INSERVICE TESTING PROGRAM SUMMARY

INDIAN POINT 2

STATION

For the Interval
July 1, 1994 through June 30, 2004

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INDIAN POINT NUCLEAR GENERATING UNIT NO.2

(Docket No. 50-247)

INSERVICE TESTING PROGRAM SUMMARY

for the interval

July 1, 1994, through June 30, 2004

Revision 1

Consolidated Edison Company of New York, Inc.
November, 1995

Introduction

The Inservice Testing Program described herein has been developed as required by Section 50.55a of 10 CFR Part 50 to implement the requirements of the ASME Boiler and Pressure Vessel (B&PV) Code Section XI.

Applicability

Consistent with Section 50.55a of 10 CFR Part 50, this program is applicable to the inservice testing of pumps and valves required for safety for the unit's third ten-year interval (July 1, 1994, through June 30, 2004).

Applicable Codes

In accordance with Section 50.55a of 10 CFR Part 50, the applicable ASME B&PV Code Section XI, Division I edition for the interval described above is the 1989 Edition. Subsections IWP and IWV of the 1989 Edition require pump and valve testing to be performed in accordance with the requirements stated in ASME/ANSI OM, Parts 6 and 10 respectively.

Program Description

Enclosure 1 identifies the Indian Point Unit No. 2 plant specific systems subject to the inservice testing requirements of ASME/ANSI OM, Parts 6 and 10. This listing has been developed in consideration of the appropriate NRC regulatory guidance, Exhibit A to Con Edison Corporate Instruction 240-1, QA Program for Operating Nuclear Plants (list of Class A systems), and the Indian Point Unit No. 2 Technical Specifications.

Enclosures 2 and 3 identify the pumps and valves to be tested in accordance with ASME/ANSI OM, Parts 6 and 10, respectively. The pumps and valves are listed followed by both general and specific relief requests where it has been found that the testing requirements for that pump or valve are impractical. In such instances, appropriate alternative testing provisions have been identified. General relief requests are used when the impracticality of a particular test requirement applies to more than one pump or more than one valve. Specific relief requests are unique to a particular pump or valve. It should be noted that not every pump or valve in systems identified in Enclosure 1 will be identified for testing in Enclosures 2 and 3. This is due to the provisions of ASME/ANSI OM, Parts 6 and 10, that limit the applicability of the testing requirements to pumps and valves of certain types performing certain functions.

The testing program outlined in the enclosures has been developed following a design review. Should certain OM Code requirements prove to be impractical due to unforeseen circumstances, subsequent relief from that requirement will be requested.

Relief Requests

Relief requests are written in accordance with 10CFR50.55a when specific ASME Section XI requirements for inservice testing are considered impractical or pose an undue burden on the licensee. The enclosed relief requests are subject to change throughout the inspection interval. If requirements are determined to be impractical, or result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, during the course of the interval, additional or modified relief requests will be submitted in accordance with 10CFR50.55a. NUREG-1482 "Guidelines for Inservice Testing at Nuclear Power Plants", was used in developing justification for the basis of the relief requests.

ENCLOSURE TABULATION

ENCLOSURE		DESCRIPTION
1	o	Systems Subject to Inservice Testing (Cover Sheet)
	o	List of Enclosure 1 subjects and effective pages
	o	Enclosure 1
2	o	Inservice Testing Program Summary for Pumps (Cover Sheet)
	o	List of Enclosure 2 subjects and effective pages
	o	Enclosure 2
3	o	Inservice Testing Program Summary for Valves (Cover Sheet)
	o	List of Enclosure 3 subjects and effective pages
	o	Enclosure 3

ENCLOSURE 1

SYSTEMS SUBJECT TO INSERVICE TESTING

Indian Point Unit No. 2

Revision 1
November; 1995

ENCLOSURE 1

LIST OF SUBJECTS AND EFFECTIVE PAGES

SUBJECT	PAGES
List of Systems Subject to Inservice Testing	3 through 5

List of Systems Subject to Inservice Testing

The following list represents the systems included in this IST Program. To obtain the list, CI-240-1 was reviewed against the NRC Draft Regulatory Guide entitled "Identification of Valves for Inclusion in Inservice Testing Programs." In addition, the Technical Specifications were reviewed to ensure that all Containment Isolation Valves and their respective systems were included.

	GENERIC	CI-240-1 SYSTEM	DRAWINGS
1.1	Reactor Coolant System and any proposed path for established natural circulation	Reactor Coolant System, PRT, Pressurizer System, Relief Valves, Main and Auxiliary Feed Systems	9321-F-2738
1.2	Portions of Main Steam	Main Steam System	9321-F-2017
1.3	High Pressure Coolant Injection (HPCI)	Safety Injection (HPCI)	9321-F-2735
1.4	Low Pressure Injection	Safety Injection (RHR) includes LPCI, External Internal Recirculation, Containment Sump	A235296 A251783
1.5	Accumulator System	Safety Injection (SI)	A235296
1.6	Containment Spray System	Safety Injection-Containment Spray	9321-F-2735
1.7	Primary and Secondary System Safety and Relief Valves and Atmospheric Relief Valves	RCS, Main Steam	9321-F-2738 9321-F-2017
1.8	Portions of Main Feedwater System	Feedwater, Condensate and Feedpump	9321-F-2019 9321-F-2018
1.9	Auxiliary Feedwater System	Auxiliary Feedwater System	9321-F-2019 9321-F-2018
1.10	Residual Heat Removal System (Shut-down cooling)	RHR System	9321-F-2735 A251783
1.11	Component Cooling Water System	Component and Auxiliary Component Cooling Water Systems	9321-F-2720 A227781

	GENERIC	CI-240-1 SYSTEM	DRAWINGS
1.12	Service Water Systems Ultimate Heat Sink	Service Water System	9321-F-2722 A209762 A208368 B235122 C235117
1.13	Containment Isolation Valves	Includes Various Systems:	
		1. Auxiliary Steam	9321-F-2027
		2. Air Ejector to Containment	9321-F-2025
		3. Containment Pressure Sensing	9321-F-2735
		4. City Water to Containment	9321-F-2018
		5. S/G Blowdown	9321-F-2729
		6. Containment Purge and Pressure Relief	9321-F-4022 9321-F-2726
		7. Containment Rad. Monitors	9321-F-7045
1.14	Chemical Volume and Control System (CVCS)	CVCS	9321-F-2736 A208168
1.15	Ventilation Systems that perform a function important to safety	Post Accident Containment Venting	B208879
		Containment Recirculation Fans	9321-F-4022
		Post Accident Containment Air Sampling	A208479
		Air Ejector to Containment	9321-F-2025
1.16	Instrument Air Systems	Instrument Air Station Air	9321-F-2036 9321-F-2035
1.17	PORV and Block Valves	Reactor Coolant System	9321-F-2738
1.18	Closure Head Vent System	RCS Head Vent System	9321-F-2738
1.19	EDG Auxiliary System		
	a. Air Starting System	EDG Air Start System	9321-H-2029
	b. Cooling Water System	Service Water System - EDG Cooling Portion	9321-F-2722 A209762
	c. Fuel Oil Storage and Transfer System	Fuel Oil to Diesel Generators	9321-F-2030

Additional systems and portions of systems to be included in the program include the following:

GENERIC	CI-240-1 SYSTEM	DRAWINGS
None	H2 Recombiner System	9321-F-2727
None	Waste Disposal System (CIVs only)	9321-F-2719
None	Sampling System (Primary CIVs)	9321-F-2745
None	Personnel Air Lock (CIVs only)	FSAR Figure 5.2-27
None	Reactor Coolant Pump Seal Water	9321-F-2736 A208168
None	Isolation Valve Seal Water	9321-F-2746
None	Containment Penetration Weld Channel Pressurization	9321-F-2726 9321-F-7052
None	N2 to Nuclear Equipment	9321-F-2723 A235306

ENCLOSURE 2

INSERVICE TESTING PROGRAM SUMMARY FOR PUMPS

Indian Point Unit No. 2

ENCLOSURE 2

LIST OF SUBJECTS AND EFFECTIVE PAGES

SUBJECT			PAGES
Inservice Test Program - Quality Group A, B, and C Pumps			3
Pump Test Summary			4 through 8
Pump Relief Requests			
Relief Request:	01	(withdrawn)	9
Relief Request:	02	(withdrawn)	10
Relief Request:	03		11 through 12
Relief Request Notes			13

1.0 PUMPS SUBJECT TO THE TESTING REQUIREMENTS OF ASME CODE SECTION XI, ARTICLE IWP:

Safety Injection Pumps 21, 22, and 23
Containment Spray Pumps 21 and 22
Recirculation Pumps 21 and 22
Service Water Pumps 21, 22, 23, 24, 25 and 26
Residual Heat Removal Pumps 21 and 22
Component Cooling Pumps 21, 22, and 23
Auxiliary Component Cooling Pumps 21 and 22
Auxiliary Feedwater Pumps 21, 22, and 23
Boric Acid Transfer Pumps 21 and 22
Charging Pumps 21, 22, and 23
Fuel Oil Transfer Pumps 21, 22, and 23
Safety Injection Circulating Water Pumps 21, 22, and 23

2.0 PROGRAM DESCRIPTION

The following tabulation lists the pump identification, diagram number, quality group, parameters required to be measured or observed, and the test frequency. Requests for relief (R-R) numbers have been noted in the appropriate parameter columns. In addition, a reference to explanatory notes (x) has been made in the applicable parameter columns.

The detailed description of the requests for relief, containing the basis for a relief and alternate testing, and the explanatory notes follow the program tabulation.

PUMP	P&ID	QUAL GROUP	SPEED	INLET PRESS	OUTLET PRESS	DIFF PRESS	FLOW	VIB	LUB	BEARING TEMP
21SIP	2735	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 SAFETY INJECTION PUMP - SEE NOTES (A), (B) and (G)										
22SIP	2735	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 SAFETY INJECTION PUMP - SEE NOTES (A), (B) and (G)										
23SIP	2735	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 23 SAFETY INJECTION PUMP - SEE NOTES (A), (B) and (G)										
21CSP	2735	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 CONTAINMENT SPRAY PUMP - SEE NOTES (A), (B) and (G)										
22CSP	2735	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 CONTAINMENT SPRAY PUMP - SEE NOTES (A), (B) and (G)										
21RP	235296	B	N/A (A)	N/A (G)	N/A (G)	R	R	R	N/A (B)	N/A (B)
REMARKS: 21 RECIRCULATION PUMP - SEE NOTES (A), (B) and (G)										
22RP	235296	B	N/A (A)	N/A (G)	N/A (G)	R	R	R	N/A (B)	N/A (B)
REMARKS: 22 RECIRCULATION PUMP - SEE NOTES (A), (B) and (G)										

PUMP	P&ID	QUAL GROUP	SPEED	INLET PRESS	OUTLET PRESS	DIFF PRESS	FLOW	VIB	LUB	BEARING TEMP
21SWP	2722	C	N/A (A)	N/A (F),(G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 SERVICE WATER PUMP - SEE NOTES (A), (B), (F) and (G)										
22SWP	2722	C	N/A (A)	N/A (F),(G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 SERVICE WATER PUMP - NOTES (A), (B), (F) and (G)										
23SWP	2722	C	N/A (A)	N/A (F),(G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 23 SERVICE WATER PUMP - SEE NOTES (A), (B), (F) and (G)										
24SWP	2722	C	N/A (A)	N/A (F),(G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 24 SERVICE WATER PUMP - SEE NOTES (A), (B), (F) and (G)										
25SWP	2722	C	N/A (A)	N/A (F),(G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 25 SERVICE WATER PUMP - SEE NOTES (A), (B), (F) and (G)										
26SWP	2722	C	N/A (A)	N/A (F),(G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 26 SERVICE WATER PUMP - SEE NOTES (A), (B), (F) and (G)										
21RHRP	251783	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 RESIDUAL HEAT REMOVAL PUMP - SEE NOTES (A), (B), and (G)										
22RHRP	251783	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 RESIDUAL HEAT REMOVAL PUMP - SEE NOTES (A), (B), and (G)										

PUMP	P&ID	QUAL GROUP	SPEED	INLET PRESS	OUTLET PRESS	DIFF PRESS	FLOW	VIB	LUB	BEARING TEMP
21CCP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 COMPONENT COOLING PUMP - SEE NOTES (A), (B) and (G)										
22CCP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 COMPONENT COOLING PUMP - SEE NOTES (A), (B) and (G)										
23CCP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 23 COMPONENT COOLING PUMP - SEE NOTES (A), (B) and (G)										
21ACCP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q, R	Q, R	Q, R	N/A (B)	N/A (B)
REMARKS: 21 AUXILIARY COMPONENT COOLING PUMP - SEE NOTES (A), (B), (G) and (H)										
22ACCP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q, R	Q, R	Q, R	N/A (B)	N/A (B)
REMARKS: 22 AUXILIARY COMPONENT COOLING PUMP - SEE NOTES (A), (B), (G) and (H)										
21AFP	2019	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 AUXILIARY FEEDWATER PUMP - SEE NOTES (A), (B), and (G)										
22AFP	2019	C	Q	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 AUXILIARY FEEDWATER PUMP - SEE NOTES (B), and (G)										

PUMP	P&ID	QUAL GROUP	SPEED	INLET PRESS	OUTLET PRESS	DIFF PRESS	FLOW	VIB	LUB	BEARING TEMP
23AFP	2019	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 23 AUXILIARY FEEDWATER PUMP - SEE NOTES (A), (B), and (G)										
21CHP	2736	B	Q	N/A (C)	Q	N/A (C)	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 CHARGING PUMP - SEE NOTES (B) and (C)										
22CHP	2736	B	Q	N/A (C)	Q	N/A (C)	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 CHARGING PUMP - SEE NOTES (B) and (C)										
23CHP	2736	B	Q	N/A (C)	Q	N/A (C)	Q	Q	N/A (B)	N/A (B)
REMARKS: 23 CHARGING PUMP - SEE NOTES (B) and (C)										
21FOTP	2030	N/A	N/A (A)	N/A (G)	N/A (G)	Q RR3	Q RR3	Q RR3	N/A (B)	N/A (B)
REMARKS: 21 FUEL OIL TRANSFER PUMP - SEE NOTES (A), (B), (E) and (G)										
22FOTP	2030	N/A	N/A (A)	N/A (G)	N/A (G)	Q RR3	Q RR3	Q RR3	N/A (B)	N/A (B)
REMARKS: 22 FUEL OIL TRANSFER PUMP - SEE NOTES (A), (B), (E) and (G)										
23FOTP	2030	N/A	N/A (A)	N/A (G)	N/A (G)	Q RR3	Q RR3	Q RR3	N/A (B)	N/A (B)
REMARKS: 23 FUEL OIL TRANSFER PUMP - SEE NOTES (A), (B), (E) and (G)										
21BATP	2736	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 BORIC ACID TRANSFER PUMP - SEE NOTES (A), (B), (D) and (G)										

PUMP	P&ID	QUAL GROUP	SPEED	INLET PRESS	OUTLET PRESS	DIFF PRESS	FLOW	VIB	LUB	BEARING TEMP
22BATP	2736	B	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 BORIC ACID TRANSFER PUMP - SEE NOTES (A), (B), (D) and (G)										
21SICP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 21 SI PUMP CCW CIRCULATING PUMP - SEE NOTES (A), (B) and (G)										
22SICP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 22 SI PUMP CCW CIRCULATING PUMP - SEE NOTES (A), (B) and (G)										
23SICP	227781	C	N/A (A)	N/A (G)	N/A (G)	Q	Q	Q	N/A (B)	N/A (B)
REMARKS: 23 SI PUMP CCW CIRCULATING PUMP - SEE NOTES (A), (B) and (G)										

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TOTAL PUMPS = 34

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

Pumps:

Fuel Oil Transfer Pumps 21, 22 and 23

Test Requirements: OM 6, Para. 5.2b, c and d.

"An Inservice Test shall be conducted with the pump operating at specified test reference conditions. The test parameters shown in Table 2 shall be determined and recorded as directed in this paragraph. The test shall be conducted as follows.

a) The pump shall be operated at nominal motor speed for constant speed drives and at a speed adjusted to the reference speed for variable speed drives.

b) The resistance of the system shall be varied until the flow rate equals the reference value. The pressure shall then be determined and compared to its reference value. Alternatively, the flow can be varied until the pressure equals the reference value and the flow rate shall be determined and compared to the reference flow rate value.

c) Where system resistance cannot be varied, flow rate and pressure shall be determined and compared to their respective reference values.

d) Pressure, flow rate, and vibration (displacement or velocity) shall be determined and compared with corresponding reference values. All deviations from the reference values shall be compared with the limits given in Table 3 and corrective action taken as specified in para. 6.1"

Relief is requested from the requirements of Para. 5.2 with respect to varying system resistance, measuring flow rate and comparing data to the limits given in Table 3.

Basis for Relief:

These are Non-ASME Code Class Pumps

The test circuits employed for quarterly testing of these pumps do not incorporate flow measurement instrumentation. Testing of these pumps will be accomplished with all valves in the flow path in the full open position; thereby, system resistance will be fixed and test results repeatable. Acceptance criteria will be predicated on obtaining acceptable head values at the design minimum flow condition.

By using the same test circuit, aligned in the same manner from test to test, system resistance is effectively fixed. Pump degradation is readily observed by trending delta-p across the pump. Since delta-p varies as the flow squared ($\Delta p = KQ^2$), are a more sensitive indicator of pump degradation than are changes in flow. Although direct measurement of flow cannot be recorded and trended, the test procedure proposed for these pumps satisfies the intent of the codes which is to identify changes in performance. These procedures together with analysis of the alert and action ranges will assure that information sufficient to assess pump condition and the need for repair are readily available.

Alternative Testing:

The fuel oil transfer pumps will be tested in a fixed resistance system using head as the indicator of hydraulic performance in lieu of varying system resistance to a specified flow and then measuring head. Flow will not be measured. The ranges of delta-p in Table 3b will be set as follows:

Action Low	=	Pr -10 ft.
Alert Low	=	Pr -5 ft.
Action High	=	Pr +10 ft.

(Where Pr = Delta-P Reference Value)

Reference:

Portions of this Relief Request were previously accepted for the 2nd Internal as Relief Request No. 09 via SER dated November 20, 1987.

NOTES

A) These pumps are directly coupled to constant speed induction motors. Consistent with ASME/ANSI OM, Part 6, Table 2, rotative speed need not be measured as it is not variable.

B) Some parameters from previous Code Editions are no longer required by ASME/ANSI OM, Part 6, Table 2. These parameters remain in the IST Pump List for clarity but are no longer required to be measured.

C) The Charging Pumps are of the positive displacement type. Table 2 of ASME/ANSI OM, Part 6 does not require Inlet and Differential Pressure.

D) There is no instrumentation available for the measurement of inlet pressure on the Boric Acid Transfer Pumps. Inlet pressure will be calculated from elevation head, tank level and any gas overpressure, as may be applicable.

