Note 3
843-B	E-10	2	B	3/4"	GL	M	C	C	NA				Note 3

System SAFETY INJECTION SYSTEM — P&ID 110E035 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
844-A	I-11	2	B	1"	GL	AO	C	C	NA				Note 3
844-B	E-11	2	B	1"	GL	AO	C	C	NA				Note 3
845-A	H-12	1	A/C	10"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-B	D-12	1	A/C	10"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-C	G-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-D	D-12	1	A/C	2"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-E	E-12	1	A/C	3/4"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
845-F	G-12	1	A/C	3/4"	CK	SA	C	O	AT CVT	E-CS RR		VRR-2	
846	J-5	2	A	1"	GL	AO	O	C	AT BT FST	RR OP OP	4.5	VRR-O	Note 11
850-A	B-8	2	B	10"	GA	MO	C	O	BT	OP	10		Note 6
850-B	B-11	2	B	10"	GA	MO	C	O	BT	OP	10		Note 6
851-A	B-5	2	B	10"	GA	MO	C	O	BT	OP	130		Note 6
851-B	A-5	2	B	10"	GA	MO	C	O	BT	OP	130		Note 6
852-A	C-11	2	B	6"	GA	MO	C	O	BT	CS	15		Notes 4, 6
852-B	C-11	2	B	6"	GA	MO	C	O	BT	CS	15		Notes 4, 6

System SAFETY INJECTION SYSTEM — P&ID 110E035 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
853-A	C-12	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	Note 5
853-B	B-12	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	Note 5
853-C	C-13	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	
853-D	B-13	1	A/C	6"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-3	
861-A	C-8	2	C	3/4"	RV	SA	C	O	RVT				Note 2
866-A	H-5	2	B	4"	GA	MO	O	O	NA				Note 3
866-B	H-5	2	B	4"	GA	MO	O	O	NA				Note 3
867-A	H-13	1	A/C	10"	CK	SA	C	O	CVP CVT AT	E-CS RR E-CS		VRR-4	
867-B	E-13	1	A/C	10"	CK	SA	C	O	CVT AT	CS E-CS			Notes 4A, 5
878-A	D-12	2	B	2"	GL	MO	C	C	BT	CS	15		Notes 4, 6
878-B	D-12	2	B	2"	GL	MO	O	O	NA				Note 3
878-C	G-12	2	B	2"	GL	MO	C	O	BT	CS	15		Notes 4, 6
878-D	H-12	2	B	2"	GL	MO	O	O	NA				Note 3
878-E	E-11	2	B	2"	GL	M	O	O	NA				Notes 1, 3
878-F	G-12	2	B	2"	GL	M	O	O	NA				Notes 1, 3

System SAFETY INJECTION SYSTEM | P&ID 110E035 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
887	F-6	2	C	3/4"	RV	SA	C	O	RVT				Note 2
830-A	J-10	2	C	1"	RV	SA	C	O	RVT				Note 2
830-B	F-10	2	C	1"	RV	SA	C	O	RVT				Note 2
957	I-6	2	A	1"	GL	AO	C	C	AT	RR			Note 10

System SAFETY INJECTION SYSTEM — P&ID 110E035 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
820-A	G-3	2	B	2"	GL	M	O	O	NA				Note 3
825-A	H-5	2	B	12"	GA	MO	C	O	BT	OP	20		Note 6
825-B	H-5	2	B	12"	GA	MO	C	O	BT	OP	20		Note 6
825-C	H-5	2	B	2"	GA	AO	O	O	NA				Note 3
826-A	J-6	3	B	8"	GA	MO	O	O	NA				Notes 3, 6
826-B	J-7	3	B	8"	GA	MO	C	O	BT	CS	15		Notes 5, 6
826-C	J-7	3	B	8"	GA	MO	C	O	BT	CS	15		Notes 5, 6
827-A	J-8	3	B	8"	GA	M	O	O	NA				Note 3
827-B	J-8	3	B	8"	GA	M	O	O	NA				Note 3
829-A	H-11	2	B	4"	GA	M	C	C	NA				Notes 1, 3
829-B	H-11	2	B	4"	GA	M	C	C	NA				Notes 1, 3
854-A	E-4	2	C	10"	CK	SA	C	O	CVT	RR		VRR-6	
854-B	E-4	2	C	10"	CK	SA	C	O	CVT	RR		VRR-6	
856-A	E-4	2	B	10"	GA	MO	O	O	NA				Notes 3, 6
856-B	E-4	2	B	10"	GA	MO	O	O	NA				Notes 3, 6

System SAFETY INJECTION SYSTEM | P&ID 110E035 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
857-A	F-8	2	B	6"	GA	M	C	C	NA				Note 3
857-B	F-7	2	B	6"	GA	M	C	C	NA				Note 3
876-A	F-9	2	B	2"	GL	M	O	O	NA				Notes 1, 3
876-B	F-9	2	B	2"	GL	M	O	O	NA				Notes 1, 3
879-B	F-13	2	B	3/4"	GL	M	C	C	NA				Notes 1, 3
884	F-10	2	B	3/4"	GL	M	C	C	NA				Notes 1, 3
888-A	I-10	2	B	6"	GA	M	O	O	NA				Notes 1, 3
888-B	H-10	2	B	6"	GA	M	O	O	NA				Notes 1, 3
889-A	I-10	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-7	
889-B	H-10	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-7	
891-A	G-10	2	C	2"	CK	SA	C	O	CVT	OP			
891-B	G-9	2	C	2"	CK	SA	C	O	CVT	OP			
894	H-5	2	B	2"	GL	M	O	O	NA				Note 3
895	H-5	2	C	2"	CK	SA	C	C	NA				Note 3
896-A	I-7	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6

System SAFETY INJECTION SYSTEM | P&ID 110E035 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
896-B	H-7	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6
897-A	H-1	2	B	2"	GL	AO	O	C	BT FST	OP OP	4.5	VRR-0	
897-B	H-1	2	B	2"	GL	AO	O	C	BT FST	OP OP	4.5	VRR-0	
898	I-3	2	B	3/4"	GL	M	C	C	NA				Note 3