E) The Fuel Oil Transfer Pumps are submerged within the Fuel Oil Storage Tanks. Inlet pressure will be calculated from tank level.

F) The Service Water Pumps are wet-pit pumps submerged in the river water. Inlet pressure will be calculated from river water level.

G) Although not required by OM, Part 6, Table 2, Inlet Pressure and Outlet Pressure are obtained in order to calculate differential pressure in accordance with Para. 4.6.2.2.

H) The Auxiliary Component Cooling Pumps will be tested each refueling outage without the CCW system operating to ensure that proper cooling of the Recirculation Pumps can be accomplished when the CCW pumps are not operating. See Safety System Functional Inspection Report No. 50-247/88-200, observation 247/88-200-22 and responses.

ENCLOSURE 3

INSERVICE TESTING PROGRAM SUMMARY FOR VALVES

Indian Point Unit No. 2

Revision 1
November, 1995

ENCLOSURE 3

LIST OF SUBJECTS AND EFFECTIVE PAGES

SUBJECT	PAGES
Inservice Test Program Summary of Valves - (Discussion)	3 and 4
Table Legend	5 and 6
Valve Test Summary	69 total pages*
Valve Relief Requests	37 total pages
Cold Shutdown/Refueling Justifications	1 through 67

* The Summary Table is page numbered as a computer printout as indicated on the table pages.

1.0 VALVES SUBJECT TO THE TESTING REQUIREMENTS OF ASME/ANSI OM, PART 10:

OM 10 establishes the requirements for preservice and inservice testing to assess the operational readiness of certain valves and pressure relief devices (and their actuating and position indicating systems) used in nuclear power plants.

The active or passive valves covered are those which are required to perform a specific function in shutting down a reactor to the cold shutdown condition, in maintaining the cold shutdown condition, or in mitigating the consequences of an accident. The pressure-relief devices covered are those for protecting systems or portions of systems which perform a required function in shutting down a reactor to the cold shutdown condition, in maintaining the cold shutdown condition, or in mitigating the consequences of an accident.

OM 10 establishes test intervals, parameters to be measured and evaluated, acceptance criteria, corrective action, and records requirements.

2.0 PROGRAM DESCRIPTION

The following tabulation lists the valve identification number by the system and drawing number of which it is a part, the component quality group, valve category per OM-10, Para. 1.4, valve size and type, actuator type, normal valve position, failure mode and remote position indication. The type of testing required, specific relief request, testing alternatives and test frequency are identified as well. Requests for relief have been noted in the appropriate column by numeric designator. The numeric designator refers to a relief request unique to a specific valve or valve set. A legend identifying the abbreviations appearing in the tabulation has been provided. The detailed description of the requests for relief, containing the basis for relief and alternate testing, follow the tabulation. A section containing Cold Shutdown/Refueling Justifications (OM 10, Para 4.2.1.2 and 4.3.2.2) follows the requests for relief.

3.0 VALVE TEST FREQUENCY

Quarterly

Active Category A and B valves shall be tested nominally every 3 months and shall meet the requirements of both OM 10, Para. 4.2.1.1 and 4.3.2.1 (Exercising Test Frequency) and Technical Specification 4.0.1 (Surveillance Interval Extension).

Cold Shutdown

The inservice valve testing program for valves required to be tested at cold shutdowns must commence no later than 48 hours after each cold shutdown and shall continue until complete or the plant is ready to commence start-up. For extended outages, testing need not commence within 48 hours, provided all valves required to be tested during Cold Shutdown will be tested prior to plant start-up. Completion of all inservice valve testing for valves required to be tested at cold shutdown is not a prerequisite to plant start-up. Any testing not completed at one cold shutdown should be performed during subsequent cold shutdowns.

To permit cold shutdown testing of valves to proceed in an orderly manner, the number of valves to be tested at each cold shutdown should be determined as follows: the estimated duration of the outage divided by 92 days times the total number of valves required to be tested at cold shutdown equals the target number of valves to be tested during the current outage. At each successive cold shutdown the next group of valves should be tested until all valves in the program have been tested, at which time the cold shutdown valve testing program shall be re-initialized.

Refuelings

Inservice testing of valves required to be tested at refuelings shall be tested at each refueling and completed prior to returning the plant to operation.

4.0 VALVE POSITION VERIFICATION

Direct observation of valve position indication has not been incorporated in the following tables. The requirement will be satisfied at two year intervals. When valve position verification cannot be performed it will be accompanied by a request for relief.

5.0 VALVES SUBJECT TO LEAK RATE TESTING

Valves subject to leak rate testing include containment isolation valves and pressure isolation valves. Containment isolation valves are those valves identified in the Indian Point Unit No. 2 Technical Specifications, which have been determined subject to the requirements of 10 CFR 50 Appendix J. Pressure isolation valves are those valves which form a boundary of interface between the higher pressure Reactor Coolant System and a connected system designed for lower maximum pressure. Included in this category are valves forming the boundary between the Reactor Coolant System and the lower pressure Residual Heat Removal and Safety Injection Systems. Specifically excluded are: valves forming the interface between 1) the Reactor Coolant System (RCS) and Chemical and Volume Control System (CVCS), 2) the RCS loop drain valves to the Waste Disposal System and 3) Valves separating the RCS from the Sampling System (SS).

The CVCS and SS piping and valves are designed for the same pressures as the RCS; hence, the boundary valves separating these systems from the RCS do not form a high pressure/low pressure interface. In addition, the sample lines are 3/8 inch diameter; hence, gross failure of a sample line or sample valve can be accommodated by normal operating methods without the need for safety injection actuation.

The RCS loop drain valves inside containment are each fitted with two normally closed series manual isolation valves forming the boundary between the RCS and lines leading to the Reactor Coolant Drain Tank in the Waste Disposal System. Any leakage past the loop drain valves will collect in the Reactor Coolant Drain Tank. Periodic water inventory balances of Reactor Coolant System inventory and leakage into closed systems serve to quantify any leakage past the loop drain valves. Technical Specifications limit identified RCS leakage to 10 gpm during power operation. Thus, this operating restriction serves in lieu of the code required leak rate test for these valves.

Containment isolation valves are leak rate tested in accordance with the requirements of 10 CFR 50 Appendix J. Pressure isolation valves are tested in accordance with OM 10 requirements, at function differential pressure or at reduced pressure adjusted to function differential pressure. There are no valves that serve both containment isolation and pressure isolation functions at Indian Point Unit No. 2.

TABLE LEGEND

KEY TO TEST REQUIREMENTS

L	-	Category A valve leak rate test per OM-10, Para. 4.2.2.
S	-	Category A and B exercising test per OM-10, Para. 4.2.1.
SC	-	Category C exercising test per OM-10, Para. 4.3.2.
T	-	Category A and B stroke time measurement test per OM-10, Para. 4.2.1.4.
F	-	Category A and B valve fail safe tests per OM-10, Para. 4.2.1.6.
R	-	Category C (safety/relief) valve test per OM-10, Para. 4.3.1 and OM-1.
BT	-	Bench Test Relief and Safety Valves.

Note: There are no Category D valves at Indian Point 2.

KEY TO TESTING ALTERNATIVES

1	-	Leak test per Appendix J.
2	-	Full-stroke exercise during refueling outages. (OM-10, Para. 4.2.1.2.e and 4.3.2.2.e)
3	-	Full-stroke exercise during cold shutdown. (OM-10, Para. 4.2.1.2.c and 4.3.2.2.c)
4	-	Part-stroke exercise quarterly during mini-flow pump test (OM-10, Para. 4.3.2.2)
5	-	Part-stroke exercise during cold shutdowns.
6	-	Part-stroke exercise during refueling outages.
7	-	Manual stroke exercise quarterly, reverse - flow check at refueling.
8	-	In accordance with OM-10, Para. 4.2.2 at refuelings.
9	-	During Containment Spray nozzle air test -- every 5 years.
10	-	Full-stroke exercise prior to startup following cold shutdown.
11	-	Sample Disassembly/Inspection

KEY TO TESTING FREQUENCY

Q	-	Quarterly
CS	-	Cold Shutdown
R	-	Refuelings
R1	-	Refuelings as per OM-10, Para. 4.3.1 and OM-1, Para. 1.3.3.1 and 1.3.4.1.
R2	-	Refuelings as per NRC Generic Letter 89-04, Attachment 1, Item 2.

KEY TO NORMAL POSITION

O	-	Open
C	-	Closed
V	-	Variable - depends on system lineup (i.e., open or closed)
T	-	Throttled

ABBREVIATIONS

SC	-	Stop Check Valve	M	-	Manual Valve
CK	-	Check Valve	SA	-	Self Actuating Valve
GA	-	Gate Valve	MO	-	Motor Operated Valve
GL	-	Globe Valve	AO	-	Air Operated Valve
RE	-	Relief Valve	SO	-	Solenoid Operated Valve
BU	-	Butterfly Valve	AN	-	Angle Valve
T	-	Throttled Valve	SP	-	Spring Loaded Check Valve
DIA	-	Diaphragm Valve	PCV	-	Pressure Control Valve
NE	-	Needle Valve	EH	-	Electro-hydraulic Valve
BL	-	Equalizing Ball Valve	VR	-	Vacuum Relief

O	-	Open
LO	-	Locked Open
C	-	Closed
LC	-	Locked Closed
AI	-	As Is

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1406	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1410	IVSW	2746	NA	B	3/8	GL	SO	C	O	Y	S T F			Q Q Q	
REMARKS:															
1413	IVSW	2746	NA	B	3/8	GL	SO	C	O	Y	S T F.			Q Q Q	
REMARKS:															
1456	IVSW	2746	NA	C	3/4	CK	SA	O	NA	N	SC		2	R	
REMARKS:															
1470	IVSW	2746	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
1471	IVSW	2746	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
1472	IVSW	2746	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
1473	IVSW	2746	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
1474	IVSW	2746	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
1475	IVSW	2746	NA	C	3/8	RE	SA	C	O	N	R			R1	
REMARKS:															
1500	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1501	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1502	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1503	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1504	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1505	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1506	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1507	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1508	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1509	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1510	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1511	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1512	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1513	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1514	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1515	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1516	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1517	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1518	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1519	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1520	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1521	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1522	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1523	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1524	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1525	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1526	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1527	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1528	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1529	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1530	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1531	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1532	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1534	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1535	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1536	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1537	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1538	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1539	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1540	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1541	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1542	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1543	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1545	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1546	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1547	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1548	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1549	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1550	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
1616	GAS	2719	NA	AC	1	CK	SA	O	NA	N	L		1	R	
REMARKS: A-PASSIVE															
1649	GAS	2723	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
1702	WDS	2719	NA	A	3	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
1705	WDS	2719	NA	A	3	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
1723	WDS	2719	NA	A	2	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
1728	WDS	2719	NA	A	2	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
1786	WDS	2719	NA	A	1	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1787	WDS	2719	NA	A	1	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
1788	WDS	2719	NA	A	1	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
1789	WDS	2719	NA	A	1	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
1802A	SIS	235296	B	B	10	GA	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
1802B	SIS	235296	B	B	10	GA	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
1810	SIS	2735	B	B	3	GA	MO	LO	AI	Y	S T		3 3	CS CS	
REMARKS:															
1814A	SIS	235296	NA	A	3/4	GL	M	LO	AI	N	L		1	R	
REMARKS: A-PASSIVE															
1814B	SIS	235296	NA	A	3/4	GL	M	LO	AI	N	L		1	R	
REMARKS: A-PASSIVE															
1814C	SIS	235296	NA	A	3/4	GL	M	LO	AI	N	L		1	R	
REMARKS: A-PASSIVE															
1816	GAS	2723	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
1836	RHR	2720	B	C	2	RE	SA	C	O	N	R			R1	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1838A	CSS	2735	B	C	3	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN.															
1838B	CSS	2735	B	C	3	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN.															
1870	RHR	251783	B	A	3	GL	MO	LO	AI	Y	S T L		3 3 1	CS CS R	
REMARKS:															
1873A	CCW	227781	C	B	2	GL	M	C	AI	N	S		2	R	1
REMARKS:															
1873B	CCW	227781	C	B	2	GL	M	C	AI	N	S		2	R	1
REMARKS:															
1873C	CCW	227781	C	B	2	GL	M	C	AI	N	S		2	R	1
REMARKS:															
1873D	CCW	227781	C	B	2	GL	M	C	AI	N	S		2	R	1
REMARKS:															
1874	CCW	227781	C	B	3/4	GL	M	C	AI	N	S		2	R	1
REMARKS:															
1878	HR	2727	B	C	1	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
1879A	HR	2727	B	C	3/4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
1879B	HR	2727	B	C	3/4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
1880A	HR	2727	B	C	3/4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
1880B	HR	2727	B	C	3/4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
1881A	HR	2727	B	C	3/4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
1881C	HR	2727	B	C	3/4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
1881D	HR	2727	B	C	3/4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
1884	HR	2727	B	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
200A	RCS	208168	A	B	2	GL	AO	C	C	Y	S T F			Q Q Q	
REMARKS:															
200B	RCS	208168	A	B	2	GL	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															
200C	RCS	208168	A	B	2	GL	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															
201	CVCS	2736	B	A	2	GL	AO	O	C	Y	S T L F		3 3 1 3	CS CS R CS	
REMARKS:															
202	CVCS	2736	B	A	2	GL	AO	O	C	Y	S T L F		3 3 1 3	CS CS R CS	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
203	CVCS	208168	B	C	2	RE	SA	C	O	N	R			R1	
REMARKS:															
204A	RCS	208168	A	B	3	GL	AO	C	O	Y	S T F		3 3 3	CS CS CS	
REMARKS:															
204B	RCS	208168	A	B	3	GL	AO	O	O	Y	S T F		3 3 3	CS CS CS	
REMARKS:															
205	CVCS	2736	B	A	3	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS:															
210A	RCS	208168	A	C	3	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															
210B	RCS	208168	A	C	3	CK	SA	O	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															
211	RCS	208168	A	C	2	SP	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
212	CVCS	208168	A	A	2	GL	AO	C	C	Y	S T F		3 3 3	CS CS CS	
REMARKS:															
218	CVCS	208168	B	C	3	RE	SA	C	O	N	R			R1	
REMARKS:															
21CCSTV	CCW	227781	C	C	1	VR	SA	C	C	N	R			R1	1
REMARKS:															
222	CVCS	2736	B	A	4	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
226	CVCS	2736	B	A	3	GL	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS:															
227	CVCS	2736	B	A	3	GL	MO	C	AI	Y	L		1	R	
REMARKS: A-PASSIVE															
231	CVCS	2736	B	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
234	CVCS	2736	B	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
237	CVCS	2736	B	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
250A	CVCS	2736	B	A	2	GL	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
250B	CVCS	2736	B	A	2	GL	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
250C	CVCS	2736	B	A	2	GL	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
250D	CVCS	2736	B	A	2	GL	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
263	CVCS	2736	B	C	2	RE	SA	C	O	N	R			R1	
REMARKS:															
264	CVCS	2736	B	C	2	RE	SA	C	O	N	R			R1	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
290	CVCS	2736	B	C	4	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
332	CVCS	2736	B	C	2	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
333	CVCS	2736	B	B	2	GL	MO	C	AI	Y	S T		3 3	CS CS	
REMARKS:															
362A	CVCS	2736	B	C	2	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
362B	CVCS	2736	B	C	2	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
374	RCS	208168	A	C	3	CK	SA	O	NA	N	SC	35	11	Q R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
4000	CVCS	2736	B	C	3	CK	SA	O	NA	N	SC			Q	
REMARKS:															
4001	CVCS	2736	B	C	3	CK	SA	O	NA	N	SC			Q	
REMARKS:															
4002	CVCS	2736	B	C	3	CK	SA	O	NA	N	SC			Q	
REMARKS:															
4003	CVCS	2736	B	C	3	CK	SA	O	NA	N	SC			Q	
REMARKS:															
4004	CVCS	2736	B	C	3	CK	SA	O	NA	N	SC			Q	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
4005	CVCS	2736	B	C	3	CK	SA	O	NA	N	SC			Q	
REMARKS:															
4058	CVCS	2736	B	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
4105	GAS	235306	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
4106	GAS	235306	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
4107	GAS	235306	NA	C	3/4	CK	SA	C	NA	N	SC		3	CS	
REMARKS:															
4108	GAS	235306	NA	C	3/4	CK	SA	C	NA	N	SC		3	CS	
REMARKS:															
4136	RCS	2738	NA	A	3/4	DIA	M	C	AI	N	L		1	R	
REMARKS: A-PASSIVE															
4312	GAS	235296	B	AC	1	CK	SA	C	NA	N	L		1	R	1
REMARKS: AC-PASSIVE, SAFETY FUNCTION CLOSED.															
4399	PSS	227178	NA	A	3/4	GL	MO	O	AI	Y	S T L		 1	Q Q R	
REMARKS:															
4924	CVCS	2736	B	C	2	CK	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
4925	CVCS	2736	B	A	1	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
4926	CVCS	2736	B	A	1	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
4927	CVCS	2736	B	A	1	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
4928	CVCS	2736	B	A	1	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
5132	PSS	227178	NA	A	3/4	GL	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
518	RCS	2738	NA	AC	3/4	CK	SA	C	NA	N	L		1	R	
REMARKS: A-PASSIVE															
519	RCS	2738	NA	A	3	DIA	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
5220	SIS	2735	B	C	4	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
535	RCS	2738	A	B	3	GA	MO	O	AI	Y	S S T T		3 3	Q CS Q CS	1
REMARKS:															
536	RCS	2738	A	B	3	GA	MO	O	AI	Y	S S T T		3 3	Q CS Q CS	1
REMARKS:															
5459	WDS	2719	NA	A	1	DIA	M	C	AI	N	L		1	R	
REMARKS: A-PASSIVE															
548	RCS	2738	NA	A	3/8	GL	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
549	RCS	2738	NA	A	3/8	GL	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
552	RCS	2738	NA	A	3/4	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
5602	IVSW	2746	NA	C	3/8	CK	SA	C	NA	N	SC		2	R	
REMARKS:															
5624	IVSW	2746	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
580A	RCS	2738	NA	A	1/8	NE	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
580B	RCS	2738	NA	A	1/8	NE	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
7001	CVCS	208168	A	C	3/4	SP	SA	C	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION OPEN.															
730	RCS	2720	A	A	14	GA	MO	C	AI	Y	S T L		3 3	CS CS R	
REMARKS:															
731	RCS	2720	A	A	14	GA	MO	C	AI	Y	S T L		3 3	CS CS R	
REMARKS:															
732	RHR	251783	B	A	14	GA	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
733C	CCW	227781	C	B	2	GL	M	C	AI	N	S		2	R	1
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
734A	CCW	227781	C	B	2	GL	M	O	AI	N	S		2	R	1
REMARKS:															
734B	CCW	227781	C	B	2	GL	M	O	AI	N	S		2	R	1
REMARKS:															
734E	CCW	227781	C	B	2	GL	M	C	AI	N	S		2	R	1
REMARKS:															
734F	CCW	227781	C	B	2	GL	M	C	AI	N	S		2	R	1
REMARKS:															
7352	SIS	2735	B	B	2	GL	M	O	AI	N	S			Q	
REMARKS:															
738A	RHR	251783	B	C	12	CK	SA	C	NA	N	SC		3,4	CS	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
738B	RHR	251783	B	C	12	CK	SA	C	NA	N	SC		3,4	CS	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
741A	RHR	2720	B	AC	12	CK	SA	C	NA	N	SC L		3,4 1	CS R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
743	RHR	251783	B	A	3	GL	MO	LO	AI	Y	S T L		3 3 1	CS CS R	
REMARKS:															
744	RHR	251783	B	A	12	GA	MO	LO	AI	Y	S T L		2 2 1	R R R	
REMARKS:															
745A	RHR	2720	B	B	8	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
745B	RHR	2720	B	B	8	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
746	RHR	2720	B	B	8	GA	MO	C	AI	Y	S T		3 3	CS CS	
REMARKS:															
747	RHR	2720	B	B	8	GA	MO	C	AI	Y	S T		3 3	CS CS	
REMARKS:															
750A	CCW	227781	C	C	1	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN.															
750B	CCW	227781	C	C	1	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN.															
750C	CCW	227781	C	C	1	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN.															
755	CCW	227781	C	C	2	CK	SA	O	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
755A	CCW	227781	C	C	3	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
755B	CCW	227781	C	C	3	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
756A	CCW	227781	C	B	3	GA	M	O	AI	N	S		2	R	1
REMARKS:															
756B	CCW	227781	C	B	3	GA	M	O	AI	N	S		2	R	1
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
761A	CCW	227781	C	C	10	CK	SA	O	NA	N	SC			Q	1
REMARKS: POSITION DEPENDS ON PUMP ALIGNMENT. SAFETY FUNCTION OPEN AND CLOSED.															
761B	CCW	227781	C	C	10	CK	SA	O	NA	N	SC			Q	1
REMARKS: POSITION DEPENDS ON PUMP ALIGNMENT. SAFETY FUNCTION OPEN AND CLOSED.															
761C	CCW	227781	C	C	10	CK	SA	O	NA	N	SC			Q	1
REMARKS: POSITION DEPENDS ON PUMP ALIGNMENT. SAFETY FUNCTION OPEN AND CLOSED.															
769	CCW	227781	C	B	6	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
770	CCW	2720	C	C	6	CK	SA	O	NA	N	SC	11	11	R2	1
REMARKS: SAFETY FUNCTION CLOSED.															
782	CCW	2720	C	C	3	RE	SA	C	O	N	R			R1	
REMARKS:															
784	CCW	227781	C	A	6	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
786	CCW	227781	C	B	6	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
789	CCW	227781	C	B	6	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
791	CCW	227781	C	A	3	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
793	CCW	227781	C	A	3	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
796	CCW	227781	C	A	3	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
797	CCW	227781	C	A	6	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
798	CCW	227781	C	A	3	DIA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
819A	CCW	2720	C	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															
819B	CCW	2720	C	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															
822A	CCW	2720	C	B	12	GA	MO	C	AI	Y	S T		3 3	CS CS	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
822B	CCW	2720	C	B	12	GA	MO	C	AI	Y	S T		3 3	CS CS	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
835	CCW	227781	C	C	3	RE	SA	C	O	N	R			R1	
REMARKS:															
838A	RCS	235296	A	AC	6	CK	SA	C	NA	N	SC L		3	CS R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
838B	RCS	235296	A	AC	6	CK	SA	C	NA	N	SC L		3	CS R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
838C	RCS	235296	A	AC	6	CK	SA	C	NA	N	SC L		3	CS R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
838D	RCS	235296	A	AC	6	CK	SA	C	NA	N	SC L		3	CS R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
839B	RCS	235296	A	A	3/4	GL	AO	C	C	N	L			R	
REMARKS: A-PASSIVE															
839D	RCS	235296	A	A	3/4	GL	AO	C	C	N	L			R	
REMARKS: A-PASSIVE															
839F	RCS	235296	A	A	3/4	GL	AO	C	C	N	L			R	
REMARKS: A-PASSIVE															
839H	RCS	235296	A	A	3/4	GL	AO	C	C	N	L			R	
REMARKS: A-PASSIVE															
842	SIS	2735	B	B	2	GL	MO	LO	AI	Y	S T		3 3	CS CS	
REMARKS:															
843	SIS	2735	B	B	2	GL	MO	LO	AI	Y	S T		3 3	CS CS	
REMARKS:															
847	SIS	2735	B	C	8	CK	SA	C	NA	N	SC	34	4 2 11	Q R R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
849A	SIS	2735	B	C	4	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
849B	SIS	2735	B	C	4	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
850A	SIS	2735	B	A	4	GA	MO	LO	AI	Y	S T L		1	Q Q R	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
850B	SIS	2735	B	A	4	GA	MO	LO	AI	Y	S T L		 1	Q Q R	
REMARKS:															
851A	SIS	2735	B	A	4	GA	MO	O	AI	Y	S T L		 1	Q Q R	
REMARKS:															
851B	SIS	2735	B	A	4	GA	MO	O	AI	Y	S T L		 1	Q Q R	
REMARKS:															
852A	SIS	2735	B	C	4	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
852B	SIS	2735	B	C	4	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
856A	SIS	235296	B	B	2	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS:															
856B	SIS	235296	B	B	2	GA	MO	LC	AI	Y	S T		3 3	CS CS	
REMARKS:															
856C	SIS	235296	B	B	2	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS:															
856D	SIS	235296	B	B	2	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS:															
856E	SIS	235296	B	B	2	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS:															
856F	SIS	235296	B	B	2	GA	MO	LC	AI	Y	S T		3 3	CS CS	1
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
857A	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857B	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857C	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857D	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857E	SIS	235296	B	C	2	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															
857F	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857G	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857H	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857J	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857K	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
857L	SIS	235296	B	C	2	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
857M	RCS	235296	A	AC	2	CK	SA	C	NA	N	SC L		2	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
859A	SIS	2735	B	A	3/4	GL	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
859C	SIS	2735	B	A	3/4	GL	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
85A	WCPS	5.2-27	NA	A	3	BL	M	O	AI	N	S L	3	1 1	R R	
REMARKS: Valve operates with airlock operation.															
85B	WCPS	5.2-27	NA	A	3	BL	M	O	AI	N	S L	3	1 1	R R	
REMARKS: Valve operates with airlock operation.															
85C	WCPS	5.2-27	NA	AC	1	CK	SP	C	NA	N	SC L		3 1	CS R	
REMARKS:															
85D	WCPS	5.2-27	NA	AC	1	CK	SP	C	NA	N	SC L		3 1	CS R	
REMARKS:															
863	GAS	235296	B	A	1	GL	AO	C	C	Y	L		1	R	
REMARKS: A-PASSIVE															
866A	CSS	2735	B	B	8	GA	MO	C	AI	Y	S T			Q Q	
REMARKS:															
866B	CSS	2735	B	B	8	GA	MO	C	AI	Y	S T			Q Q	
REMARKS:															
866C	CSS	2735	B	B	8	GA	MO	C	AI	Y	S T			Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
866D	CSS	2735	B	B	8	GA	MO	C	AI	Y	S T			Q Q	
REMARKS:															
867A	CSS	2735	B	AC	8	CK	SA	C	NA	N	SC L		2 1	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
867B	CSS	2735	B	AC	8	CK	SA	C	NA	N	SC L		2 1	R R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
869A	CSS	2735	B	A	8	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
869B	CSS	2735	B	A	8	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
876A	CSS	2735	B	B	3	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
876B	CSS	2735	B	B	3	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
878A	CSS	2735	B	A	3/4	GL	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
879A	CSS	235296	B	C	2	CK	SA	C	NA	N	SC	12	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
879B	CSS	235296	B	C	2	CK	SA	C	NA	N	SC	12	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
880A	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
880B	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880C	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880D	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880E	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880F	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880G	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880H	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880J	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
880K	CSS	235296	B	B	2	GL	MO	C	AI	Y	S T		2 2	R R	
REMARKS:															
881	SIS	2735	B	C	12	CK	SA	C	NA	N	SC	33	2 11	R R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
882	SIS	2735	B	B	12	GA	MO	LO	AI	Y	S T		3 3	CS CS	1
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
884A	SIS	2735	B	C	3/4	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
884B	SIS	2735	B	C	3/4	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
884C	SIS	2735	B	C	3/4	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
885A	SIS	2735	B	A	14	GA	MO	C	AI	Y	S T L		1	Q Q R	
REMARKS:															
885B	SIS	2735	B	A	14	GA	MO	C	AI	Y	S T L		1	Q Q R	
REMARKS:															
886A	SIS	235296	B	C	8	CK	SA	C	NA	N	SC	13	11 6	R2 R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
886B	SIS	235296	B	C	8	CK	SA	C	NA	N	SC	13	11 6	R2 R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
887A	SIS	2735	B	B	6	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
887B	SIS	2735	B	B	6	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
888A	SIS	2735	B	A	6	GA	MO	C	AI	Y	S T L		1	Q Q R	
REMARKS:															
888B	SIS	2735	B	A	6	GA	MO	C	AI	Y	S T L		1	Q Q R	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
889A	RHR	235296	B	B	8	GA	MO	C	AI	Y	S T			Q Q	
REMARKS:															
889B	RHR	235296	B	B	8	GA	MO	C	AI	Y	S T			Q Q	
REMARKS:															
895A	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	14	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
895B	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	14	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
895C	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	14	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
895D	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	14	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
897A	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	15	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
897B	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	15	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
897C	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	15	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
897D	RCS	235296	A	AC	10	CK	SA	C	NA	N	SC L	15	11 6	R2 R R	1
REMARKS: SAFETY FUNCTION OPEN.															
898	SIS	2735	B	B	6	GA	M	C	AI	N	S			Q	
REMARKS:															

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VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
951	PSS	2745	A	B	3/8	GL	AO	C	C	Y	S T F			Q Q Q	
REMARKS:															
953	PSS	2745	A	B	3/8	GL	AO	C	C	Y	S T F			Q Q Q	
REMARKS:															
955A	PSS	2745	A	B	3/4	GL	MO	C	AI	Y	S T			Q Q	
REMARKS:															
955B	PSS	2745	A	B	3/4	GL	MO	C	AI	Y	S T			Q Q	
REMARKS:															
956A	PSS	2745	A	A	3/8	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
956B	PSS	2745	A	A	3/8	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
956C	PSS	2745	A	A	3/8	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
956D	PSS	2745	A	A	3/8	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
956E	PSS	2745	A	A	3/8	GL	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
956F	PSS	2745	A	A	3/8	GL	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
956G	PSS	2745	B	A	3/8	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
956H	PSS	2745	B	A	3/8	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
958	RHR	251783	B	A	3/4	GL	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
959	PSS	2745	B	A	3/4	GL	MO	C	AI	Y	S T L		1	Q Q R	
REMARKS:															
95A	WCPS	5.2-27	NA	A	3	BL	M	O	AI	N	S L	3	1 1	R R	
REMARKS: Valve operates with airlock operation.															
95B	WCPS	5.2-27	NA	A	3	BL	M	O	AI	N	S L	3	1 1	R R	
REMARKS: Valve operates with airlock operation.															
95C	WCPS	5.2-27	NA	AC	1	CK	SP	C	NA	N	SC L		3 1	CS R	
REMARKS:															
95D	WCPS	5.2-27	NA	AC	1	CK	SP	C	NA	N	SC L		3 1	CS R	
REMARKS:															
990A	PSS	2745	B	A	3/4	GL	MO	C	AI	Y	S T L		1	Q Q R	
REMARKS:															
990B	PSS	2745	B	A	3/4	GL	MO	C	AI	Y	S T L		1	Q Q R	
REMARKS:															
990D	PSS	2745	B	A	3/4	GL	M	C	AI	N	S L		1	Q R	
REMARKS:															
BFD-2-21	FW	2019	NA	B	20	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
BFD-2-22	FW	2019	NA	B	20	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS:															
BFD-31	AFW	2019	C	C	4	CK	SA	C	NA	N	SC	32	2 11	R R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
BFD-34	AFW	2019	C	C	4	CK	SA	C	NA	N	SC	32	2 5 11	R CS R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
BFD-35	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-37	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-39	AFW	2019	C	C	4	CK	SA	C	NA	N	SC	32	2 5 11	R CS R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
BFD-40	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-42	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-47	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-47-1	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-47-2	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
BFD-47-3	AFW	2019	C	C	3	CK	SA	C	NA	N	SC		2	R	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-50	AFW	2019	C	C	3	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
BFD-52	AFW	2019	C	C	2	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
BFD-54	AFW	2019	C	C	2	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
BFD-6	FW	2019	B	C	18	CK	SA	O	NA	N	SC	16	11	R2	1
REMARKS: SAFETY FUNCTION CLOSED.															
BFD-6-1	FW	2019	B	C	18	CK	SA	O	NA	N	SC	16	11	R2	1
REMARKS: SAFETY FUNCTION CLOSED.															
BFD-6-2	FW	2019	B	C	18	CK	SA	O	NA	N	SC	16	11	R2	1
REMARKS: SAFETY FUNCTION CLOSED.															
BFD-6-3	FW	2019	B	C	18	CK	SA	O	NA	N	SC	16	11	R2	1
REMARKS: SAFETY FUNCTION CLOSED.															
BFD-68	AFW	2019	C	C	3	CK	SA	C	NA	N	SC			Q	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-69	AFW	2019	C	C	2	RE	SA	C	O	N	R			R1	
REMARKS:															
BFD-74	AFW	2019	C	B	1	GL	M	C	AI	N	S			Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
BFD-79	AFW	2019	B	C	4	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-79-1	AFW	2019	B	C	4	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-79-2	AFW	2019	B	C	4	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BFD-79-3	AFW	2019	B	C	4	CK	SA	C	NA	N	SC		2 5	R CS	1
REMARKS: SAFETY FUNCTION OPEN.															
BV-10A	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-10B	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-11A	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-11B	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-12A	HR	2727	B	B	1.25	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															
BV-12B	HR	2727	B	B	1.25	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															
BV-5A	HR	2727	B	B	3/4	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
BV-5B	HR	2727	B	B	3/4	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															
BV-6A	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-6B	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-7A	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-7B	HR	2727	B	B	3/4	GA	SO	O	O	Y	S T F			Q Q Q	
REMARKS:															
BV-8A	HR	2727	B	B	3/4	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															
BV-8B	HR	2727	B	B	3/4	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															
BV-9A	HR	2727	B	B	1.25	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															
BV-9B	HR	2727	B	B	1.25	GA	SO	C	C	Y	S T F			Q Q Q	
REMARKS:															
CD-109	AFW	2018	C	C	6	CK	SA	O	NA	N	SC	17	11	R2	1
REMARKS: SAFETY FUNCTION CLOSED.															
CT-25	AFW	2018	C	C	6	CK	SA	C	NA	N	SC	18	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
CT-26	AFW	2018	C	C	6	CK	SA	C	NA	N	SC		4 2	Q R	1
REMARKS: SAFETY FUNCTION OPEN.															
CT-28	AFW	2018	C	C	6	CK	SA	C	NA	N	SC	18	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
CT-29	AFW	2018	C	C	8	CK	SA	C	NA	N	SC		4 2	Q R	1
REMARKS: SAFETY FUNCTION OPEN.															
CT-31	AFW	2018	C	C	6	CK	SA	C	NA	N	SC	18	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
CT-32	AFW	2018	C	C	6	CK	SA	C	NA	N	SC		4 2	Q R	1
REMARKS: SAFETY FUNCTION OPEN.															
CT-35	AFW	2018	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
CT-35-1	AFW	2018	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
CT-35-2	AFW	2018	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
CT-718	AFW	2018	C	C	3	VR	SA	C	O	N	R			R1	
REMARKS:															
CT-726	AFW	2018	C	C	8	VR	SA	C	O	N	R			R1	
REMARKS:															
CT-727	AFW	2018	C	C	8	VR	SA	C	O	N	R			R1	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
CT-764	AFW	2018	C	B	2	GL	M	C	AI	N	S			Q	
REMARKS:															
DA-24	EDG	2029	NA	B	1.5	GA	SO	C	C	Y	S T F	1		Q Q Q	
REMARKS: TIMING VERIFIED BY OBSERVING THAT DIESEL CRANKS UPON ENERGIZATION.															
DA-24-1	EDG	2029	NA	B	1.5	GA	SO	C	C	Y	S T F	1		Q Q Q	
REMARKS: TIMING VERIFIED BY OBSERVING THAT DIESEL CRANKS UPON ENERGIZATION.															
DA-24-2	EDG	2029	NA	B	1.5	GA	SO	C	C	Y	S T F	1		Q Q Q	
REMARKS: TIMING VERIFIED BY OBSERVING THAT DIESEL CRANKS UPON ENERGIZATION.															
DA-24-3	EDG	2029	NA	B	1.5	GA	SO	C	C	Y	S T F	1		Q Q Q	
REMARKS: TIMING VERIFIED BY OBSERVING THAT DIESEL CRANKS UPON ENERGIZATION.															
DA-24-4	EDG	2029	NA	B	1.5	GA	SO	C	C	Y	S T F	1		Q Q Q	
REMARKS: TIMING VERIFIED BY OBSERVING THAT DIESEL CRANKS UPON ENERGIZATION.															
DA-24-5	EDG	2029	NA	B	1.5	GA	SO	C	C	Y	S T F	1		Q Q Q	
REMARKS: TIMING VERIFIED BY OBSERVING THAT DIESEL CRANKS UPON ENERGIZATION.															
DA-25	DA	2029	NA	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															
DA-25-1	DA	2029	NA	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															
DA-25-2	DA	2029	NA	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															
DA-25-3	DA	2029	NA	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
DA-25-4	DA	2029	NA	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															
DA-25-5	DA	2029	NA	C	1.5	RE	SA	C	O	N	R			R1	
REMARKS:															
DA-606	EDG	2029	NA	C	3/4	SP	SA	C	NA	N	SC	30	11	R2	
REMARKS:															
DA-607	EDG	2029	NA	C	3/4	SP	SA	C	NA	N	SC	30	11	R2	
REMARKS:															
DA-608	EDG	2029	NA	C	3/4	SP	SA	C	NA	N	SC	30	11	R2	
REMARKS:															
DA-609	EDG	2029	NA	C	3/4	SP	SA	C	NA	N	SC	30	11	R2	
REMARKS:															
DA-610	EDG	2029	NA	C	3/4	SP	SA	C	NA	N	SC	30	11	R2	
REMARKS:															
DA-611	EDG	2029	NA	C	3/4	SP	SA	C	NA	N	SC	30	11	R2	
REMARKS:															
DF-13	DF	2030	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
DF-14	DF	2030	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
DF-25	DF	2030	NA	C	3/8	RE	SA	C	O	N	R			R1	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
DF-25-1	DF	2030	NA	C	3/8	RE	SA	C	O	N	R			R1	
REMARKS:															
DF-25-2	DF	2030	NA	C	3/8	RE	SA	C	O	N	R			R1	
REMARKS:															
DF-3	EDG	2030	NA	C	1.5	CK	SA	C	NA	N	SC			Q	
REMARKS:															
DF-3-1	EDG	2030	NA	C	1.5	CK	SA	C	NA	N	SC			Q	
REMARKS:															
DF-3-2	EDG	2030	NA	C	1.5	CK	SA	C	NA	N	SC			Q	
REMARKS:															
DF-4	DF	2030	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
DF-4-1	DF	2030	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
DF-4-2	DF	2030	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
E-1	PACV	208879	NA	A	3	DIA	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
E-2	PACV	208879	NA	A	3	DIA	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
E-3	PACV	208879	NA	A	3	DIA	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															