System SAFETY INJECTION SYSTEM | P&ID 110E035 Sheet 3

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
831-A	F-6	3	B	2"	GL	M	O	O	NA				Notes 1 3
831-B	F-7	3	B	2"	GL	M	O	O	NA				Notes 1, 3
831-C	D-7	3	B	2"	GL	M	C	C	NA				Notes 1, 3
831-D	D-6	3	B	2"	GL	M	C	C	NA				Notes 1, 3
840-A	G-5	3	C	3/4"	VB	SA	C	O	CVT	RR		VRR-5	
840-B	G-5	3	C	3/4"	VB	SA	C	O	CVT	RR		VRR-5	
847-A	H-8	2	C	2"	CK	SA	C	O	CVT	OP			
847-B	D-8	2	C	2"	CK	SA	C	O	CVT	OP			
858-A	I-3	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-8	
858-B	C-3	2	C	6"	CK	SA	C	O	CVP CVT	OP RR		VRR-8	
860-A	I-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
860-B	I-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
860-C	C-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
860-D	C-10	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
862-A	I-11	2	A/C	6"	CK	SA	C	O	CVT AT	RR RR		VRR-9	Note 10

System SAFETY INJECTION SYSTEM | P&ID 110E035 Sheet 3

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
862-B	C-11	2	A/C	6"	CK	SA	C	O	CVT AT	RR RR		VRR-9	Note 10
863-A	F-5	3	B	3/4"	GL	M	C	C	NA				Note 3
868-A	I-12	2	B	6"	GA	M	O	O	NA				Notes 1, 3
868-B	C-12	2	B	6"	GA	M	O	O	NA				Notes 1, 3
870-A	I-3	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6
870-B	C-3	2	B	6"	GA	MO	O	O	NA				Notes 1, 3, 6
871-A	I-5	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
871-B	C-5	2	B	6"	GA	MO	C	O	BT	OP	15		Note 6
874-A	H-8	2	B	2"	GL	M	O	O	NA				Notes 1, 3
874-B	D-8	2	B	2"	GL	M	O	O	NA				Notes 1, 3
HCV-836-A	F-7	3	B	2"	GL	AO	C	O	BT FST	CS CS	20		Note 12
HCV-836-B	E-7	3	B	2"	GL	AO	C	O	BT FST	CS CS	20		Note 12
872	G-6	3	C	3/4"	RV	SA	C	O	RVT				
864-A	H-11	2	B	3/4"	GL	M	C	C	AT	RR			Note 10
864-B	C-11	2	B	3/4"	GL	M	C	C	AT	RR			Note 10

System AUXILIARY COOLANT SYSTEM — P&ID 110E029 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
700	B-13	1	B	10"	GA	MO	C	C	NA				Notes 3, 6
701	B-12	1	B	10"	GA	MO	C	C	NA				Notes 3, 6
704-A	D-9	2	B	8"	GA	M	O	O	NA				Note 3
704-B	C-10	2	B	8"	GA	M	O	O	NA				Note 3
709-A	D-7	2	B	8"	GA	M	O	O	NA				Notes 1, 3
709-B	C-6	2	B	8"	GA	M	O	O	NA				Notes 1, 3
710-A	D-7	2	C	8"	CK	SA	C	O	CVP CVT	OP CS			Note 12A
710-B	C-6	2	C	8"	CK	SA	C	O	CVP CVT	OP CS			Note 12A
712	F-11	2	B	3/4"	GL	M	C	C	NA				Note 3
713-B	D-5	2	B	8"	GA	M	C	C	NA				Note 3
714-A	E-8	2	B	6"	GA	M	O	O	NA				Note 3
715-A	F-6	2	B	8"	GA	M	O	O	NA				Notes 1, 3
715-B	F-5	2	B	8"	GA	M	O	O	NA				Notes 1, 3
715-C	F-7	2	B	1"	GL	M	C	C	NA				Note 3
716-A	G-10	2	B	8"	GA	M	O	O	NA				Notes 1, 3

System AUXILIARY COOLANT SYSTEM | P&ID 110E029 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
716-B	G-10	2	B	8"	GA	M	O	O	NA				Notes 1, 3
716-C	G-10	2	B	8"	GA	M	C	C	NA				Note 3
716-D	G-10	2	B	8"	GA	M	C	C	NA				Note 3
720	D-13	1	B	10"	GA	MO	C	C	NA				Note 3
733-A	E-9	2	B	2"	GL	M	O	O	NA				Note 3
733-B	B-9	2	B	2"	GL	M	O	O	NA				Note 3
742	H-10	2	B	8"	GA	M	C	C	NA				Notes 1, 3
HCV-624	G-9	2	B	8"	BTF	AO	O	O	NA				Note 3
HCV-625	G-9	2	B	8"	BTF	AO	O	O	NA				Note 3

System AUXILIARY COOLANT SYSTEM | P&ID 110E029 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
754-A	F-13	2	A	4"	GA	MO	O	C	AT BT	RR CS	15		Notes 6, 11, 13
754-B	F-10	2	A	4"	GA	MO	O	C	AT BT	RR CS	15		Notes 6, 11, 13
755-A	E-13	2	A/C	4"	CK	SA	O	C	AT BT	RR RR		VRR-10	Note 11
755-B	E-10	2	A/C	4"	CK	SA	O	C	AT CVT	RR RR		VRR-10	Note 11
759-A	F-11	2	A	4"	GA	MO	O	C	AT CVT	RR CS	15		Notes 6, 11, 13
759-B	F-8	2	A	4"	GA	MO	O	C	AT CVT	RR CS	15		Notes 6, 11, 13
767	E-7	2	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-15	Note 11
769	F-5	2	A	2"	GL	AO	O	C	BT AT	OP RR	4.5	VRR-0	Note 11