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VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
E-5	PACV	208879	NA	A	3	DIA	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
EA-1	PACV	208879	NA	B	2	DIA	AO	C	C	Y	S T F			Q Q Q	
REMARKS:															
FCV-1111	SW	2722	C	B	16	BU	M	V	AI	N	S		3	CS	
REMARKS:															
FCV-1112	SW	2722	C	B	16	BU	M	V	AI	N	S		3	CS	
REMARKS:															
FCV-1121	AFW	2019	C	B	2	GA	AO	O	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-1123	AFW	2019	C	B	2	GA	AO	O	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-1170	HVAC	4022	NA	A	36	BU	AO	C	C	Y	S T L F		3 1 3	CS CS R CS	
REMARKS:															
FCV-1171	HVAC	4022	NA	A	36	BU	AO	C	C	Y	S T L F		3 1 3	CS CS R CS	
REMARKS:															
FCV-1172	HVAC	4022	NA	A	36	BU	AO	C	C	Y	S T L F		3 1 3	CS CS R CS	
REMARKS:															
FCV-1173	HVAC	4022	NA	A	36	BU	AO	C	C	Y	S T L F		3 1 3	CS CS R CS	
REMARKS:															
FCV-1176	SW	2722	C	B	6	BU	AO	T	O	Y	S T F			Q Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
FCV-1176A	SW	2722	C	B	6	BU	AO	T	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-1177-1	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1177-2	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1177-3	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1177-4	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1178-1	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1178-2	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1178-3	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1178-4	WCPS	2726	NA	C	1.5	CK	SA	C	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1179-1	WCPS	2726	NA	C	1	CK	SA	O	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1179-2	WCPS	2726	NA	C	1	CK	SA	O	NA	N	SC	19	11	R2	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
FCV-1179-3	WCPS	2726	NA	C	1	CK	SA	O	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1179-4	WCPS	2726	NA	C	1	CK	SA	O	NA	N	SC	19	11	R2	
REMARKS:															
FCV-1205A	AFW	2018	C	B	8	GL	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-1308	PACV	208879	NA	B	3	DIA	AO	C	C	Y	S	4		Q	
REMARKS: SEE RELIEF REQUEST FOR POSITION VERIFICATION, TIMING AND FAIL SAFE.															
FCV-1309	PACV	208879	NA	B	3	DIA	AO	C	C	Y	S	4		Q	
REMARKS: SEE RELIEF REQUEST FOR POSITION VERIFICATION, TIMING AND FAIL SAFE.															
FCV-21-1NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-21-2NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-21-3NO	HVAC	4022	NA	B	48	BU	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															
FCV-22-4NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-22-5NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-22-6NO	HVAC	4022	NA	B	48	BU	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
FCV-23-7NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-23-8NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-23-9NO	HVAC	4022	NA	B	48	BU	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															
FCV-24-10NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-24-11NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-24-12NO	HVAC	4022	NA	B	48	BU	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															
FCV-25-13NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-25-14NC	HVAC	4022	NA	B	48	BU	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
FCV-25-15NO	HVAC	4022	NA	B	48	BU	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															
FCV-405A	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															
FCV-405B	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
FCV-405C	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															
FCV-405D	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															
FCV-406A	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															
FCV-406B	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															
FCV-406C	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															
FCV-406D	AFW	2019	C	B	2	GA	AO	C	O	Y	S T F			Q Q Q	1
REMARKS:															
FCV-417	FW	2019	NA	B	18	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															
FCV-417L	FW	2019	NA	B	6	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															
FCV-427	FW	2019	NA	B	18	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															
FCV-427L	FW	2019	NA	B	6	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															
FCV-437	FW	2019	NA	B	18	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
FCV-437L	FW	2019	NA	B	6	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															
FCV-447	FW	2019	NA	B	18	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															
FCV-447L	FW	2019	NA	B	6	GA	AO	O	C	Y	S T F		3,10 3,10 3,10	CS CS CS	
REMARKS:															
FCV-625	CCW	227781	C	A	3	GA	MO	O	AI	Y	S T L		3 3 1	CS CS R	
REMARKS: Stroked at CS Frequency provided RCP is secured, otherwise R Freq.															
HCV-3100	RCS	2738	A	B	3/4	GA	MO	C	AI	Y	S T		3 3	CS CS	
REMARKS:															
HCV-3101	RCS	2738	A	B	3/4	GA	MO	C	AI	Y	S T		3 3	CS CS	
REMARKS:															
HCV-638	RHR	2720	B	B	8	BU	MO	O	AI	Y	S T			Q Q	
REMARKS:															
HCV-640	RHR	2720	B	B	8	BU	MO	O	AI	Y	S T			Q Q	
REMARKS:															
IA-1	IA	2036	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
IA-1-1	IA	2036	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
IA-1342	IA	2036	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
IA-1343	IA	2036	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
IA-1352	IA	2036	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
IA-1353	IA	2036	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
IA-1530	IA	2036	NA	C	1/2	CK	SA	C	NA	N	SC	20	11	R2	
REMARKS:															
IA-2	IA	2036	NA	C	3	CK	SA	C	NA	N	SC	21	11	R2	
REMARKS:															
IA-2-1	IA	2036	NA	C	3	CK	SA	C	NA	N	SC	21	11	R2	
REMARKS:															
IA-20	IA	2036	NA	C	3	CK	SA	C	NA	N	SC	22	11	R2	
REMARKS:															
IA-39	IA	2036	NA	AC	2	CK	SA	O	NA	N	SC L	6	8 1	R R	
REMARKS:															
IA-571	IA	2036	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
IIP-500	FW	2019	NA	A	1/4	GL	M	C	AI	N	L		1	R	
REMARKS: FP S/G LEVEL TRANSMITTERS A-PASSIVE															
IIP-501	FW	2019	NA	A	1/4	GL	M	C	AI	N	L		1	R	
REMARKS: FP S/G LEVEL TRANSMITTERS A-PASSIVE															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
IIP-502	FW	2019	NA	A	1/4	GL	M	C	AI	N	L		1	R	
REMARKS: FP S/G LEVEL TRANSMITTERS A-PASSIVE															
IIP-503	FW	2019	NA	A	1/4	GL	M	C	AI	N	L		1	R	
REMARKS: FP S/G LEVEL TRANSMITTERS A-PASSIVE															
IIP-504	RCS	2738	NA	A	1/4	GL	M	LC	AI	N	L		1	R	
REMARKS: FP PRZR PRESS. & LEVEL TRANSMITTERS A-PASSIVE															
IIP-505	RCS	2738	NA	A	1/4	GL	M	LC	AI	N	L		1	R	
REMARKS: FP PRZR PRESS. & LEVEL TRANSMITTERS A-PASSIVE															
IIP-506	RCS	2738	NA	A	1/4	GL	M	LC	AI	N	L		1	R	
REMARKS: FP PRZR PRESS. & LEVEL TRANSMITTERS A-PASSIVE															
IIP-507	RCS	2738	NA	A	1/4	GL	M	LC	AI	N	L		1	R	
REMARKS: FP PRZR PRESS. & LEVEL TRANSMITTERS A-PASSIVE															
LCV-112B	CVCS	2736	B	B	4	BU	AO	C	C	Y	S T F		3 3 3	CS CS CS	
REMARKS:															
LCV-112C	CVCS	2736	B	B	4	GA	MO	O	AI	Y	S T		3 3	CS CS	
REMARKS:															
LCV-1158	AFW	2018	C	B	12	BU	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															
LCV-1207A	EDG	2030	NA	B	1.5	GA	SO	O	O	Y	S F	7		Q Q	1
REMARKS:															
LCV-1207B	EDG	2030	NA	B	1.5	GA	SO	O	O	Y	S F	7		Q Q	1
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
LCV-1208A	EDG	2030	NA	B	1.5	GA	SO	O	O	Y	S F	7		Q Q	1
REMARKS:															
LCV-1208B	EDG	2030	NA	B	1.5	GA	SO	O	O	Y	S F	7		Q Q	1
REMARKS:															
LCV-1209A	EDG	2030	NA	B	1.5	GA	SO	O	O	Y	S F	7		Q Q	1
REMARKS:															
LCV-1209B	EDG	2030	NA	B	1.5	GA	SO	O	O	Y	S F	7		Q Q	1
REMARKS:															
MS-1-21	MS	2017	B	BC	28	SC	AO	O	C	Y	S T F		3 3 3	CS CS CS	1
REMARKS: TECH SPECS 4.7. SAFETY FUNCTION CLOSED.															
MS-1-22	MS	2017	B	BC	28	SC	AO	O	C	Y	S T F		3 3 3	CS CS CS	1
REMARKS: TECH SPECS 4.7. SAFETY FUNCTION CLOSED.															
MS-1-23	MS	2017	B	BC	28	SC	AO	O	C	Y	S T F		3 3 3	CS CS CS	1
REMARKS: TECH SPECS 4.7. SAFETY FUNCTION CLOSED.															
MS-1-24	MS	2017	B	BC	28	SC	AO	O	C	Y	S T F		3 3 3	CS CS CS	1
REMARKS: TECH SPECS 4.7. SAFETY FUNCTION CLOSED.															
MS-2A	MS	2017	B	C	28	CK	SA	O	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION CLOSED.															
MS-2B	MS	2017	B	C	28	CK	SA	O	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION CLOSED.															
MS-2C	MS	2017	B	C	28	CK	SA	O	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION CLOSED.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
MS-2D	MS	2017	B	C	28	CK	SA	O	NA	N	SC		3	CS	1
REMARKS: SAFETY FUNCTION CLOSED.															
MS-41	MS	2017	B	BC	4	SC	M	O	NA	N	SC SC		7	Q R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
MS-42	MS	2017	B	BC	4	SC	M	O	NA	N	SC SC		7	Q R	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
MS-45A	MS	2017	B	C	8	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-45B	MS	2017	B	C	8	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-45C	MS	2017	B	C	8	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-45D	MS	2017	B	C	8	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-46A	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-46B	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-46C	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-46D	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
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VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
MS-47A	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-47B	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-47C	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-47D	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-48A	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-48B	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-48C	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-48D	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-49A	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-49B	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-49C	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
MS-49D	MS	2017	B	C	10	RE	SA	C	O	N	BT			R	
REMARKS:															
MS-52	MS	2017	C	C	4	RE	SA	C	O	N	R			R1	
REMARKS:															
MW-17	AFW	2018	NA	A	2	GA	M	LC	NA	N	L		1	R	
REMARKS: A-PASSIVE															
MW-17-1	AFW	2018	NA	A	2	GA	M	LC	NA	N	L		1	R	
REMARKS: A-PASSIVE															
PCV-1133	MS	227780	NA	B	6	GA	AO	O	C	N	S T F		3 3 3	CS CS CS	
REMARKS:															
PCV-1134	MS	2017	B	B	6	AN	AO	C	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
PCV-1135	MS	2017	B	B	6	AN	AO	C	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
PCV-1136	MS	2017	B	B	6	AN	AO	C	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
PCV-1137	MS	2017	B	B	6	AN	AO	C	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
PCV-1139	MS	2017	C	B	2.5	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
PCV-1187	AFW	2018	C	B	6	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
PCV-1188	AFW	2018	C	B	8	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
PCV-1189	AFW	2018	C	B	6	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
PCV-1190	HVAC	4022	NA	A	10	BU	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1191	HVAC	4022	NA	A	10	BU	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1192	HVAC	4022	NA	A	10	BU	AO	C	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1214	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1214A	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1215	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T F L		1	Q Q Q R	
REMARKS:															
PCV-1215A	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1216	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T F L		1	Q Q Q R	
REMARKS:															
PCV-1216A	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
PCV-1217	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T F L		 1	Q Q Q R	
REMARKS:															
PCV-1217A	SGBD	2729	B	A	2	GL	AO	O	C	Y	S T L F		 1 	Q Q R Q	
REMARKS:															
PCV-1218	WCPS	2726	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
PCV-1219	WCPS	2726	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
PCV-1220	WCPS	2726	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
PCV-1221	WCPS	2726	NA	C	1	RE	SA	C	O	N	R			R1	
REMARKS:															
PCV-1228	IA	2036	NA	A	2	GL	AO	O	C	Y	S T L F		2 2 1 2	R R R R	
REMARKS:															
PCV-1229	RMS	2025	NA	A	4	GA	AO	C	C	Y	S T L F		 1 	Q Q R Q	
REMARKS:															
PCV-1230	RMS	2025	NA	A	4	GA	AO	C	C	Y	S T L F		 1 	Q Q R Q	
REMARKS:															
PCV-1231	WCPS	2025	NA	B	1	GA	AO	C	O	N	S T F			Q Q Q	
REMARKS: ACTIVE WHEN VALVES ARE OPEN OR UNDER THE SJAE CONTROL SYSTEM.															
PCV-1233	WCPS	2025	NA	BP	1	GA	AO	C	O	N	S T F			Q Q Q	
REMARKS: ACTIVE WHEN VALVES ARE OPEN OR UNDER THE SJAE CONTROL SYSTEM.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
PCV-1234	RMS	2726	NA	A	1	GA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1235	RMS	2726	NA	A	1	GA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1236	RMS	2726	NA	A	1	GA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1237	RMS	2726	NA	A	1	GA	AO	O	C	Y	S T L F		1	Q Q R Q	
REMARKS:															
PCV-1238	WCPS	2726	NA	B	1/2	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
PCV-1239	WCPS	2726	NA	B	1/2	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
PCV-1240	WCPS	2726	NA	B	1/2	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
PCV-1241	WCPS	2726	NA	B	1/2	GA	AO	C	O	Y	S T F			Q Q Q	
REMARKS:															
PCV-1242	WCPS	2726	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
PCV-1243	WCPS	2726	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
PCV-1244	WCPS	2726	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
PCV-1245	WCPS	2726	NA	C	1/2	RE	SA	C	O	N	R			R1	
REMARKS:															
PCV-1310A	MS	2017	C	B	4	GA	AO	O	O	N	S T F			Q Q Q	
REMARKS:															
PCV-1310B	MS	2017	C	B	4	GA	AO	O	O	N	S T F			Q Q Q	
REMARKS:															
PCV-455A	RCS	2738	A	B	3	GL	AO	C	C	Y	S T F		3 3 3	CS CS CS	
REMARKS:															
PCV-455B	RCS	2738	A	B	3	GL	AO	C	C	Y	S T F		3 3 3	CS CS CS	
REMARKS:															
PCV-455C	RCS	2738	A	B	3	GL	AO	C	C	Y	S T F		3 3 3	CS CS CS	1
REMARKS:															
PCV-456	RCS	2738	A	B	3	GL	AO	C	C	Y	S T F		3 3 3	CS CS CS	1
REMARKS:															
PCV-464	RCS	2738	A	C	4	RE	SA	C	O	Y	BT			R	
REMARKS:															
PCV-466	RCS	2738	A	C	4	RE	SA	C	O	Y	BT			R	
REMARKS:															
PCV-468	RCS	2738	A	C	4	RE	SA	C	O	Y	BT			R	
REMARKS:															
RCV-017	CCW	227781	C	C	2	GA	AO	O	C	Y	S T F			Q Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
RV-1842A	CSS	2735	B	C	1	VR	SA	C	O	N	R			R1	
REMARKS:															
RV-1842B	CSS	2735	B	C	1	VR	SA	C	O	N	R			R1	
REMARKS:															
SA-24	SA	2035	NA	A	2	DIA	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
SA-24-1	SA	2035	NA	A	2	DIA	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
SOV-1277	WCPS	2726	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	
REMARKS:															
SOV-1278	WCPS	2726	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	
REMARKS:															
SOV-1279	WCPS	2726	NA	B	1	GA	SO	O	C	N	S T F			Q Q Q	
REMARKS:															
SOV-1280	WCPS	2726	NA	B	1	GA	SO	O	C	N	S T F			Q Q Q	
REMARKS:															
SOV-1334	WCPS	7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1335	WCPS	7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1336	WCPS	7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SOV-1337	WCPS	7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1338	WCPS	7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1339	WCPS	7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1340	WCPS	2726/7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1341	WCPS	2726/7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1342	WCPS	2726/7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1343	WCPS	2726/7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1344	WCPS	2726/7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1345	WCPS	2726/7052	NA	B	1	GA	SO	C	O	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1434	WCPS	7052	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1435	WCPS	7052	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SOV-1436	WCPS	7052	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1437	WCPS	7052	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1438	WCPS	7052	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-1439	WCPS	7052	NA	B	1	GA	SO	O	C	N	S T F		3 3 3	CS CS CS	1
REMARKS:															
SOV-3416	WDS	2719	NA	A	1	GA	SO	O	C	Y	S T L F		1	Q Q R Q	1
REMARKS: Physical verification of valve position during Appendix J Refueling.															
SOV-3417	WDS	2719	NA	A	1	GA	SO	O	C	Y	S T L F		1	Q Q R Q	1
REMARKS: Physical verification of valve position during Appendix J Refueling.															
SOV-3418	RCS	2738	NA	A	3/4	GL	SO	O	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-3419	RCS	2738	NA	A	3/4	GA	SO	O	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-3420	HR	2727	B	A	3/4	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-3421	HR	2727	B	A	1.25	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-3422	HR	2727	B	A	3/4	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SOV-3423	HR	2727	B	A	1.25	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-3500	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3501	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3502	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3503	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3504	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3505	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3506	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3507	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3508	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3509	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SOV-3510	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3511	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3512	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3513	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3514	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3515	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3516	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3517	IVSW	2746	NA	B	3/8	GL	SO	C	C	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3518	IVSW	2746	NA	B	3/8	GL	SO	C	O	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-3519	IVSW	2746	NA	B	3/8	GL	SO	C	O	Y	S T F	9	2	Q Q Q	
REMARKS:															
SOV-5018	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SOV-5019	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-5020	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-5021	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-5022	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-5023	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-5024	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-5025	PACS	208479	NA	A	3/8	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-EW-1	PACV	208879	NA	B	3	GA	SO	O	C	N	S T F			Q Q Q	
REMARKS:															
SOV-EW-2	PACV	208879	NA	B	3	GA	SO	O	C	N	S T F			Q Q Q	
REMARKS:															
SOV-IV-1A	HR	2727	B	A	1	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-IV-1B	HR	2727	B	A	1	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SOV-IV-2A	HR	2727	B	A	1	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-IV-2B	HR	2727	B	A	1	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-IV-3A	HR	2727	B	A	3/4	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-IV-3B	HR	2727	B	A	3/4	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-IV-5A	HR	2727	B	A	2	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SOV-IV-5B	HR	2727	B	A	2	GA	SO	C	C	Y	S T L F		1	Q Q R Q	1
REMARKS: PHYSICAL VERIFICATION OF VALVE POSITION DURING APPENDIX J REFUELING															
SWN-1	SW	2722	C	C	14	CK	SA	O	NA	N	SC SC	31 31	4 11	Q R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-1-1	SW	2722	C	C	14	CK	SA	O	NA	N	SC SC	31 31	4 11	Q R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-1-2	SW	2722	C	C	14	CK	SA	O	NA	N	SC SC	31 31	4 11	Q R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-1-3	SW	2722	C	C	14	CK	SA	O	NA	N	SC SC	31 31	4 11	Q R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-1-4	SW	2722	C	C	14	CK	SA	O	NA	N	SC SC	31 31	4 11	Q R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-1-5	SW	2722	C	C	14	CK	SA	O	NA	N	SC SC	31 31	4 11	Q R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-27	SW	2722	C	B	2.5	GL	M	V	AI	N	S			Q	
REMARKS:															
SWN-27-1	SW	2722	C	B	2.5	GL	M	V	AI	N	S			Q	
REMARKS:															
SWN-29	SW	209762	C	B	10	BU	M	V	AI	N	S			Q	
REMARKS:															
SWN-30	SW	209762	C	B	10	BU	M	V	AI	N	S			Q	
REMARKS:															
SWN-31	SW	209762	C	B	20	BU	M	V	AI	N	S			Q	
REMARKS:															
SWN-32	SW	209762	C	B	20	BU	M	V	AI	N	S			Q	
REMARKS:															
SWN-35	SW	209762	C	B	18	BU	M	T	AI	N	S		3	CS	1
REMARKS:															
SWN-35-1	SW	209762	C	B	18	BU	M	T	AI	N	S		3	CS	1
REMARKS:															
SWN-38	SW	209762	C	B	18	BU	M	V	AI	N	S			Q	
REMARKS:															
SWN-39	SW	209762	C	B	18	BU	M	V	AI	N	S			Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-4	SW	2272	C	B	8	BU	M	V	AI	N	S			Q	1
REMARKS:															
SWN-41-1-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-41-1-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-41-2-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-41-2-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-41-3-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-41-3-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-41-4-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-41-4-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-41-5-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-41-5-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-42-1	SW	209762	C	AC	1.5	RE	SA	C	O	N	R L		1	R1 R	
REMARKS:															
SWN-42-2	SW	209762	C	AC	1.5	RE	SA	C	O	N	R L		1	R1 R	
REMARKS:															
SWN-42-3	SW	209762	C	AC	1.5	RE	SA	C	O	N	R L		1	R1 R	
REMARKS:															
SWN-42-4	SW	209762	C	AC	1.5	RE	SA	C	O	N	R L		1	R1 R	
REMARKS:															
SWN-42-5	SW	209762	C	AC	1.5	RE	SA	C	O	N	R L		1	R1 R	
REMARKS:															
SWN-43-1	SW	209762	C	A	1	GA	M	C	AI	N	L		1	R	
REMARKS:															
SWN-43-2	SW	209762	C	A	1	GA	M	C	AI	N	L		1	R	
REMARKS:															
SWN-43-3	SW	209762	C	A	1	GA	M	C	AI	N	L		1	R	
REMARKS:															
SWN-43-4	SW	209762	C	A	1	GA	M	C	AI	N	L		1	R	
REMARKS:															
SWN-43-5	SW	209762	C	A	1	GA	M	C	AI	N	L		1	R	
REMARKS:															
SWN-44-1-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-44-1-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-44-2-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-44-2-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-44-3-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-44-3-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-44-4-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-44-4-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-44-5-A	SW	209762	C	A	10	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-44-5-B	SW	209762	C	B	10	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-5	SW	2722	C	B	8	BU	M	V	AI	N	S			Q	1
REMARKS:															
SWN-51-1A	SW	209762	C	B	1	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-51-2A	SW	209762	C	B	1	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-51-3A	SW	209762	C	B	1	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-51-4A	SW	209762	C	B	1	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-51-5A	SW	209762	C	B	1	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-539	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-543	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-544	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-548	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-549	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-553	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-554	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-558	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-559	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-56	SW	209762	C	B	2	GL	M	O	AI	N	S			Q	
REMARKS:															
SWN-563	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-564	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-568	SW	208368	NA	C	1	CK	SA	O	NA	N	SC	23	11	R	
REMARKS:															
SWN-6	SW	2722	C	B	10	BU	M	V	AI	N	S		3	CS	1
REMARKS:															
SWN-60	SW	209762	C	B	2	GL	M	C	AI	N	S			Q	
REMARKS:															
SWN-63	SW	2722	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
SWN-63-1	SW	2722	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
SWN-63-2	SW	2722	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-7	SW	2722	C	B	10	BU	M	V	AI	N	S		3	CS	1
REMARKS:															
SWN-70	SW	2722	C	B	2.5	GL	M	V	AI	N	S			Q	
REMARKS:															
SWN-70-1	SW	2722	C	B	2.5	GL	M	V	AI	N	S			Q	
REMARKS:															
SWN-71-1-A	SW	209762	C	A	2	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-71-1-B	SW	209762	C	B	2	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-71-2-A	SW	209762	C	A	2	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-71-2-B	SW	209762	C	B	2	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-71-3-A	SW	209762	C	A	2	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-71-3-B	SW	209762	C	B	2	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-71-4-A	SW	209762	C	A	2	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-71-4-B	SW	209762	C	B	2	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-71-5-A	SW	209762	C	A	2	GA	MO	O	AI	Y	S T L		1	Q Q R	
REMARKS:															
SWN-71-5-B	SW	209762	C	B	2	GA	MO	O	AI	Y	S T			Q Q	
REMARKS:															
SWN-81	SW	209762	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
SWN-81-1	SW	209762	C	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															
SWN-945	SW	235117	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-954	SW	209762	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-963	SW	235122	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-964	SW	235122	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED,															
SWN-965	SW	235122	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-966	SW	235122	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-981	SW	235117	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															