System AUXILIARY COOLANT SYSTEM | P&ID 110E018 Sheet 4

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
811	H-9	2	B	2"	DIA	M	C	C	NA				Note 3
819	I-9	2	B	2"	GL	M	C	C	NA				Note 3

System REACTOR COOLANT SYSTEM | P&ID 541F445 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
549	D-6	1	B	3/4"	GL	M	C	C	NA				Note 3
PCV-430	H-5	1	B	3"	GL	AO	C	O	BT	CS	4.5	VRR-0	Note 14
PCV-431-C	I-5	1	B	3"	GL	AO	C	O	BT	CS	4.5	VRR-0	Note 14
PCV-434	I-7	1	C	4"	RV	SA	C	O	RVT				Note 2
PCV-435	I-6	1	C	4"	RV	SA	C	O	RVT				Note 2
515	I-5	1	B	4"	GA	MO	O	C	BT	OP(CS)	60		Note 15
516	H-5	1	B	4"	GA	MO	O	C	BT	OP(CS)	60		Note 15

System REACTOR COOLANT SYSTEM | P&ID 541F445 Sheet 2

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
508	D-2	2	A	2"	DIA	AO	O	C	AT BT FST	RR OP OP	15		Note 11
528	D-3	2	A/C	3/4"	CK	SA	O	C	AT CVT	RR RR		VRR-11	Note 11
529	D-3	2	A/C	2"	CK	SA	C	C	AT CVT	RR RR		VRR-18	Note 11
538	E-3	2	A	3/4"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 11
539	E-3	2	A	3/4"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 11
570A	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
570B	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
575A	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
575B	F-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
580A	G-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
580B	G-5	2	B	1"	GL	SO	C	C	BT	RR	4.5	VRR-0	Note 25
595	D-3	2	A	1"	DIA	M	O	C	AT	RR			Note 11

System SAMPLING SYSTEM | P&ID 541F448

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
966-A	G-10	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 10
966-B	F-10	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 10
966-C	E-10	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP OP	15		Note 10
951	G-12	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP CS	15		Notes 10, 22
953	F-12	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP CS	15		Notes 10, 22
955	E-12	1	A	3/8"	GL	AO	O	C	AT BT FST	RR OP CS	15		Notes 10, 22

System CHEMICAL & VOLUME CONTROL SYSTEM | P&ID 685J175

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
304-C	A-10	1	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-12	Note 11
304-D	A-11	1	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-12	Note 11
313	C-8	2	A	3"	GA	MO	O	C	AT BT	RR CS	15		Notes 11, 16, 6
313-A	C-13	2	A	2"	GA	AO	O	C	AT BT FST	RR CS CS	15		Note 11, 16
370	C-9	2	A/C	3"	CK	SA	O	C	AT CVT	RR RR		VRR-13	Note 11
371	D-9	2	A	2"	GL	AO	O	C	AT BT FST	RR CS CS	4.5	VRR-0	Notes 11, 16
371-A	D-13	2	A	2"	GL	AO	O	C	AT BT FST	RR CS CS	20		Notes 11, 16
1296	A-11	1	A	2"	GL	AO	C	C	AT	RR			Notes 9, 11

System WASTE DISPOSAL SYSTEM | P&ID 684J971 Sheet 1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
816	C-6	2	A	4"	DIA	M	C	C	AT	RR			Notes 9, 11
1003-A	C-6	2	A	3"	DIA	AO	O	C	AT BT FST	RR OP OP	25		Note 11
1003-B	C-6	2	A	3"	DIA	AO	O	C	AT BT FST	RR OP OP	25		Note 11
1698	C-6	2	A	2"	DIA	AO	C	C	AT	RR			Notes 9, 11
1713	B-5	2	A/C	2"	CK	SA	O	C	AT CVT	RR RR		VRR-14	Note 11
1721	C-6	2	A	4"	DIA	AO	O	C	AT BT FST	RR OP OP	30		Note 11
1723	D-6	2	A	3"	DIA	AO	C	C	AT	RR	30		Notes 9, 11
1728	D-6	2	A	3"	DIA	AO	C	C	AT	RR	35		Notes 9, 11
1786	B-5	2	A	1"	DIA	AO	O	C	AT BT FST	RR OP OP	15		Note 11
1787	B-5	2	A	1"	DIA	AO	O	C	AT BT FST	RR OP OP	15		Note 11
1788	B-5	2	A	3/4"	DIA	AO	C	C	AT	RR	4.5	VRR-0	Notes 9, 11
1789	B-5	2	A	3/4"	DIA	AO	C	C	AT	RR			Notes 9, 11
1793	B-5	2	A	1"	DIA	M	C	C	AT	RR			Notes 9, 11

System MAIN AND REHEAT STEAM | P&ID M-2201-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
CV-2015	H-4	2	B	6"	DIA	AO	C	C	NA				Note 3
CV-2016	E-4	2	B	6"	DIA	AO	C	C	NA				Note 3
CV-2017	G-5	2	C	30"	CK	AO	O	C	CVT FST	CS CS	4.5	VRR-0	Note 17
CV-2018	D-5	2	C	30"	CK	AO	O	C	CVT FST	CS CS	4.5	VRR-0	Note 17
CV-5958	B-2	2	B	2"	GL	AO	O	C	BT FST AT	OP OP RR	15		Note 10
CV-5959	E-2	2	B	2"	GL	AO	O	C	BT FST AT	OP OP RR	15		Note 10
CV-2083	C-2	2	B	3/4"	DIA	AO	O	C	BT FST AT	OP OP RR	4.5	VRR-0	Note 10
CV-2084	F-2	2	B	3/4"	DIA	AO	O	C	BT FST AT	OP OP RR	4.5	VRR-0	Note 10
MS-126	C-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
MS-235	E-3	2	B	3"	GA	M	O	O	NA				Notes 1, 3
MS-237	G-3	2	B	3"	GA	M	O	O	NA				Notes 1, 3
MS-251	E-5	2	B	3/4"	GA	M	O	O	NA				Notes 1, 3
MS-252	F-5	2	B	3/4"	GA	M	O	O	NA				Notes 1, 3
MS-2017-A	G-8	2	C	30"	CK	SA	O	C	CVT	CS			Note 17
MS-2018-A	D-8	2	C	30"	CK	SA	O	C	CVT	CS			Note 17