INDIAN POINT UNIT 2 TEST & PERFORMANCE SECTION
IST PROGRAM - VALVE SUMMARY

VALVE NO	SYSTEM	P&ID NO.	QUAL GROUP	CAT	SIZE	TYPE	ACT	NORMAL POS	FAIL MODE	REMOTE POS.IND	TEST REQTS	RELIEF REQUEST	ALT TESTS	TEST FREQ	REV
SWN-982	SW	235117	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
SWN-983	SW	235117	C	C	1	CK	SA	O	C	N	SC	24	11	R2	1
REMARKS: SAFETY FUNCTION OPEN AND CLOSED.															
TCV-1104	SW	209762	C	B	18	BU	AO	O	O	Y	S T F			Q Q Q	1
REMARKS:															
TCV-1105	SW	209762	C	B	18	BU	AO	O	O	Y	S T F			Q Q Q	1
REMARKS:															
UH-43	AS	2027	NA	A	3	GA	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
UH-44	AS	2027	NA	A	3	GA	M	LC	AI	N	L		1	R	
REMARKS: A-PASSIVE															
WCP-79	GAS	2726	NA	C	3/4	RE	SA	C	O	N	R			R1	
REMARKS:															

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TOTAL VALVES = 755

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INDEX OF RELIEF REQUESTS

VALVE	QUALITY CLASS	SYSTEM	R.R. NUMBER	RELIEF FROM
DA-24 through DA-24-5	NO	EDG	1	STROKE TIME
Withdrawn			2	
85A, 85B, 95A, 95B	NO	WCPS	3	EXERCISE
FCV-1308, FCV-1309	NO	PACV	4	POSITION/TIMING/FAIL-SAFE
Withdrawn			5	
IA-39	NO	IA	6	EXERCISE
LCV-1207A/B, 1208A/B, 1209A/B	NO	EDG	7	STROKE TIME
Withdrawn			8	
SOV-3500 through SOV-3519	NO	IVSW	9	POSITION VERIFICATION
Withdrawn			10	
770	YES	CCW	11*	EXERCISE
879A, 879B	YES	CSS	12*	EXERCISE
886A, 886B	YES	SIS	13*	EXERCISE
895A/B/C/D	YES	SIS	14*	EXERCISE
897A/B/C/D	YES	RCS	15*	EXERCISE
BFD-6/6-1/6-2/6-3	YES	FW	16*	EXERCISE
CD-109	YES	AFW	17*	EXERCISE
CT-25/28/31	YES	AFW	18*	EXERCISE
FCV-1177-1/2/3/4 FCV-1178-1/2/3/4 FCV-1179-1/2/3/4	NO	WCPS	19*	EXERCISE
IA-1530	NO	IA	20*	EXERCISE
IA-2, IA-2-1	NO	IA	21*	EXERCISE
IA-20	NO	IA	22*	EXERCISE
SWN-543/548/553/558 563/568/539/544 549/554/559/564	NO	SW	23*	EXERCISE
SWN-963/964/965 966/981/982/ 983/954/945	YES	SW	24*	EXERCISE

*NRC Generic Letter 89-04 Item.

INDEX OF RELIEF REQUESTS

VALVE	QUALITY CLASS	SYSTEM	R.R. NUMBER	RELIEF FROM
Withdrawn			25	
Withdrawn			26	
Withdrawn			27	
Withdrawn			28	
Withdrawn			29	
DA-606 through DA-611	NO	EDG	30*	EXERCISE
SWN-1 through SWN-1-5	YES	SW	31*	EXERCISE
BFD-31,34,39	YES	AFW	32*	EXERCISE
881	YES	SIS	33*	EXERCISE
847	YES	SIS	34*	EXERCISE
374	YES	RCS	35*	EXERCISE

*NRC Generic Letter 89-04 Item.

RELIEF REQUEST BASIS

SYSTEM:

EDG, Starting Air

VALVES:

DA-24 through DA-24-5

FUNCTION:

These are Non-ASME Code Class Valves.

These rapid acting solenoid valves are required to open to provide starting air to the Emergency Diesel Generators.

TEST REQUIREMENT:

OM-10, Para. 4.2.1.4 (Stroke Time)

BASIS FOR RELIEF:

The Emergency Diesel Generators are required to start within a specified time interval commencing from solenoid energization. In lieu of attempting to measure the stroke time of these rapid acting valves, confirmation that the diesel has started within the specified time interval will serve in lieu of actual valve stroke time measurements. The data gathered is the total starting time for the Diesel which is the acceptance value for the entire air start motor system.

ALTERNATIVE TESTING:

The Emergency Diesel Generators are started monthly in accordance with Technical Specifications. This is adequate to show that the solenoid valves operate to start the Diesels within the required time interval.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. D via SER dated November 20, 1987.

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

SYSTEM:

WCPS

VALVES:

85A, 85B, 95A, 95B

FUNCTION:

These are Non-ASME Code Class Valves.

These equalizing ball valves function as CIVs for the airlocks.

TEST REQUIREMENT:

OM-10, Para. 4.2.1 (Exercise)

BASIS FOR RELIEF:

There are no positive means available for exercising these valves. Proper operation may be deduced when making periodic entries into containment. In addition, the Appendix J tests for leak rate serve to verify the operability of these valves. Imposition of the code requirements would require significant system redesign and modifications.

ALTERNATIVE TESTING:

Leak test per Appendix J will adequately prove the valves closing capability. Airlock operation will adequately prove proper valve operation.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 44 via SER dated November 20, 1987.

RELIEF REQUEST BASIS

SYSTEM:

PACV

VALVES:

FCV-1308, FCV-1309

FUNCTION:

These are Non-ASME Code Class Valves.

These valves are remotely operated, flow control valves in the Post-Accident Containment Vent exhaust lines. Their function is to facilitate flow control when post-accident venting is required.

TEST REQUIREMENT:

OM-10, Para. 4.1 (Valve Position Verification)
OM-10, Para. 4.2.1.4 (Timing)
OM-10, Para. 4.2.1.6 (Fail-Safe)

BASIS FOR RELIEF:

The Control System for these valves provides for demand position indication only. The valve is physically sealed such that position indication by visual observation is not possible. No direct position indication (e.g. limit switch, indicating lights, etc.) is provided to establish stem/disk position. The system requires a delta-p in excess of 2 psig in order to establish flow; this is in excess of the normal operating pressure for containment, precluding indication using flow on a quarterly or refueling basis. In addition, the rate of valve movement is dependent on the rate of changes of the manually operated control system; thus, valve timing has no significance. Imposition of the Code requirements would require significant system redesign and modifications.

ALTERNATIVE TESTING:

These valves will be exercised quarterly with position indication determined using the demand position. In addition, these valves will be exercised during refuelings by pressurizing the line upstream (containment side) and verifying a prompt change in pressure or flow upon stroking the valve open, in order to verify the adequacy of the valve demand position indication. This will demonstrate that the quarterly testing, based on valve demand position, is reliable.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 45 via SER dated November 20, 1987.

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

SYSTEM:

IA

VALVE:

IA-39

FUNCTION:

This is a Non-ASME Code Class Valve.

IA-39 is a CIV (check valve) in the Instrument Air System (Post Accident Venting Supply) leading to the containment building. This valve is normally open.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

Exercising the valve closed would require securing the operating air supply to the other valves in the containment which are required to be operational during power and cold shutdown operations. Also, existing plant design and construction provides no means for indication or verification of check valve disk motion in either direction. The proper position for satisfying the containment isolation function is confirmed by acceptable Category A valve leak rate testing results. Relief from full-stroke exercising of this valve is therefore requested. Imposition of the Code requirements would require significant system redesign and modifications.

ALTERNATIVE TESTING:

Verification of proper valve operation will be made during Category A leak testing requirements of OM-10, Para. 4.2.2.2. Leak testing will adequately demonstrate the valves ability to move to the closed position.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 35 via SER dated November 20, 1987.

RELIEF REQUEST BASIS

SYSTEM:

EDG

VALVES:

LCV-1207A, LCV-1208A, LCV-1209A
LCV-1207B, LCV-1208B, LCV-1209B

FUNCTION:

These are Non-ASME Code Class Valves.

These are parallel level control valves associated with each of the three Emergency Diesel Generator Fuel Oil Day Tanks. They function to maintain level in each Fuel Oil Day Tank.

TEST REQUIREMENT:

OM-10, Para. 4.2.1.4 (Stroke Time)

BASIS FOR RELIEF:

These valves are operated from level controllers associated with each Diesel's Fuel Oil Day Tank. The level controllers function automatically, stroke signaling the valves open/closed depending on tank level. There is no manual control switch associated with these valves; hence, there is no means to initiate valve cycling manually for purposes of measuring stroke time. Credit is taken for stroking these valves during performance of the Emergency Diesel Generator surveillance test. Redundant tank level indication is provided to alert the operator to a low level condition in any day tank. Complying with the full Code requirement would not provide trendable results.

ALTERNATIVE TESTING:

These valves are exercised during Emergency Diesel Generator Surveillance tests which are performed monthly in accordance with Technical Specifications. These valves are stroke tested but timing will not be performed.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 31 via SER dated November 20, 1987.

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

SYSTEM:

IVSW

VALVES:

SOV-3500 through SOV-3519

FUNCTION:

These are Non-ASME Code Class Valves.

These valves are remote manual solenoids in the lines leading to various CIVs. Their function is to provide a pressurized water or nitrogen seal between the CIVs.

TEST REQUIREMENT:

OM-10, Para. 4.1 (Valve Position Verification)

BASIS FOR RELIEF:

These valves are physically sealed making a visual physical verification of valve position impossible. These valves will be exercised at a refueling frequency by establishing flow through their respective valves in order to verify valve position during the IVSW System Functional Test. Imposition of the Code requirements would require significant system redesign and modification.

ALTERNATIVE TESTING:

Valve position verification during IVSW System Functional Test at Refueling frequency is the only available testing method due to the sealed design.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 38 via SER dated November 20, 1987.

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

SYSTEM:

CCW

VALVE:

770

FUNCTION:

This check valve is normally open to provide cooling flow to the Reactor Coolant Pumps. The valve has a safety function to close after a thermal barrier tube rupture to prevent backflow to the low pressure portion of the CCW System.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

There are no positive means to verify that the disk of this valve travels to the seat promptly on cessation or reversal of flow.

ALTERNATIVE TESTING:

This valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 75 under NRC Generic Letter 89.04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

CSS

VALVES:

879A and 879B

FUNCTION:

These valves are 2" check valves in the lines leading from the Containment Spray Pumps to the charcoal filter fire protection nozzles. Their safety function is to open if filter dousing is initiated because of high temperature in a filter unit. These valves are normally closed to prevent cross-tie of the Containment Spray headers.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

These valves open in the extremely unlikely event that a charcoal filter high temperature occurs. Because of their position in the Containment Spray System, it is impossible to operationally full-stroke these valves except by the initiation of Containment Spray, which is not practical. Also, these valves cannot be part-stroke exercised during the Containment Spray Pump mini-flow test. In addition, exercising these valves by operation of the system would require opening the downstream isolation valves and dousing the charcoal filter with water.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 61 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

SIS

VALVES:

886A and 886B

FUNCTION:

These check valves are recirculation outlet check valves from the internal Recirculation Pumps of the SIS. They are normally closed and have a safety function of opening when the Recirculation Pumps are started and closing to prevent reverse flow when one pump is in operation.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

When the Recirculation Pumps are activated, the recirculation mode from the recirculation sump to the RCS is established. Valves 886A and 886B are located inside containment; therefore, the only means of exercising them is by activating the Recirculation Pumps.

Full-stroke exercising these valves quarterly during normal plant operations or during any other condition is impractical since the Recirculation Pumps are in a normally dry recirculation sump. Operation of these pumps in a dry condition will damage the pumps. There is no practical means available to permit full flow operation of the Recirculation Pumps and hence no practical means of full flow exercising these check valves. Part-stroke exercising during the mini-flow test of the Recirculation Pumps is the only practical means of exercising these valves to the part open and closed positions.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04. They will be part stroked open and closed during the Recirculation Pump mini-flow test during refueling.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 56 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

SIS

VALVES:

895A, 895B, 895C and 895D

FUNCTION:

These check valves are pressure isolation check valves in the outlet lines from the SIS Accumulators (one per accumulator). They are closed during normal plant operation and their safety function is to open following a LOCA (RCS pressure drops below approximately 650 psig) to allow water from the accumulators to transfer to the RCS.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

The SIS configuration is such that the only practical way the valves can be exercised is by blowing down water from the accumulators to the RCS. 895A through 895D are upstream and in series with 897A through 897D which are held closed at this condition by a differential pressure of about 1560 psig (RCS at 2200 psig vs. accumulators at 640 psig). Therefore, flow cannot be established from the accumulators during normal power conditions.