System MAIN AND REHEAT STEAM | P&ID M-2201-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
RV-2005	H-3	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2006	H-3	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2007	H-4	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2008	H-4	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2010	D-3	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2011	D-3	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2012	D-4	2	C	6"	RV	SA	C	O	RVT				Note 2
RV-2013	D-4	2	C	6"	RV	SA	C	O	RVT				Note 2
SA-10	F-4	2	B	3"	GA	AO	O	C	BT FST	OP OP	15		
TV-2082	B-7	2	B	2"	DIA	AO	O	C	BT	OP	4.5	VRR-0	
MOV-2019	F-5	2	C	3"	SCK	MO	C	O	CVT	OP	20		Note 6
MOV-2020	E-5	2	C	3"	SCK	MO	C	O	CVT	OP	20		Note 6

System SERVICE WATER | P&ID M-207-1

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
111	H-7	3	B	8"	GA	M	O	O	NA				Notes 1, 3
112	H-7	3	B	6"	GA	M	O	O	NA				Notes 1, 3
SV-2090	G-7	3	B	1½"	GA	SO	C	O	BT	OP		VRR-20	
110	G-6	3	B	1½"	GA	M	O	O	NA				Notes 1, 3
120	F-7	3	B	4"	GA	M	O	O	NA				Notes 1, 3
125	E-7	3	B	1½"	GL	M	O	O	NA				Notes 1, 3
104	H-2	3	B	20"	GA	M	O	O	NA				Notes 1, 3

System SERVICE WATER | P&ID M-207-4

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
226	H-7	3	B	10"	GA	M	O	O	NA				Notes 1, 3
225	H-5	3	B	10"	GA	M	O	O	NA				Notes 1, 3
252	H-4	3	B	2"	GA	M	O	O	NA				Notes 1, 3
248	G-8	3	B	8"	GA	M	O	O	NA				Notes 1, 3
228	G-7	3	B	8"	GA	M	O	O	NA				Notes 1, 3
230	G-6	3	B	8"	GA	M	O	O	NA				Notes 1, 3
250	G-6	3	B	8"	GA	M	O	O	NA				Notes 1, 3
15-A	G-8	3	C	8"	C	SA	O	O	NA				Note 3
15-B	G-6	3	C	8"	C	SA	O	O	NA				Note 3
15-C	G-7	3	C	8"	C	SA	O	O	NA				Note 3
15-D	G-6	3	C	8"	C	SA	O	O	NA				Note 3
258	D-8	3	B	8"	GL	M	O	O	NA				Notes 1, 3
255	D-7	3	B	8"	GL	M	O	O	NA				Notes 1, 3
264	D-6	3	B	8"	GL	M	O	O	NA				Notes 1, 3
261	D-6	3	B	8"	GL	M	O	O	NA				Notes 1, 3

System SERVICE WATER | P&ID M-207-4

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
MOV-2907	C-8	3	B	12"	GA	MO	C	O	BT	OP	35		Note 6
MOV-2908	C-7	3	B	12"	GA	MO	C	O	BT	OP	35		Note 6
273	C-6	3	B	8"	GL	M	O	O	NA				Note 3

System SERVICE WATER | P&ID M-2207

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
MOV-2817	C-6	3	B	6"	GA	MO	O	C	BT	OP	20		Note 6
527	C-6	3	B	6"	GA	M	O	O	NA				Note 3
MOV-2880	C-5	3	B	6"	GA	MO	O	C	BT	CS	20		Notes 6, 18

System SERVICE AIR | P&ID M-209

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
1-C	E-2	2	A/C	4"	CK	SA	O	C	AT CVT	RR OP			Notes 9, 11, 23
SA-15	E-2	2	A	4"	GA	M	O	C	AT	RR			Notes 9, 11, 23

System INSTRUMENT AIR | P&ID M-209 Sheet 5

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
3047	G-7	2	A	2"	GA	AO	O	C	AT BT FST	RR OP OP	4.5	VRR-O	Note 11
3048	G-7	2	A	2"	GA	AO	O	C	AT BT FST	RR OP OP	4.5	VRR-O	Note 11
IA-35-A	G-8	2	A	2"	CK	SA	O	C	AT CVT	RR OP			Note 11
IA-36-A	G-8	2	A	2"	CK	SA	O	C	AT CVT	RR OP			Note 11

System AUXILIARY STEAM, HEATING STEAM | P&ID M-2214

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
HV-636	E-2	2	A	3"	GA	M	C	C	AT	RR			Notes 9, 11
HV-637	C-3	2	A	1½"	GA	M	C	C	AT	RR			Notes 9, 11
HV-263	E-3	2	A	3"	GA	M	C	C	AT	RR			Notes 9, 11
HV-808	C-2	2	A	1½"	GA	M	C	C	AT	RR			Notes 9, 11
HV-809	C-2	2	A	1½"	GA	M	C	C	AT	RR			Notes 9, 11

System HEATING AND VENTILATION | P&ID M-2215

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
3200-A CHK	F-3	2	A/C	1"	CK	SA	O	C	AT CVT	RR RR		VRR-16	Note 11
CV-3200-A	F-3	2	A	1"	GA	SO	O	C	AT BT	RR OP	4.5	VRR-0	Note 11
CV-3200-B	E-3	2	A	1"	GA	SO	O	C	AT BT	RR OP	4.5	VRR-0	Note 11
CV-3200-C	E-4	2	A	1"	GA	SO	O	C	AT BT	RR OP	4.5	VRR-0	Note 11
CV-3212	G-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24
CV-3213	G-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24
CV-3244	D-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24
CV-3245	D-3	2	A	36"	BTF	AO	C	C	AT BT	RR CS	4.5	VRR-0	Notes 9, 11, 24

System AUXILIARY FEEDWATER SYSTEM | P&ID M-217

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
32	E-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
45	G-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
56	F-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
57	G-7	2	B	3"	GA	M	O	O	NA				Notes 1, 3
100	F-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
101	G-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
103	E-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
105	G-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
106	F-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
107	G-7	2	C	3"	CK	SA	C	O	CVT	CS			Note 19
108	G-4	3	C	4"	CK	SA	C	O	CVT	CS			Note 19
111	H-3	3	C	6"	CK	SA	O	C	CVP CVT	OP CS			Note 20
466-A	F-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
466-B	F-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
114	G-4	3	C	1	CK	SA	C	C	NA				Note 3

System AUXILIARY FEEDWATER SYSTEM | P&ID M-217

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
476-A	G-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
476-B	G-7	2	C	16"	CK	SA	O	C	CVT	CS			Note 21
CV-4002	G-3	3	B	1"	GA	AO	C	C	NA				Note 3
MOV-4000	G-7	3	B	3"	GL	MO	O	O	NA				Notes 1, 3, 6
MOV-4001	F-7	3	B	3"	GL	MO	O	O	NA				Notes 1, 3, 6
MOV-4006	H-3	3	B	6"	GA	MO	C	O	BT	OP	40		Note 6

System POST ACCIDENT CONTAINMENT VENTING SYSTEM | P&ID M-224

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
4	E-4	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11
5	E-4	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11
8	D-4	2	A	3/4"	DIA	M	C	C	AT	RR			Notes 9, 11
9	D-4	2	A	3/4"	DIA	M	C	C	AT	RR			Notes 9, 11
12	D-4	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11
13	D-5	2	A	2"	DIA	M	C	C	AT	RR			Notes 9, 11

System DEIONIZED AND REACTOR MAKEUP WATER | P&ID PBM-231

Valve No	Coordinates	Class	Valve Category	Valve Size	Valve Type	Actuator Type	Normal Position	Stroke Direction	Test	Test Mode	Maximum Stroke Time	Relief Request	Remarks
DI-9	E-2	2	B	2"	DIA	M	O	C	AT	RR			Notes 11, 23
DI-11	D-1	2	B	2"	DIA	M	O	C	AT	RR			Notes 11, 23

APPENDIX B

REQUEST FOR RELIEF

FOR VALVES

VALVE RELIEF REQUEST NO. 0

System: General, Units 1 and 2

Component: Rapid acting power operated valves with a stroke time of three seconds or less.

Category: As applicable.

Class: As applicable.

Function: Safety related.

Test Requirement: Section XI - Division 1

IWV-3413 Power Operated Valves

The stroke time of all power-operated valves shall be measured to the nearest second or 10% of the maximum allowable stroke time, whichever is less, whenever such a valve is full-stroke tested.

If an increase in stroke time of 25% or more from the previous test for valves with stroke times greater than 10 seconds or 50% or more for valves with stroke times less than or equal to 10 seconds is observed, test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed. In any case, any abnormality or erratic action shall be reported.

Basis For Relief: Measuring the stroke time for rapid acting valves, per the requirements, is not practical as highly sophisticated measurement devices and valve modifications would become necessary. In addition, slight deviations in stroke times that would be encountered under normal conditions would result in exceeding code allowables due to the very restrictive band within this time range.

Alternate Testing: Stroke time of rapid acting valves shall be measured to the nearest one-half second. If an increase in stroke time of 1.5 seconds greater than the previous test is experienced, then the test frequency shall be increased to once each month until corrective action is taken.

VALVE RELIEF REQUEST NO. 1

System:	General
Component:	Unit 1, Safety-Related Valves
Category:	As applicable.
Class:	As applicable.
Function:	Safety related.
Test Requirement:	Comply with the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, Division 1, 1977 Edition and Addenda through Summer, 1978, per the requirements of 10 CFR 50.55a.
Basis For Relief:	To achieve identical inspection bases for each unit, for the Section XI pump and valve inservice testing program.
Alternate Testing:	Comply with the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, Division 1, 1977 Edition and Addenda through Summer, 1979.

VALVE RELIEF REQUEST NO. 2

System:	Safety Injection, Units 1 and 2
Component:	845-A, B, C, D, E, F
Category:	A/C
Class:	1
Function:	Valves open with differential pressure to provide flow path from safety injection pumps to the reactor coolant system and reactor vessel. Normally closed. In the closed position, these valves serve as reactor coolant system pressure isolation valves.
Test Requirements:	Exercise the valves every three months and perform a seat leakage test every two years.
Basis For Relief:	During normal operation, the safety injection pump discharge pressure of 1500 psig is insufficient to overcome reactor coolant system pressure. If the pumps could overcome reactor coolant system pressure, a reactivity excursion and thermal transient would take place during the injection of highly borated cold water. Testing during cold shutdown is prohibited because the pumps are deactivated for overpressurization protection. Lack of a recirculation path prohibits partial stroking.
Alternate Testing:	These valves will be full stroke exercised at refueling. Seat leakage testing will be in accordance with the requirements of Technical Specification 15.3.16, "Reactor Coolant System Pressure Isolation Valve Leakage Tests."

VALVE RELIEF REQUEST NO. 3

System:	Safety Injection, Units 1 and 2
Component:	853-A, B, C, & D
Category:	A/C
Class:	1
Function:	Valves open with differential pressure to provide flow path for reactor vessel safety injection flow. Normally closed. In the closed position, these valves serve as reactor coolant system pressure isolation valves.
Test Requirements:	Exercise the valve every three months and perform a seat leakage test every two years.
Basis For Relief:	Full or partial stroking during normal operation is not possible because low head safety injection pump discharge pressure is insufficient to overcome reactor coolant system pressure. Even if the pump discharge pressure was high enough, any stroking could cause the injection of cold borated water into the system, resulting in a power and thermal transient. Stroke testing the subject valves during cold shutdowns is possible, however, not desirable unless "Event V" valve testing is also scheduled. The "Event V" testing assures valve integrity, thus minimizing the possibility of an inter-system LOCA which bypasses containment. Exercising these valves during every cold shutdown may reduce the assurance that the valve is, in fact, properly seated, as established via the "Event V" testing.
Alternate Testing:	These valves will be full stroke exercised during pump full flow test at refueling. These valves will be full stroke exercised at cold shutdowns which also require the performance of "Event V" valve testing. Seat leakage testing will be in accordance with the requirements of Technical Specification 15.3.16, "Reactor Coolant System Pressure Isolation Valve Leakage Tests."