Part of the low temperature over-pressurization protection requirements at cold shutdown are that MOV's 894A through 894D be closed when the RCS pressure is reduced below 1000 psig. These MOV's are in the Accumulator outlet lines and are upstream and in series with the subject check valves; therefore, flow cannot be established from the accumulators during these cold shutdown conditions. These valves will be part-stroke tested as the Accumulators are dumped into the RCS during Refueling Outages.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 60 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

RCS

VALVES:

897A, 897B, 897C, and 897D

FUNCTION:

These check valves are pressure isolation check valves in the cold leg injection lines to the Reactor Coolant System (RCS) and are at the interface of the RCS and the Safety Injection System (SIS). Their safety function is to open to permit flow from the SIS into the RCS following a LOCA.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

Valves 897A, 897B, 897C and 897D are in the flow paths from the High Pressure Safety Injection (HPSI) Pumps, the Recirculation Pumps, RHR Pumps and from their respective Accumulators. The system configuration is such that the only practical way the valves can be fully exercised is by putting flow through them from one of the SI Pumps or Accumulators.

During normal power operation, the RCS pressure is approximately 2200 psig. None of the SI Pumps or Accumulators have the pressure capability to overcome the RCS pressure in order to establish flow through the check valves. RHR flow at cold shutdown has been deemed inadequate for full exercise. These valves will be part-stroke tested during Accumulator and SI Pump testing at Refueling frequency.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 66 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

FW

VALVES:

BFD-6, BFD-6-1, BFD-6-2, BFD-6-3

FUNCTION:

These check valves are in the supply lines from the Main Boiler Feed Pumps to the Steam Generators. They are normally open during operation and have a safety function to close when the Steam Generators are fed with Auxiliary Feedwater.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

These check valves cannot be tested for closure during normal plant operations. When feeding Steam Generators for cold shutdown, leakage through the BFD-6 check valves may be detectable by pressure at the Main Boiler Feed Pump discharge. Positive identification of the leakage source normally requires check valve disassembly which may not be possible at all cold shutdowns.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 17 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

AFW

VALVE:

CD-109

FUNCTION:

This check valve opens when makeup water is supplied to the Condensate Storage Tanks (CST). This valve is a seismic boundary for the CST and has the safety function to close to ensure the CST remains at the required capacity for decay heat removal.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

There are no positive means to verify that the disk of this valve travels to the seat promptly on cessation or reversal of flow.

ALTERNATIVE TESTING:

This valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 73 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

AFW

VALVES:

CT-25, CT-28, CT-31

FUNCTION:

These check valves have the safety function to open when water from the City Water System is required to allow continued emergency operation of the Auxiliary Feedwater System for plant cooldown should the Condensate Storage Tank empty. They also have the safety function to close and prevent loss of AFW flow into the City Water System should the flow control valves fail open.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

It is impractical to full flow test the operability of these valves at any time due to the stringent chemistry requirements of the Boiler Feedwater System. Allowing City Water to flow past these valves would contaminate the Boiler Feedwater System and Steam Generators.

The City Water supply serves as an unlikely back-up to the inventory in the Condensate Storage Tanks. The Condensate Storage Tank is the primary source of Auxiliary Feedwater. The supply line from the Condensate Storage Tank to the Auxiliary Feedwater Pumps is independent of the city water supply line and hence does not require the use of either CT-25, 28 or 31. NRC requirements are satisfied without taking credit for City Water Backup. In addition, there are other sources of auxiliary feedwater available that do not require the use of CT-25, 28 or 31, including large inventories available in the condenser hotwells and the Indian Point Unit No. 1 water factory.

The installation of test connections to facilitate part-stroke testing have been determined impractical due to physical piping/valve arrangement. Recognizing the several sources of alternate supplies of auxiliary feedwater, the high likelihood that the city water supply will never be called upon, and the hardship that would be imposed in order to accomplish full flow testing, we believe that periodic disassembly of these valves at three cycle intervals, sufficient to verify disk freedom of movement is a practical alternative.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 29 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

WCPS

VALVES:

FCV-1177-1, -2, -3, -4
FCV-1178-1, -2, -3, -4
FCV-1179-1, -2, -3, -4

FUNCTION:

These are Non-ASME Code Class Valves.

These check valves must open to supply the Weld Channel and Penetration Pressurization System (WCPS) loads at various containment penetrations. These valves close to ensure that the alternate supply source (Instrument Air or Nitrogen System) is maintained to WCPS loads.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

There are no positive means to verify that the disks of these valves travel to the seal promptly on cessation or reversal of flow.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 80 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

IA

VALVE:

IA-1530

FUNCTION:

This ia a Non-ASME Code Class Valve.

This check valve is normally open which allows instrument air to various loads in the Auxiliary Feedwater Building. Upon loss of Instrument Air supply, this check valve closes to ensure nitrogen backup supply remains pressurized to operate the loads.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

There are no positive means to verify that the disk of this valve travels to the seat promptly on cessation or reversal of flow.

ALTERNATIVE TESTING:

This valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 72 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

IA

VALVES:

IA-2, IA-2-1

FUNCTION:

These are Non-ASME Code Class Valves.

These check valves open to supply air to the Instrument Air System from the Instrument Air Compressors. These valves close to ensure Instrument Air pressure is maintained.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

There are no positive means to verify that the disk of this valve travels to the seat promptly on cessation or reversal of flow.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 78 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

IA

VALVE:

IA-20

FUNCTION:

This is a Non-ASME Code Class Valve.

This check valve is in the intertie line and acts as a boundary between the Instrument Air System and Station Air and Unit #1 Control Air Systems.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

This valve is normally open when Unit #1 Control Air is backup for the Instrument Air System and normally closed when Instrument Air is supplying the header. As such, the valve is required to be tested in both directions. The valve has no installed instrumentation with which to verify the full open position. Shutting down or isolating the control air header to observe evidence of valve closure would not always be practical in cold shutdown situations when Unit #1 Control Air is supplying the Instrument Air System.

ALTERNATIVE TESTING:

This valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 36 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

SW

VALVES:

SWN-543, 548, 553, 558, 563, 568, 539, 544, 549, 554, 559, and 564

FUNCTION:

These are Non-ASME Code Class Valves.

These check valves are used in the supply of Laval Separator flush water when the Aurora Style Service Water Pumps are installed. Other Style Service Water Pumps do not use this flush water configuration.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

These check valves can not be tested during normal operation or cold shutdown because it is not possible to prove that the check valve disk moves promptly to the seat or away from the seat when service water is adjusted. A small sight glass gives indication of flow, but this flow may not be full flow.

Present preventative maintenance procedures at Indian Point Unit 2 require that the check valves be periodically replaced.

ALTERNATIVE TESTING:

This valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04 with the following exception: The check valves will be replaced rather than examined and returned to service.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 69 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

SYSTEM:

SW

VALVES:

SWN-963, 964, 965, 966, 981, 982, 983, 954, 945

FUNCTION:

These check valves are normally open, and have a safety function to open, to allow cooling water to various radiation monitors. The check valves close on cessation or reversal of flow.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

There are no positive means to verify that the disk moves promptly away from the seat when flow through the valve is initiated or that the valves close on cessation or reversal of flow.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

Previously acceptable for 2nd Interval as Relief Request No. 76 under NRC Generic Letter 89-04 guidance.

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

WITHDRAWN

RELIEF REQUEST BASIS

SYSTEM:

EDG

VALVES:

DA-606 through DA-611

FUNCTION:

These are Non-ASME Code Class Valves.

These spring loaded check valves provide a double isolation on the outlet of the EDG Air Compressors. Their function is to open, allowing air flow from the compressor to the receiver. They also close to preclude loss of air in the receiver in the event of compressor damage. These valves form the QA class boundary.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

These are no positive means of verifying that the disk of these valves travel to the seat promptly on cessation or reversal of flow.

ALTERNATIVE TESTING:

These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

None - This is a new Relief Request for the 3rd Interval.

RELIEF REQUEST BASIS

SYSTEM:

SW

VALVES:

SWN-1, 1-1, 1-2, 1-3, 1-4, 1-5

FUNCTION:

These are check valves on the discharge of the six Service Water Pumps. They have a safety function to close to prevent reverse rotation of the non-operating pump. They also have the safety function to open to deliver accident design flow.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

Normal Service Water System alignment has two Service Water Pumps operating on each header. The pumps are tested quarterly and the SWN-1 Check Valves are demonstrated to close on cessation of flow during the quarterly pump test. In addition, the valves are demonstrated to partially stroke open during the quarterly pump test. This partial open stroke is determined by a positive delta-P across the discharge strainer to demonstrate that there is flow. There is no installed flow indication and the cement lined piping precludes the use of ultrasonic flow indication. Due to the header arrangement with three pumps feeding the common header during testing (two for operability, one for test) it is impossible to prove design flow of individual check valve.

ALTERNATIVE TESTING:

The close stroke will be demonstrated quarterly during pump testing. Partial open stroke will be demonstrated quarterly during pump testing. These valves will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

None - This is a new Relief Request for the 3rd Interval (Revision One).

RELIEF REQUEST BASIS

SYSTEM:

AFW

VALVES:

BFD-31, BFD-34, BFD-39

FUNCTION:

These valves are the Auxiliary Feedwater (AFW) pumps discharge check valves. The valves are normally closed and have a safety function to open when the AFW pumps are activated to provide Condensate Storage Tank water to the steam generators. The valves have a safety function to close to prevent reverse rotation of the pumps on cessation of flow.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

Exercising these check valves quarterly during normal operation is impractical since the auxiliary feedwater pumps must be activated to flow ambient temperature water from the CST to the SG which can result in thermal shocking of the SG tube sheet. These valves are downstream of the AFW pump test recirculation lines thus precluding any exercising during quarterly pump testing. Full-stroke exercising at cold shutdown is impractical because the high flow rates required for full-stroke exercising make it difficult to control water levels in the SG. Excessively high water levels in the SG can result in water in the steamlines, and can lead to turbine damage when power operations are resumed. These valves are in series with two additional check valves and therefore reverse flow testing is impractical.

ALTERNATIVE TESTING:

Part-stroke open exercise BFD-34 and 39 at cold shutdowns during operation of the motor-driven auxiliary feedwater pumps. Full-stroke open exercise the valves during refueling outages in conjunction with full flow test of the auxiliary feedwater pumps. These valves will be included in the Check Valve sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

None - This is a new Relief Request for the 3rd Interval (Revision One).

RELIEF REQUEST BASIS

SYSTEM:

SIS

VALVE:

881

FUNCTION:

Valve 881 is an inlet line check valve to the RHR pumps from the Refueling Water Storage Tank. The valve is normally closed and has the safety function of opening when the RHR pumps are used in the LPSI mode.The valve also has a safety function to close during External Containment recirculation to prevent reverse flow to the RWST.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

This valve cannot be part-stroke exercised open quarterly during the RHR pump mini-flow test because the test line taps in downstream of this valve. Although an 8 inch bypass line is provided around the RHR pumps for the purpose of pumping refueling water back to the RWST following refueling operations, its use during normal operations would render both RHR pumps inoperable in the LPSI mode. This line could potentially serve to permit part-stroke exercising of valve 881 during cold shutdowns when RHR pump operability is not required by Technical Specifications however, the duration of a typical cold shutdown is such that the decay heat load is sufficiently large so as to preclude diverting any significant flow from the discharge header. There is no practical test method to prove valve closure on cessation or reversal of flow.

ALTERNATIVE TESTING:

Valve 881 will be exercised (nominally full-stroked open) at refueling using the RHR pumps to refill the primary system. The valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

None - This is a new Relief Request for the 3rd Interval (Revision One). It is taken from the Rev. 0 Refueling Justification.

RELIEF REQUEST BASIS

SYSTEM:

SIS

VALVE:

847

FUNCTION:

Valve 847 is a check valve located at the inlet to the Safety Injection pumps from the Refueling Water Storage Tank (RWST). The safety function is to open upon activation of the safety injection pumps and to close during External Containment Recirculation to prevent reverse flow to t he RWST.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

The only practical means to exercise this check valve is to activate the Safety Injection pumps and flow water from the RWST to the Reactor Coolant System (RCS). Full-stroke exercising the valve quarterly while the plant is a normal operating power is impractical in that the RCS pressure is at approximately 2250 psig and this pressure locks out the check valve at the RCS/SIS interface that is downstream and in series with the subject check valve. The head available from the SI pumps is not enough to overcome the RCS pressure, thereby preventing flow. It is also impractical to exercise the valve at cold shutdowns. There is no practical test method to prove valve closure on cessation or reversal of flow.

ALTERNATIVE TESTING:

Valve 847 will be part-stroke exercised open quarterly during SI pump tests and will be full-stroke exercised open at refueling outages. This valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

This is a new Relief Request for the 3rd Interval (Revision One). It is taken from the Rev. 0 Refueling Justification.

RELIEF REQUEST BASIS

SYSTEM:

RCS

VALVE:

374

FUNCTION:

Valve 374 is the inlet check valve to the Regenerative Heat Exchanger from the CVCS. The valve has a safety function to open to supply charging flow to the RCS and to supply Auxiliary Pressurizer Spray. It has a safety function to close to prevent reverse flow of RCS into the CVCS.

TEST REQUIREMENT:

OM-10, Para. 4.3.2 (Exercise)

BASIS FOR RELIEF:

Valve 374 will be exercised (nominally full-stroked open) during power operation via normal charging. Valve closure cannot be verified quarterly as normal charging cannot be isolated with the unit at power. There is no practical test method to prove valve closure on cessation or reversal of flow.

ALTERNATIVE TESTING:

Valve 374 will be verified (nominally full-stroked open) quarterly. The valve will be included in the Check Valve Sample Disassembly/Inspection Program at Refueling frequency in accordance with NRC Generic Letter 89-04.

REFERENCE:

None-This is a new Relief Request for the 3rd Interval (Revision One).

INDEX OF JUSTIFICATIONS

VALVE	QUALITY CLASS	SYSTEM	PAGE NUMBER	ALTERNATE FREQUENCY
FCV-625, 797, 784	YES	CCW	4	CS/R
744	YES	RHR	5	R
741A	YES	RHR	6	CS
882A, 882B	YES	CCW	7	CS/R
769, 786, 789	YES	CCW	8	CS/R
743, 1870	YES	RHR	9	CS
738A, 738B	YES	RHR	10	CS
746, 747	YES	RHR	11	CS
730, 731	YES	RHR	12	CS
FCV-417L/427L/437L/447L	NO	FW	13	CS
FCV-417/427/437/447	NO	FW	14	CS
BFD-79/79-1/79-2/79-3	YES	AFW	15	R
BFD-47/47-1/47-2/47-3	YES	AFW	16	R
BFD-2-21, BFD-2-22	NO	FW	17	CS
BFD-37/35/42/40	YES	AFW	18	R
201, 202	YES	CVCS	19	CS
205, 226	YES	CVCS	20	CS
222	YES	CVCS	21	CS/R
4925, 4926, 4927, 4928	YES	CVCS	22	CS/R
250A, 250B, 250C, 250D	YES			
333	YES	CVCS	23	CS
LCV-112B, 290	YES	CVCS	24	CS
LCV-112C	YES	CVCS	25	CS
332	YES	CVCS	26	CS
4924	YES	CVCS	27	CS
CT-26/29/32	YES	AFW	28	R
FCV-1170/1171/1172/1173	NO	HVAC	29	CS
1878, 1880A/B, 1879A/B	YES	HR	30	CS
1881C/A/D	YES	HR	31	CS
PCV-1228	NO	IA	32	R

INDEX OF JUSTIFICATIONS

VALVE	QUALITY CLASS	SYSTEM	PAGE NUMBER	ALTERNATE FREQUENCY
1500 through 1543	NO	IVSW	33	R
1545 through 1550	NO			
5602, 1406, 1456	NO			
MS-1-21/22/23/24	YES	MS	34	CS
PCV-1133	NO	MS	35	CS
HCV-3100, HCV-3101	YES	RCS	36	CS
838A/B/C/D	YES	RCS	37	CS
867A, 867B	YES	CSS	38	R
856B, 856F	YES	SIS	39	CS
856A/C/D/E	YES	SIS	40	CS
842, 843	YES	SIS	41	CS
857A/B/C/D	YES	RCS	42	R
857G/H/M/F	YES			
857J/K/E/L	YES	RCS	43	R
849A/B, 852A/B, 5220	YES	SIS	44	R
882	YES	SIS	45	CS
1810	YES	SIS	46	CS
1802A, 1802B	YES	SIS	47	R
880A through 880K	YES	CSS	48	R
FCV-1111, FCV-1112	YES	SW	49	CS
4107, 4108	NO	N2	50	CS
SOV-1277, SOV-1278	NO	WCPS	51	CS
SOV-1334 through 1339 SOV-1340 through 1345 SOV-1434 through 1439	NO	WCPS	52	CS
204A, 204B	YES	RCS	53	CS
210A, 210B	YES	RCS	54	R
85C, 85D, 95C, 95D	NO	WCPS	55	CS
211	YES	RCS	56	CS
212	YES	CVCS	57	CS
PCV-455A, PCV-455B	YES	RCS	58	CS
535, 536	YES	RCS	59	CS
PCV-456, PCV-455C	YES	RCS	60	CS
MS-2A/2B/2C/2D	YES	MS	61	CS

INDEX OF JUSTIFICATIONS

VALVE	QUALITY CLASS	SYSTEM	PAGE NUMBER	ALTERNATE FREQUENCY
PCV-1134, 1135, 1136, 1137	YES	MS	62	CS
SWN-35, SWN-35-1	YES	SW	63	CS
756A, 756B, 1873A, B, C, D, 1874	YES	CCW	64	R
733C, 734A, B, E, F	YES	CCW	65	R
7001	YES	CVCS	66	CS
SWN-6, SWN-7	YES	SW	67	CS

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CCW

VALVES:

FCV-625, 797, 784

FUNCTION:

Valves 797, 784, and FCV-625 are all containment isolation valves in the Component Cooling System that supplies cooling water to the Reactor Coolant Pumps bearing oil coolers and thermal barriers. Valve 797 is a CIV and allows cooling water to flow to the bearing oil coolers and thermal barriers. Valve 784 is a CIV in the return leg from the RC pump motor bearing cooler. Valve FCV-625 is a CIV in the return leg from the thermal barriers. All these valves are normally open during plant operation and have an emergency function to close upon receipt of a containment isolation signal.