VALVE RELIEF REQUEST NO. 4

System:	Safety injection, Units 1 and 2.
Component:	867-A
Category:	A/C
Class:	1
Function:	Valve opens with differential pressure to provide flow path for safety injection system to Loop "A" of the reactor coolant system. Normally closed. In the closed position, this valve serves as a reactor coolant system pressure isolation valve.
Test Requirements:	Exercise the valve every three months and perform a seat leakage test every two years.
Basis For Relief:	During normal operation, safety injection pump discharge pressure of 1500 psig is sufficient to overcome reactor coolant system pressure so full or partial stroke testing is not possible. During cold shutdowns, partial or full stroke testing via the use of the accumulators or safety injection pumps is not allowed to prevent any possibility of a low temperature overpressurization event. A full stroke test could be possible during refueling, when the reactor vessel head is removed, but the volume and flow rate required for the test could possibly damage core internals. There would also be the possibility of forcing a nitrogen bubble through the reactor coolant system and refueling cavity resulting in possible safety implications which makes this testing concept inadvisable.
Alternate Testing:	This valve will be partial stroke tested during the transition period from hot shutdown to cold shutdown. This will be considered a cold shutdown test. However, this testing will not be performed if it will result in disturbing an "Event V" valve which is not required to be tested within the associated cold shutdown. In addition, this valve will be disassembled and inspected once per 10-year ISI interval. Seat leakage testing will be in accordance with the requirements of Technical Specification 15.3.16, "Reactor Coolant System Pressure Isolation Valve Leakage Tests."

VALVE RELIEF REQUEST NO. 5

System:	Safety Injection, Units 1 and 2
Component:	840-A & 840-B
Category:	C
Class:	2
Function:	Valves open under differential pressure to protect the spray additive tank from excessive vacuum conditions and allow injection of spray additive.
Test Requirement:	Exercise the valves every three months per IWV-3522.
Basis For Relief:	Due to the nature of the spray additive fluid and system arrangement, in-place testing of these valves is not desirable. To maximize system availability, since testing requires valve removal, testing will not be performed at operation or cold shutdowns.
Alternate Testing:	These valves will be exercised during reactor refueling outages.

VALVE RELIEF REQUEST NO. 6

System:	Safety Injection, Units 1 and 2
Component:	854-A & B
Category:	C
Class:	2
Function:	Valves open with differential pressure to provide flow path from refueling water storage tank to low head safety injection pumps (RHR) during safety injection. Normally closed.
Test Requirement:	Exercise the valves every three months.
Basis For Relief:	Valve stroking is not possible during normal operation because the RHR pump discharge pressure is insufficient to overcome reactor coolant system pressure during normal operation. During cold shutdown condition, full stroke testing the valves is not possible because the reactor coolant system does not contain a sufficient expansion volume and that there is no return flow path back to the refueling water storage tank for recirculation.
Alternate Testing:	These valves will be full stroke exercised during the pump full flow test at refueling.

VALVE RELIEF REQUEST NO. 7

System:	Safety Injection, Units 1 and 2
Component:	889-A & B
Category:	C
Class:	2
Function:	Valves open with differential pressure to provide flow path from the safety injection pumps to the reactor coolant system. Normally closed.
Test Requirement:	Exercise the valves every three months.
Basis For Relief:	During operation, the safety injection pump discharge pressure (1500 psig) is insufficient to overcome reactor coolant system pressure. The recirculation line size is also insufficient to allow full stroke exercising during operation. During cold shutdowns, testing is prohibited because the safety injection pumps are deactivated for low temperature overpressurization protection reasons. Thus, a full stroke test is not possible.
Alternate Testing:	These valves will be full stroke tested during the pump full flow test at refueling shutdowns. These valves are also partially stroke exercised during operation.

VALVE RELIEF REQUEST NO. 8

System:	Safety Injection, Units 1 and 2
Component:	858-A & B
Category:	C
Class:	2
Function:	Valves open with differential pressure to provide flow path from refueling water storage tank to the spray pump suction. Normally closed.
Test Requirement:	Exercise these valves every three months.
Basis For Relief:	These check valves can only be full stroke tested during a full-flow test of the spray pumps. A full-flow test of the spray pump would require actual spraying of borated water through the spray nozzles in containment.
Alternate Testing:	This valve will be partial stroke exercised during the containment spray system test required in the Technical Specification. During reactor refueling shutdowns, this valve will be disassembled and visually inspected.

VALVE RELIEF REQUEST NO. 9

System:	Safety Injection, Units 1 and 2
Component:	862-A & B
Category:	A/C
Class:	2
Function:	Valves open with differential pressure to provide flow path from the spray pumps to the containment spray nozzles. Normally closed. In the closed position, this valve serves as a containment isolation valve.
Test Requirement:	Exercise the valves every three months.
Basis For Relief:	These check valves can only be full stroke tested during a full-flow test of the spray pumps. A full-flow test of the spray pumps would require actually spraying borated water through the spray nozzles in containment. Partial stroke testing of these valves could also result in spraying containment, thus, will not be performed.
Alternate Testing:	These valves will be disassembled and visually inspected at reactor refueling outages. Seat leakage testing of these valves will be performed in accordance with 10 CFR 50, Appendix J.

VALVE RELIEF REQUEST NO. 10

System:	Auxiliary Coolant, Units 1 and 2
Component:	755-A & B
Category:	A/C
Class:	2
Function:	Valves close with differential pressure to isolate the component cooling line in the event of containment isolation. Normally open.
Test Requirement:	Exercise the valves every three months and perform a seat leakage test every two years.
Basis For Relief:	To properly stroke test the valve requires the securing of component cooling water flow to the reactor coolant pump. This is not practical during normal operation because it could require the possible securing of a reactor coolant pump. Only method to verify full closure is to perform leak test on the valve.
Alternate Testing:	These valves will be full stroke exercised at refueling. Seat leakage testing will be performed in accordance with 10 CFR 50, Appendix J during reactor refuelings.

VALVE RELIEF REQUEST NO. 11

System:	Reactor Coolant, Units 1 and 2
Component:	528
Category:	A/C
Class:	2
Function:	Valve closes with differential pressure to isolate the nitrogen line to isolate the containment. Normally closed.
Test Requirement:	Exercise the valve every three months and perform a seat leakage test every two years.
Basis For Relief:	Valve is normally closed. The only method to verify closure is by leak test.
Alternate Testing:	This valve will be full stroke exercised at refueling. Seat leakage testing will be performed in accordance with 10 CFR 50, Appendix J during reactor refueling outages.

VALVE RELIEF REQUEST NO. 12

System:	Chemical & Volume Control, Units 1 and 2
Component:	304-C & D
Category:	A/C
Class:	2
Function:	Valves shut with differential pressure to isolate the seal water injection line in the event of a containment isolation. Normally open.
Test Requirement:	Exercise the valves every three months and perform a seat leakage test every two years.
Basis For Relief:	Valve is normally open. The only way to verify full closure is to secure reactor coolant pump seal flow and perform valve leak test. Closure of this valve could cause reactor coolant pump damage.
Alternate Testing:	These valves will be verified closed via the performance of a seat leakage test at reactor refueling outages.

VALVE RELIEF REQUEST NO. 13

System:	Chemical & Volume Control, Units 1 & 2
Component:	370
Category:	A/C
Class:	2
Function:	Valve closes with differential pressure to isolate the charging line in the event of a containment isolation. Normally closed.
Test Requirement:	Exercise the valves every three months and perform a seat leakage test every two years.
Basis For Relief:	Valve is normally open. The only way to verify full closure is to secure normal charging flow and perform valve leak test. Closure of this valve will cause a transient to reactor coolant pump seal injection flow with possible pump damage resulting.
Alternate Testing:	This valve will be verified closed via the performance of a seat leakage test at reactor refueling outages.

VALVE RELIEF REQUEST NO. 14

System:	Waste Disposal System, Units 1 and 2
Component:	1713
Category:	A/C
Class:	2
Function:	Valve shuts with differential pressure to isolate this nitrogen supply line in the event of a containment isolation. Normally closed.
Test Requirement:	Exercise the valve every three months and perform a seat leakage test every two years.
Basis For Relief:	The valve is normally shut. The only way to verify closure is to perform a valve leak test.
Alternate Testing:	This valve will be verified closed via seat leakage testing at reactor refueling outages.

VALVE RELIEF REQUEST NO. 15

System:	Auxiliary Coolant System, Units 1 and 2
Component:	767
Category:	A/C
Class:	2
Function:	Valve closes with differential pressure to isolate the component cooling line to effect containment isolation.
Test Requirement:	Exercise the valve every three months and perform a seat leakage test every two years.
Basis For Relief:	The only method to verify closure is by a seat leakage test, which is not performed during reactor operation for ALARA purposes.
Alternate Testing:	This valve is leak tested per 10 CFR 50, Appendix J during refueling outages.

VALVE RELIEF REQUEST NO. 16

System:	Heating & Ventilation, Units 1 and 2
Component:	3200-A CHK
Category:	A/C
Class:	2
Function:	This valve closes with differential pressure, in the containment gas and particulate radiation monitor return line, to effect containment isolation.
Test Requirement:	Exercise the valve every three months and perform a seat leakage test every two years.
Basis For Relief:	During normal operation, gases from a continuous sampling system return to the containment through this line/valve. To test this valve during operation, or cold shutdown, it would be necessary to discharge potentially radioactive gases to the environment. There is no mechanism to partially stroke this valve.
Alternate Testing:	This valve will be verified closed using seat leakage testing at reactor refueling outages.

VALVE RELIEF REQUEST NO. 17

System:	Emergency Diesel Generator Air Starting System, Units 1 and 2
Components:	CV-3057-A, CV-3057-B, CV-3058-A & CV-3058-B
Category:	B
Class:	3
Function:	This valve opens to provide starting air to the diesel generator.
Test Requirement:	Measure stroke time and analyze per IWV-3413.
Basis For Relief:	This is a rapid acting valve. Valve design prohibits visual observance of stroking. Failure of the valve to stroke would result in the failure of the diesel generator to start on the initial attempt. Since the diesel generators are tested biweekly, the subject valve is tested monthly.
Alternate Testing:	Valve stroke testing is performed monthly, in conjunction with the diesel generator start testing. Valve stroking parameters will be considered acceptable if the associated diesel generator start was acceptable. If the diesel generator failed to start, at no fault of the valve, the valve stroking parameters will be considered acceptable, which will be proven with a restart following diesel generator corrective action.

VALVE RELIEF REQUEST NO. 18

System:	Reactor Coolant, Units 1 and 2
Component:	529
Category:	A/C
Class:	2
Function:	The valve closes with differential pressure to isolate the reactor makeup water supply line to the pressurizer relief tank to effect containment isolation.
Test Requirement:	Exercise the valve every three months and perform a seat leakage test every two years.
Basis For Relief:	The valve is normally closed. The only method to verify closure is by a seat leakage test.
Alternate Testing:	This valve will be full stroke exercised at reactor refueling outages. Seat leakage testing will be performed in accordance with 10 CFR 50, Appendix J.