JUSTIFICATION:

These valves are open or closed only valves; therefore, part-stroke testing of these valves is impractical. Also, full-stroke exercising these valves quarterly while the plant is at normal operating power is impractical because this would isolate cooling water to the RC pumps.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns provided the RC pumps are secured. If one or more RC pumps are not secured at cold shutdowns, the associated valves will be tested at intervals no greater than refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RHR

VALVE:

744

FUNCTION:

Valve 744 is a non-redundant valve in the LPSI/RHR pump discharge header. It is a CIV and is normally open during plant operation. The valve also has a safety function to close following the termination of the LPSI mode of operation of the RHR system.

JUSTIFICATION:

Full-stroke testing of the valve quarterly is impractical in that a failure of the valve in the closed position nullifies the function of the RHR pumps in the LPSI mode should an emergency occur concurrent with the valve failure. The valve cannot be exercised at cold shutdowns because closing the valve will terminate the normal RHR cooling mode (required to maintain cold shutdown). It is also impractical to part-stroke exercise the valve since this valve is an open or closed only valve. In addition, Technical Specifications effectively require one RHR pump operable at all times; closing 744 makes the RHR pumps inoperable. Technical Specifications also require that valve 744 be blocked open by de-energizing the motor operator.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised at refueling outages.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RHR

VALVE:

741A

FUNCTION:

Valve 741A is a check valve and functions as a containment isolation valve in the discharge line from the RHR pumps. This valve is normally closed and has a safety function to open when the RHR pumps are used in the LPSI mode of emergency cooling. The valve has a safety function to close for containment isolation.

JUSTIFICATION:

Full-stroke testing of the valve quarterly during normal power operations is impractical because the LPSI mode of emergency cooling would have to be initiated to do so. This valve will be part-stroked quarterly using the miniflow test line for the RHR pumps and full stroked open at cold shutdown during RHR operation. Since this valve is a Containment Isolation Valve, periodic leakage testing is required. The closed stroke is verified in conjunction with the leakage testing.

ALTERNATIVE TESTING:

This valve will be part-stroked quarterly and full-stroke exercised open at cold shutdowns, during the normal shutdown cooling mode of operation of the RHR pumps. The valve will be full-stroke exercised closed at refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CCW

VALVES:

822A and 822B

FUNCTION:

Valves 822A and 822B are flow isolation valves in the component cooling system on the return leg from the residual heat exchanger. The valves are normally closed and have an emergency function to open and allow the flow of component cooling water to the residual heat exchanger.

JUSTIFICATION:

Full-stroke testing of these valves during normal plant operation may divert flow from the component cooling system via the 12" return lines. This could result in reduced cooling flow to the RC pump coolers and thermal barriers which could create a potential for overheating and damage to the RC pumps.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns provided the RC pumps are secured. If one or more RC pumps are not secured at cold shutdowns, the associated valves will be tested at intervals no greater than refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CCW

VALVES:

769, 786, and 789

FUNCTION:

These valves are isolation valves in the component cooling system that supplies water to the RC pumps bearing oil coolers and thermal barriers. Valve 769 is in the supply header leading to the RC pumps. Valve 786 is in the return header leading from the RC pump bearing oil coolers. Valve 789 is in the return header leading from the RC pumps thermal barriers. These valves are open or closed only valves and are normally open valves. They also receive a safety signal.

JUSTIFICATION:

Full-stroke testing of these valves quarterly during normal plant operation would cause a loss of cooling water to the RC pumps bearing oil coolers or the thermal barriers or both and would damage the RC pumps. Part-stroke testing is also impractical because these are open or closed only valves.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns provided the RC pumps are secured. If one or more RC pumps are not secured at cold shutdowns, the associated valves will be tested at intervals no greater than refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RHR

VALVES:

743 and 1870

FUNCTION:

These valves are Containment Isolation Valves in the miniflow test line of the RHR pumps. These valves are motor operated and are locked open during normal plant operation. They are remote manually shut at some time (long-term) following accident initiation.

JUSTIFICATION:

These valves are open or closed only valves; therefore, part-stroke exercising of these valves is impractical. Full-stroke exercising these valves quarterly during normal plant operation is impractical because if the valves were closed and the RHR pumps were needed to start, they would start against a dead head and possibly be damaged. Also, these valves are locked open valves and are required to be open during an accident.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RHR

VALVES:

738A and 738B

FUNCTION:

Valves 738A and 738B are RHR pump discharge check valves. Their safety functions are to open to permit LHSI flow to reach the core and to close on cessation of flow.

JUSTIFICATION:

Full-stroke testing of these valves during normal operation is impractical as it would require full flow test of the RHR pumps through the SI system. This is impractical as it would require safety injection flow to the RCS which is at a higher pressure than the RHR pumps can deliver.

ALTERNATIVE TESTING:

These valves will be part-stroke exercised open quarterly during the RHR pump mini-flow test and full-stroke exercised open at cold shutdowns by full flow operation of an RHR pump. They will be stroke exercised closed quarterly during the RHR pump mini-flow test.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RHR

VALVES:

746 and 747

FUNCTION:

Valves 746 and 747 are motor operated valves in the LHSI/RHR lines and are downstream of the RHR heat exchanger. These are normally closed valves and receive an engineered safeguard signal to open for LHSI/RHR operation.

JUSTIFICATION:

Valves 746 and 747 are only capable of being full-stroke exercised. Full-stroke exercising these valves quarterly during normal plant operations could subject the LHSI/RHR system to pressure in excess of their design pressure. It is assumed for purposes of a cycling test that one or more of the upstream check valves has failed. No positive methods are available for determining the pressure or lack thereof on the high pressure side of the valve to be cycled.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RHR

VALVES:

730 and 731

FUNCTION:

Valves 730 and 731 are pressure isolation valves between the Reactor Coolant System and RHR system. They are normally closed and have a safety function to open in order to reach cold shutdown for most non-LOCA design basis event.

JUSTIFICATION:

During Residual Heat Removal Operation, Reactor Coolant Flow is from the hot leg of Loop 22 through the two motor operated valves 731 and 730. Valves 731 and 730 are pressure interlocked (PC402 and PC403) to prevent opening when reactor coolant pressure is above 450 psig. This arrangement prevents inadvertent pressurization of the residual heat removal system, which is designed for 600 psig.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

FW

VALVES:

FCV-417L, 427L, 437L, 447L

FUNCTION:

These are Non-ASME Code Class Valves.

These valves are main feedwater regulating valves in the feedwater regulator bypass lines (low flow control path).

JUSTIFICATION:

These valves are normally closed during normal plant operations. They are used during initial start-up of the secondary steam generating system. Exercising these valves quarterly is impractical because the increased flow caused by the opening of the valve would cause a feedwater flow/steam generator level mismatch and cause an unnecessary oscillation in the flow control network and steam generator water level and potential plant trip.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns or prior to startup following cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

FW

VALVES:

FCV-417, 427, 437, 447

FUNCTION:

These ar Non-ASME Code Class Valves.

These valves are the main feedwater regulators which are open during power operations to control the main feedwater supply to the steam generators.

JUSTIFICATION:

Exercising these valves quarterly is impractical during power operation in that it would shut off the feedwater to the steam generator, which would result in a reactor trip condition.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns or prior to startup following cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

AFW

VALVES:

BFD-79, 79-1, 79-2, 79-3

FUNCTION:

These valves are check valves in the auxiliary feedwater lines at the interface of the main feedwater line. Their safety function is to open when the auxiliary feedpumps are activated to supply emergency feedwater from the Condensate Storage Tank.

JUSTIFICATION:

Exercising these check valves quarterly during normal operation is impractical since the auxiliary feedwater pumps must be activated to flow ambient temperature water from the CST to the SG which can result in thermal shocking of the SG tube sheet. These valves are downstream of the AFW pump test recirculation lines thus precluding any exercising during quarterly pump testing.

Full-stroke exercising at cold shutdown is impractical because the high flow rates required for full-stroke exercising make it difficult to control water levels in the SG. Excessively high water levels in the SG can result in water in the steamlines, and can lead to turbine damage when power operations are resumed.

ALTERNATIVE TESTING:

These valves will be part-stroke exercised open at cold shutdowns during operation of the auxiliary feedwater pumps and full-stroke exercised open at refueling in conjunction with the full flow test of the auxiliary feedwater pumps.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

AFW

VALVES:

BFD-47, 47-1, 47-2, 47-3

FUNCTION:

The BFD-47 series valves are in the AFW supply lines from the turbine driven pump and are redundant isolation valves in series with BFD-79 series valves. The valves are normally closed and have a safety function to open when the turbine driven AFW pump is activated to provide condensate storage tank water to the steam generators.

JUSTIFICATION:

Exercising these check valves quarterly during normal operation is impractical since the auxiliary feedwater pumps must be activated to flow ambient temperature water from the CST to the SG which can result in thermal shocking of the SG tube sheet. These valves are downstream of the AFW pump test recirculation line thus precluding any exercising during quarterly pump testing.

Full-stroke exercising at cold shutdown is impractical because the high flow rates required for full-stroke exercising make it difficult to control water levels in the SG. Excessively high water levels in the SG can result in water in the steamlines, and can lead to turbine damage when power operations are resumed.

Full or part-stroke exercising of these valves at cold shutdowns is impractical because there is no steam present to run the turbine driven AFW pumps.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised open at refueling in conjunction with the full flow test of the turbine driven auxiliary feedwater pump.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

FW

VALVES:

BFD-2-21 and BFD-2-22

FUNCTION:

These are Non-ASME Code Class Valves.

These are motor operated valves in the boiler feedwater pump discharge lines. They are open during power operations to supply feedwater to steam generators.

JUSTIFICATION:

Exercising these valves quarterly is impractical during power operation as it would shut off the feedwater to steam generators and trip the plant.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

AFW

VALVES:

BFD-37, BFD-35, BFD-42, BFD-40

FUNCTION:

BFD-35, 37, 40, and 42 are check valves in the auxiliary feedwater supply lines leading from the motor driven auxiliary feedwater pumps and act as redundant isolation valves in series with check valves BFD-79, 79-1, 79-2, and 79-3. The valves are normally closed and have a safety function to open when the auxiliary feedwater pumps are activated to supply emergency feed water from the Condensate Storage Tank.

JUSTIFICATION:

Exercising these check valves quarterly during normal operation is impractical since the auxiliary feedwater pumps must be activated to flow ambient temperature water from the CST to the SG which can result in thermal shocking of the SG tube sheet. These valves are downstream of the AFW pump test recirculation lines thus precluding any exercising during quarterly pump testing. Full-stroke exercising at cold shutdown is impractical because the high flow rates required for full-stroke exercising make it difficult to control water levels in the SG. Excessively high water levels in the SG can result in water in the steamlines, and can lead to turbine damage when power operations are resumed.

ALTERNATIVE TESTING:

Part-stroke open exercise the valves at cold shutdowns during operation of the auxiliary feedwater pumps. Full-stroke open exercise the valves during refueling outages in conjunction with full flow test of the auxiliary feedwater pumps.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVES:

201 and 202

FUNCTION:

Valves 201 and 202 are containment isolation valves and function as remote manual letdown flow isolation valves in the letdown line to the non-regenerative heat exchanger.

JUSTIFICATION:

Part-stroke exercising of these valves is impractical since these are open or close only valves. Full-stroke exercising of these valves is also impractical during normal plant operation because it would inhibit the control of the reactor coolant level control system.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVES:

205 and 226

FUNCTION:

Valves 205 and 226 are remote manual flow isolation valves in the charging line leading to the regenerative heat exchanger.

JUSTIFICATION:

Part-stroke exercising of these valves is impractical since these are open or close only valves Full-stroke exercising of these valves is also impractical during normal plant operation because it would inhibit the control of the reactor coolant level control system. Closing these valves at any time during normal plant operation would shut down the charging flow creating a potential for a low level reactor trip.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVE:

222

FUNCTION:

Valve 222 is a flow shutoff valve in the RC pump seal water return line.

JUSTIFICATION:

Valve 222 is an open or closed only valve; therefore, part-stroke testing of this valve is impractical. This valve cannot be full-stroke exercised during normal plant operation because a loss of RC pump seal water flow could result in damaging the RC pumps.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised at cold shutdowns provided the RC pumps are secured. If one or more RC pumps are not secured at cold shutdowns, the associated valves will be tested at intervals no greater than refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVES:

4925, 4926, 4927, 4928, 250A, 250B, 250C, 250D

FUNCTION:

These valves are flow isolation valves in the charging lines to the RC pump seals. They are normally open valves during normal plant operation.

JUSTIFICATION:

Because these valves are open and close only valves, it is impractical to part-stroke these valves. Full-stroke exercising the valves quarterly during normal plant operation is also impractical since this action would isolate RC pump seal water flow and thus could damage the seals.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns provided the RC pumps are secured. If one or more RC pumps are not secured at cold shutdowns, the associated valves will be tested at intervals no greater than refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVE:

333

FUNCTION:

Valve 333 is a motor-operated valve in the emergency boration line at the suction side of charging pumps. Its opening allows boric acid addition to the reactor coolant system, at the maximum rate available, if a reactivity excursion occurs.

JUSTIFICATION:

Valve 333 is associated with the emergency boration path from the boric acid storage tanks. The boric acid storage tanks contain high concentrations of borated water for emergency shutdown purposes. Cycling 333 would result in aligning this source of high concentrated boric acid solution to the charging pump suction Charging pump flow must be maintained to provide injection flow to the reactor coolant pump seals. Hence cycling this valve would result in a reactivity transient due to the injection of high concentrated boric acid solution which, if left unchecked, would cause a reactor shutdown. Such cycling during power operation is undesirable; hence, cold shutdown cycling has been proposed. Cold shutdown testing will provide assurance that these valves will function as required.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVES:

LCV-112B, 290

FUNCTION:

Valve 290 is a check valve in series with LCV-112B and has a safety function to open. Valve LCV-112B is a normally closed air-operated valve in the refueling water supply line to the charging pump suction. Its opening may be necessary to allow refueling water supply to the reactor coolant system in certain emergency conditions.

JUSTIFICATION:

Valves LCV-112B and 290 are associated with the emergency boration path from the refueling water storage tank. The refueling water storage tank contains high concentrations of borated water for emergency shutdown purposes. Cycling LCV-112B and 290 would result in aligning these sources of high concentrated boric acid solution to the charging pump suction. Charging pump flow must be maintained to provide injection flow to the reactor coolant pump seals. Hence, cycling these valves would result in a reactivity transient due to the injection of high concentrated boric acid solution which, if left unchecked, would cause a reactor shutdown. Such cycling during power operation is undesirable; hence, cold shutdown cycling has been proposed. Cold shutdown testing will provide assurance that these valves will function as required.

ALTERNATIVE TESTING:

LCV-112B will be full-stroke exercised open and closed at cold shutdowns. Valve 290 will be full-stroke exercised open at cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVE:

LCV-112C

FUNCTION:

Valve LCV-112C is a normally open motor-operated valve at the suction of charging pumps from the volume control tank. It is also required to remain open following engineered safeguards actuation and closes during the switch over of charging pump suction to RWST.

JUSTIFICATION:

Valve LCV-112C is in the suction line to charging pumps which provide for reactor coolant makeup and seal injection flow. The reactor coolant pump seals require injection flow whenever the pumps are operating. Stroking LCV-112C closed during normal operation would require realigning the charging pump suction to an alternate supply. Available alternate supplies from the refueling water storage tank and boric acid storage tanks both contain higher concentrations of borated water which if injected, would result in a reactivity transient and eventual plant shutdown. Cold shutdown testing will provide assurance that these valves will function as required.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVE:

332

FUNCTION:

Check valve 332 is located downstream of motor-operated valve 333 at the suction side of charging pumps. Its safety function is to open to facilitate emergency boration.

JUSTIFICATION:

System arrangement is such that valve 332 can not be exercised unless valve 333 is open to permit flow from the boric acid storage system. Aligning this flow path during power operation will result in a reactivity transient due to the introduction of highly concentrated boric acid solution from the boric acid storage system.

ALTERNATIVE TESTING:

Valve 332 will be full stroke exercised open at cold shutdowns using primary water to the suction of the boric acid transfer pumps delivering the charging pumps for delivery to the RCS.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVE:

4924

FUNCTION:

Check valve 4924 is located in the emergency boration line to the suction of charging pumps. Its safety function is to open during emergency boration.

JUSTIFICATION:

System arrangement is such that this check valve can only be exercised when the emergency boration path is aligned. Aligning this path during power operation will result in a reactivity transient due to the introduction of highly concentrated boric acid solution from the boric acid storage system.

ALTERNATIVE TESTING:

Full stroke exercised open at cold shutdowns using primary water to the suction of the boric acid transfer pumps delivering to charging pumps for delivery to the RCS.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

AFW

VALVES:

CT-26, CT-29, CT-32

FUNCTION:

These valves are check valves in the suction lines of each of the auxiliary feedwater pumps. These suction lines connect to the main header leading from the condensate storage tank. Their safety function is to open when the auxiliary feed pumps operate during normal start-up and shutdown of the plant or following an accident requiring the use of the auxiliary feedwater system.

JUSTIFICATION:

These valves are part-stroke exercised during start-up and shutdown of the reactor and are therefore part-stroke exercised during cold shutdown. In addition, these valves are part-stroke exercised during quarterly auxiliary feedwater pump testing.

Full flow testing of the auxiliary feedwater pump is conducted during refueling. The pump suction check valves must necessarily be full-stroke exercised during this test. Full stroke exercising these auxiliary feedwater pump suction check valves requires that the associated auxiliary feedwater pump be operating. Operating these pumps during normal operation would interfere with automatic steam generator level control, likely causing a plant trip. The auxiliary feedwater pumps normally operate during start-up and shutdown; however, the pump flow rate (and hence the degree to which the suction check valves are exercised) is largely dependent on the conditions associated with the particular heatup or cooldown (e.g., the required heatup/cooldown rate and the particular auxiliary feedwater pumps that are operating). In practice, during a typical heatup or cooldown auxiliary feedwater flow will be sufficient to full stroke exercise the suction check valves; however, this cannot be guaranteed for all heatup and cooldowns. Accordingly, credit is taken for only part-stroke exercising these valves at cold shutdowns. In addition to part-stroke exercising these valves during heatup/cooldown and full stroke exercising at refueling, these valves are part-stroked quarterly during the auxiliary feedwater pump miniflow test. Flow rate through the suction check valves during the pump mini-flow tests is limited to a part-stroke exercise due to the size of the mini-flow test recirculation line. We believe the exercise program that these valves are subject to between refueling provides adequate assurance that these valves will function as required.

In addition, NRC IE Bulletin 79-13 identified the potential for feedwater line cracking as a result of injecting relatively cold auxiliary feedwater (40 degrees to 60 degrees F) into relatively hot main feedwater piping (426 degrees F). Full flow testing these valves at anytime other than refueling is contrary to these successfully implemented practices intended to minimize the potential for thermal shock to the feedwater piping and steam generators.

ALTERNATIVE TESTING:

The three check valves will be part-stroke exercised open during quarterly AFW pump testing and full-stroke exercised open during the full-flow pump test at refueling. In addition, these valves are part-stroked open at cold shutdowns as part of the normal AFW system operation.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

HVAC

VALVES:

FCV-1170, 1171, 1172, 1173

FUNCTION:

These are Non-ASME Code Class Valves.