VALVE RELIEF REQUEST NO. 19

System:	Safety Injection, Units 1 and 2
Component:	842-A & B
Category:	A/C
Class:	1
Function:	Valves open with differential pressure to provide flow path from accumulators to reactor coolant system during loss-of-coolant accident with plant depressurization. Normally closed. In the closed position, these valves serve as reactor coolant system pressure isolation valves.
Test Requirements:	Exercise the valves every three months and perform a seat leakage test every two years.
Basis For Relief:	During normal operation, accumulator pressure of 700 psig cannot overcome reactor coolant system pressure so full or partial stroke testing is not possible. Pa tial stroke testing during operation via use of the test line is also not possible as it would result in violating minimum accumulator levels as setforth in the plant Technical Specifications. A full or partial stroke test is not practical during cold shutdown because the higher pressure accumulators would be connected to the solid primary system which could result in a low temperature overpressurization event. A full stroke test could be possible during refuelings, when the reactor vessel head is removed, but the volume and flow rate required for the test could possibly damage core internals. There would also be the possibility of forcing a nitrogen bubble through the reactor coolant system and refueling cavity resulting in possible safety implications which makes this testing concept inadvisable.
Alternate Testing:	These valves will be partial stroke tested during the transition period from hot shutdown to cold shutdown. This will be considered a cold shutdown test. However, this testing will not be performed if it will result in disturbing an "Event V" valve which is not required to be tested within the associated cold shutdown. In addition, these valves will be disassembled and visually inspected once per 10-year ISI interval. Seat leakage testing will be performed quarterly coincident with the SI pump tests and a seat leakage rate of 5 gpm or less will be considered acceptable.

VALVE RELIEF REQUEST NO. 20

System:	Service Water, Units 1 and 2
Component:	1SV-2090 and 2SV-2090
Category:	B
Class:	3
Function:	Valve opens upon an auxiliary feedwater pump start to provide cooling water to the turbine driver's bearings.
Test Requirement:	Measure the stroke time and analyze per IWV-3413.
Basis For Relief:	This is a rapid acting valve. The valve design prohibits visual observance of stroking. Failure of the valve to stroke would result in unusually high turbine bearing temperatures during testing.
Alternate Testing:	This valve will be stroke tested during associated auxiliary feedwater pump testing. Acceptable valve operation will be based on acceptable bearing temperatures during testing.

APPENDIX "C"

FAIL SAFE TESTING OF VALVES

ASME Section XI, Article IWV 3415, states the following for valves having fail safe actuators:

"Valves with fail safe actuators shall be tested by observing the operation of tne valves upon loss of actuator power."

This type of test demonstrates that a valve will go to its required position to fulfill its safety function upon loss of actuator power.

The following describes the requirements for fail safe tests for the different types of actuators.

Actuator Type	Fail Safe Test
Motor	Valve will fail as is. No test is required.
Solenoid	Valve fails to its safe position upon loss of power to the solenoid.
Air	Valve fails to its safe position upon loss of control air to the actuator and/or loss of control power to its associated solenoid valve.

A fail safe test can only be performed on solenoid operated and air operated valves. Upon loss of power, a motor operated valve is incapable of moving and fails as is.

Fail safe testing of motor operated valves will not be performed at PBNP.

A fail safe test of solenoid operated valves will be conducted by deenergizing the solenoid and observing that the valve moves to its fail safe position. Deenergization of the solenoid will be performed by operating the valve control switch to the position that corresponds to the fail safe position (i.e., open or shut).

A fail safe test of air operated valves will be conducted by deenergizing the solenoid control valve, which will in turn vent air from the valve actuator and result in the valve moving to its fail safe position. Operation of the AOV control switch to the position corresponding to the fail safe position (i.e., open or shut) will deenergize the solenoid operated valve and vent air from the AOV's actuator.

In some cases, a controller, I/P (electric/pneumatic) converter, and a positioner is used to control air to the actuator of an AOV. For these cases, one of the following methods will be used to perform a fail safe test of the AOV.

1. Secure power to the I/P converter which in turn will secure air to the AOV actuator.

2. With the controller in manual, adjust the valve to its fail safe position. Operation of a controller in this manner sends a minimum control signal to the I/P converter and causes the I/P converter to cut off air to the valve actuator. This is similar to securing control power to the I/P converter, except a small control signal is still present.

Table C-1 provides a listing of the valves which will be fail safe tested and the method in which they will be tested.

TABLE C-1

FAIL SAFE TEST
AIR OPERATED VALVES

Unit	Valve	Control Switch	Controller Off	Controller Minimum	Remarks
	SA-9	√			
	SA-10	√			
	LW-61	√			
	LW-62	√			
1&2	313A	√			
1&2	371	√			
1&2	371A	√			
1&2	508	√			
1&2	538	√			
1&2	539	√			
1&2	836A		√		
1&2	836B		√		
1&2	846	√			
1&2	897A	√			
1&2	897B	√			
1&2	951	√			
1&2	953	√			
1&2	955	√			
1&2	966A	√			
1&2	966B	√			
1&2	966C	√			
1&2	1003A	√			
1&2	1003B	√			
1&2	1721	√			
1&2	1786	√			
1&2	1787	√			
1&2	2017	√			Solenoid control valves must be energized to vent air from the valve actuator. On loss of control power, solenoid control air valves fail as is.
1&2	2018	√			Same as 2017.
1&2	2083	√			
1&2	2084	√			
	2838	√			
	2839	√			

TABLE C-1 (continued)

FAIL SAFE TEST
AIR OPERATED VALVES

Unit	Valve	Control Switch	Controller Off	Controller Minimum	Remarks
1&2	3047	√			
1&2	3048	√			
	4012			√	
	4019			√	
1&2	5958	√			
1&2	5959	√			

Notes:

1. Control Switch - indicates the fail safe test is conducted by placing the valve's control switch to the position corresponding to the fail safe position, i.e., open or shut.

2. Controller Off - indicates the fail safe test is conducted by turning the controller off.

3. Controller Minimum - indicates that the fail safe test is conducted by placing the controller in manual and positioning the valve to its fail safe position.