These valves are containment isolation valves in the containment purge system.

JUSTIFICATION:

These valves are normally closed during power operation and have a safety function to close; therefore, they are generally considered passive valves. An administrative goal has been established to limit the amount of time these valves may be open during plant operation. As such, exercising will be accomplished at cold shutdown.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

HR

VALVES:

1878, 1880A, 1880B, 1879A, 1879B

FUNCTION:

These valves are check valves in the Oxygen Line and the lines leading to the nozzles of the two hydrogen recombiners. These valves have a safety function to open when the system is placed into operation.

JUSTIFICATION:

These valves are located inside containment. The capability of these valves to function is normally checked by proper operation of the recombiner during Technical Specification testing at a Refueling Interval. It is impractical to test these valves during normal operations because they are inside containment and the recombiner is not tested during plant operation. It is possible, however, to test these valves at Cold Shutdown without operation of the Hydrogen Recombiners by connecting a Nitrogen supply and simulating demand requirements.

ALTERNATIVE TESTING:

These valves will be exercised during cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

HR

VALVES:

1881C, 1881A, 1881D

FUNCTION:

These valves are check valves in the lines leading from the oxygen, hydrogen and nitrogen supply lines, respectively. The oxygen and hydrogen are necessary for proper recombine operation. The nitrogen is used to test the system flow paths and to purge the system after use. These valves have a safety function to open when the system is in operation.

JUSTIFICATION:

These valves are located inside containment. The capability of these valves to function is normally checked by proper operation of the recombiner during Technical Specification testing at a Refueling Interval. It is impractical to test these valves during normal operations because they are inside containment and the recombiner is not tested during plant operation. It is possible, however, to test these valves at Cold Shutdown without operation of the Hydrogen Recombiners by connecting a Nitrogen supply and simulating demand requirements.

ALTERNATIVE TESTING:

These valves will be exercised during cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

IA

VALVE:

PCV-1228

FUNCTION:

This is a Non-ASME Code Class Valve.

PCV-1228 is a CIV in the Instrument Air System. This valve is normally open during power operation.

JUSTIFICATION:

This valve is an open or close only valve so that part-stroke exercising is impractical. Full-stroke exercising the valve quarterly during power operations or at cold shutdowns is also impractical because it shuts off the operating air supply to the valves inside containment that may be required to function during both power and cold shutdown operations.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised at refueling outages.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

IVSW

VALVES:

1500-1543, 1545-1550, 5602, 1406, 1456

FUNCTION:

These are Non-ASME Code Class Valves.

These valves are check valves in the lines leading to the various CIVs. Their function is to open following a containment isolation signal to provide a pressurized water or nitrogen seal between the containment isolation valves.

JUSTIFICATION:

These valves form a boundary between the IVSW system and the process lines served by the IVSW system. The test connections installed to permit flow testing these check valves are located between their respective check valve and the process lines being served. With the process line in service flow verification of these valves is precluded by the process fluid fluxing through the test connection. As such, these valves can only be exercised at refueling.

In addition, the Isolation Valve Seal Water System serves a containment isolation function. As such, it is appropriately tested at a frequency consistent with leak testing of the associated CIVs, on a refueling basis, consistent with 10CFR50 Appendix J, Type C requirements.

ALTERNATIVE TESTING:

Exercised at refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

MS

VALVES:

MS-1-21, 22, 23, 24

FUNCTION:

These valves are stop check valves with the pneumatic operators holding the valve disks out of the main steam flow path. The safety function of these valves is to close.

JUSTIFICATION:

These MSIV's cannot be full-stroke or part-stroke exercised quarterly because to do so would cause a reactor trip. The reactor trip would be caused by the turbine tripping off line. The turbine trip is caused by a Valve Position Change Signal. The Technical Specifications require these valves be full-stroke tested and timed to their safe position during refueling.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised closed and timed at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

MS

VALVE:

PCV-1133

FUNCTION:

This is a Non-ASME Code Class Valve.

This valve is a pressure control valve in the main steam line leading to the priming ejector. This valve has an emergency function to close on high radiation.

JUSTIFICATION:

Exercising this valve during normal operations is impractical because it would require securing the priming ejector during the test or disrupting steam flow should the valve fail to reopen. Due to the function of the valve (i.e., pressure regulation) it is part-stroked at indeterminate times during normal operation.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised and timed at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

HCV-3100, 3101

FUNCTION:

These valves are motor operated pressure isolation valves in the reactor coolant system, and act as part of the vessel head vent portion. These valves are normally closed during normal plant operation. These valves are opened when it is necessary to vent the reactor vessel head.

JUSTIFICATION:

These valves were installed as part of the TMI action items and are required to be operable during normal plant operations. Consistent with NRC's SER for this system (NRC, Varga to Con Ed, O'Toole, dated September 9, 1983) these valves will be stroked at cold shutdowns.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

838A, 838B, 838C, and 838D

FUNCTION:

Valves 838A, 838B, and 838C, and 838D are pressure isolation valves in the cold leg injection lines from the recirculation pumps and Residual Heat Removal pumps. These valves open to permit flow in the LPSI mode following a LOCA. They must close to satisfy the pressure isolation function and open to permit flow.

JUSTIFICATION:

Valves 838A through 838D are in the flowpaths from the Recirculation Pumps and RHR pumps to the Cold Legs. The system configuration is such that the only practical way the valves can be exercised open is by putting flow through them from one of the above listed pumps. These pumps are not capable of overcoming RCS pressure and therefore quarterly open stroking is not possible. The plant Technical Specifications include these valves as RCS/RHR Pressure Isolation Valves and periodic leakage testing is required. The closed stroke is verified in conjunction with this leakage testing.

ALTERNATIVE TESTING:

Valves 838A through 838D will be full-stroke exercised open during cold shutdowns when the RHR mode of cooling is in progress. Valve closure will be tested during leak rate testing at a frequency not to exceed Refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CSS

VALVES:

867A and B

FUNCTION:

Valves 867A and B are Containment Spray discharge check valves in the lines leading to the containment spray headers. They are closed during plant operation (CIV's) and open when the containment spray pumps are activated to supply refueling water storage tank (RWST) water/spray additive to the containment spray headers.

JUSTIFICATION:

These valves are located downstream of the containment spray pump mini-flow test line and therefore cannot be part-stroke exercised open quarterly or at cold shutdown without directing water through the Containment Spray Rings. These valves can be full-stroke exercised open at refueling through a mechanical jumper that is used to bypass the Containment Spray Rings and fill the Reactor Cavity for refueling operations. They will be stroke closed in conjunction with their Refueling Internal leakage testing.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised open and closed at refueling outages.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SIS

VALVES:

856B and 856F

FUNCTION:

These are shutoff valves in the Safety Injection lines leading to Hot Legs 23 and 21 of the Reactor Coolant System. They are normally locked closed and have a safety function to open approximately 24 hours after the cold leg injection has been initiated.

JUSTIFICATION:

Valves 856B and 856F are only capable of being full-stroke exercised. Full-stroke exercising these valves quarterly during normal plant operation would be impractical in that a failure of these valves concurrent with a loss of coolant accident (LOCA) can result in a steam binding effect which would prevent adequate cooling water from reaching the core. Plant Technical Specifications require that these valves be closed with their motor operators de-energized by locking out the circuit breakers at the Motor Control Center.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SIS

VALVES:

856A, 856C, 856D, 856E

FUNCTION:

These valves are flow isolation valves in the SI lines leading to the cold legs of the Reactor Coolant System. These valves are normally open and have a function to close when hot leg safety injection, during the recirculation phase of Safety Injection, is required.

JUSTIFICATION:

These valves are open or closed only valves; therefore, part-stroke exercising these valves is impractical. Full-stroke exercising these valves quarterly during normal plant operations is impractical because these valves are normally open and are required to be open during an emergency situation utilizing the SI system. Failure of one of these valves in the closed position would place the plant in a less conservative condition that may eventually cause plant shutdown. Plant Technical Specifications require that these valves be in the Open position.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SIS

VALVES:

842 and 843

FUNCTION:

These valves are located in the mini-flow return line from the discharge of the safety injection pumps to the RWST. They are motor operated valves and are locked open during normal plant operation. They have a function to close at some time after initiation of SI.

JUSTIFICATION:

These valves are open or closed only valves; therefore, part-stroke exercising them is impractical. Full-stroke exercising the valves quarterly could compromise the SI pump operation if the valves were in the closed position and the pumps were started. This would result in a dead head condition which would cause damage to the pumps. Plant Technical Specifications require that these valves be de-energized in the open position.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

857A, 857B, 857C, 857D, 857G, 857H, 857M, 857F

FUNCTION:

Valves 857A, 857B, 857C, and 857D are pressure isolation check valves in the injection lines to the RCS and are at the interface of the RCS and the Safety Injection System. Valves 857M, 857F, 857G, and 857H are upstream and in series with 857A, 857B, 857C, and 857D, respectively. All valves open in order to permit flow from the High Pressure Safety Injection (HPSI) pumps into the RCS following a LOCA. They close to satisfy the pressure isolation function and open to permit flow.

JUSTIFICATION:

During normal plant operation, valves 857A, 857B, 857C, and 857D are held closed by RCS pressure of approximately 2200 psig. The HPSI pumps do not have the pressure capability (design discharge pressure approximately 1700 psig) to overcome the RCS pressure and establish flow through the check valves. In addition, during cold shutdowns, part of the temperature and overpressure protection requirements provides that HPSI pumps be deactivated when the RCS is pressurized and below 1900 psig. This prevents an inadvertent pressurization of the RCS by HPSI pumps at this time. Therefore, flow cannot be established through the check valves by the HPSI pumps during these cold shutdowns. Since valves 857M, 857F, 857G and 857H are upstream and in series with 857A, 857B, 857C, and 857D, respectively, the same basis for relief applies. Since these valves are pressure isolation valves, periodic leakage testing is required. The closed stroke is verified in conjunction with the leakage testing.

ALTERNATIVE TESTING:

Valves 857A, 857B, 857C, 857D, 857M, 858F, 857G, and 857H will be full-stroke exercised open and closed at refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

857J, 857K, 857E, 857L

FUNCTION:

Valves 857J, K, E and L are check valves in the cold leg injection lines from the HPSI pumps. Valves 857J and 857K are pressure isolation check valves. All four valves are closed during normal plant operation and their emergency function is to open to permit flow from the HPSI pumps to the RCS following a LOCA. 857J and 857K close to satisfy the pressure isolation function and open to permit flow.

JUSTIFICATION:

The SIS configuration is such that the only practical way the valves can be exercised is by activating the HPSI pumps and establishing flow through the valves. During normal plant operation, the RCS pressure is approximately 2200 psig. The HPSI pumps do not have the pressure capability (design discharge pressure approximately 1700 psig) to overcome the RCS pressure and establish flow through the check valves. In addition, part of the temperature over pressure protection requirements at cold shutdowns is that the HPSI pumps be deactivated when the RCS is pressurized and below 1900 psig. This is to prevent an inadvertent pressurization of the RCS by the HPSI pumps at this time. Therefore, flow cannot be established through the check valves by the HPSI pumps during cold shutdowns. Valves 857J and 857K are tested for leakage as pressure isolation valves. The closed stroke is verified in conjunction with this leakage testing.

ALTERNATIVE TESTING:

Valves 857J, K, E and L will be full-stroke exercised open at refueling. Valves 857J and 8567K will be full-stroke exercised closed at refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SIS

VALVES:

849A, 849B, 852A, 852B, 5220

FUNCTION:

These valves are check valves located at the outlet of the SI pumps. They are normally closed and have a safety function of opening upon actuation of the Safety Injection pumps. They also have a safety function to close on cessation of flow.

JUSTIFICATION:

Full-stroke exercising these valves quarterly while the plant is at normal operating power is impractical in that the RCS pressure is at approximately 2250 psig. This pressure locks out these check valves at the RCS/SIS interface that is downstream an in series with the subject check valves. The head available from the Safety Injection pumps is not great enough to overcome the RCS pressure, thereby preventing flow. It is also impractical to exercise these valves at cold shutdowns because the Safety Injection Pumps are deactivated when the RCS goes below 1900 psig as part of the over pressure protection requirements.

ALTERNATIVE TESTING:

Valves 849A, 849B, 852A, 852B, and 5220 will be full-stroke exercised open and closed at refueling outages.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SIS

VALVE:

882

FUNCTION:

This valve is located in the supply line from the RWST to the RHR pumps. The valve is normally de-energized open to ensure flow to the RHR pumps for low-head SI. The valve must close during recirculation from the containment sump to the RHR pumps.

JUSTIFICATION:

This valve is de-energized open during normal plant operations to ensure proper operability of the RHR system following an accident. Failure of this valve in the closed position during normal operations would preclude the proper operation of the system. Plant Technical Specifications require that Valve 882 be blocked open by de-energizing the motor operator.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SIS

VALVE:

1810

FUNCTION:

This valve is located in the water supply leading to the SI pumps from the RWST. It is normally de-energized open; however, following an accident where the SI piping is broken downstream of valves 888A and B, this valve is required to shut and valve 898 is manually opened.

JUSTIFICATION:

This valve is required by the Plant Technical Specifications to be de-energized open during normal plant operations to ensure water flow from the RWST to the SI pumps. Because it is a single valve in this line, failure of this valve in the shut position would cause the failure of the SI system and require the plant to shutdown.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SIS

VALVES:

1802A, 1802B

FUNCTION:

These valves are redundant parallel valves on the discharge of the containment internal recirculation pumps. They are normally closed and have a safety function to open when the recirculation pumps are put into service during the recirculation phase of a Loss of Coolant Accident. The recirculation pump header is provided with a normally open bypass line back to the sump to prevent dead heading the pumps. The elevation and piping arrangement from the RWST is such that with either valve 1802A or 1802B open the RWST would drain to the recirculation sump via the open bypass line with the potential for flooding the containment.

JUSTIFICATION:

Opening either valve during normal plant operation will cause the RWST to drain to containment. The only time the RWST is drained sufficiently to permit stroking 1802A and 1802B is at refueling.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at refueling.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CSS

VALVES:

880A - 880K

FUNCTION:

Valves 880A through 880K are non-automatic motor operated valves in the line from the Containment Spray header to the charcoal filter fire protection nozzles of the Fan Cooler Units. These valves are closed during plant operation and are required to open in the unlikely event of a high temperature condition in a filter unit during a design basis event.

JUSTIFICATION:

The only function of these valves is to open in the unlikely event that a charcoal filter high temperature occurs. During normal operation these valves are maintained in the closed position to assure that no water enters the charcoal beds which could degrade charcoal performance. The piping arrangement is such that a standing head of water can accumulate behind these valves with no means of draining this water off prior to cycling the valves. Thus, cycling at any time could result in water entering the charcoal beds, which is unacceptable. The Technical Specification require testing of the charcoal beds on a Refueling Interval. The valves will be stroked just prior to charcoal testing to allow for promp discovery of degraded charcoal conditions.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at refueling prior to charcoal filter performance testing so that, if charcoal filter degradation is evident by the test results, it will be immediately detected and appropriate corrective actions can be instituted prior to return to power operation.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SW

VALVES:

FCV-1111 and FCV-1112

FUNCTION:

These valves are manual flow isolation valves in the normal service water supply to the conventional plant equipment.

JUSTIFICATION:

Either one of these valves is open during normal plant operation and the other closed. The open valve is closed at some time following an accident condition. Full or part-stroke exercising the open valve during normal plant operation is impractical because doing so would reduce or secure flow to plant equipment requiring this cooling water. This could cause damage to this plant equipment.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at those cold shutdowns when the conventional plant equipment is not in use. In addition, these valves may be stroked during plant operation during those infrequent instances when it becomes necessary to realign service water system headers.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

N2

VALVES:

4107 and 4108

FUNCTION:

These are Non-ASME Code Class Valves.

Check valves open to allow normal pressurization of Nitrogen Accumulators which are used for operation of the PORV's. Check valves close in the event of upstream line break to maintain accumulator pressure.

JUSTIFICATION:

These valves are in containment and not accessible during reactor operation. Testing requires manual valve isolation and nitrogen line venting inside containment.

ALTERNATIVE TESTING:

These valves will be stroke exercised closed at cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

WCPS

VALVES:

SOV-1277 and SOV-1278

FUNCTION:

These are Non-ASME Code Class Valves.

These solenoid valves are normally open, allowing WCPS air to pressurize the piping between FCV-1170, 1171 and FCV-1172, 1173, respectively. When the isolation valves open (FCV-1170 through 1173), the solenoids reposition to stop WCPS air and to vent the air from between the isolation valves.

JUSTIFICATION:

These valves operate from the same circuit as the Containment Isolation valves listed above. The Containment Isolation valves are stroked at cold shutdown frequency in accordance with their CSHD justification because of the administrative goal established to limit the amount of time the Containment Isolation valves are open during plant operation.

ALTERNATIVE TESTING:

These valves will be tested at cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

WCPS

VALVES:

SOV-1340	SOV-1341	SOV-1342	SOV-1334
SOV-1434	SOV-1335	SOV-1435	SOV-1336
SOV-1436	SOV-1343	SOV-1344	SOV-1345
SOV-1337	SOV-1437	SOV-1338	SOV-1438
SOV-1339	SOV-1439		

FUNCTION:

These are Non-ASME Code Class Valves.

These solenoid valves operate to pressurize the containment personnel airlock' differential pressure instrumentation lines with WCPS air on receipt of a Containment Isolation Phase "A" signal. Valves SOV-1340 through 1345 are normally closed. These valves open to pressurize the instrument lines. Valves SOV-1334 through 1339 and SOV-1434 through 1439 are normally open. These valves close to maintain line pressure.

JUSTIFICATION:

These valves are actuated by a Containment Phase "A" isolation signal. Although these valves can be manually actuated, manual actuation would not demonstrate actuation by the Containment Phase "A" Isolation signal. Therefore, performance of the safety function requirement would not be demonstrated in a meaningful way.

ALTERNATIVE TESTING:

These valves will be tested at cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

204A, 204B

FUNCTION:

These valves are the isolation valves for the normal and alternate charging lines, respectively. During normal operation, either the normal or alternate charging path is selected to provide borated water from the charging pumps to the Reactor Coolant System. The selected path isolation valve remains open and the unselected path remains closed.

JUSTIFICATION:

Cycling valves 204A and 204B during plant operation has been identified as a possible contributor to fatigue. If the valves are cycled during power operation, cold water is injected into the charging lines while the lines are at normal operating temperatures. This potentially results in a thermal fatigue cycle, reducing the design life of components in the charging lines. Therefore, it is impractical to exercise these valves during plant operation.

ALTERNATIVE TESTING:

These valves will be tested at cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

210A, 210B

FUNCTION:

These check valves have the safety function to open to admit borated water from the CVCS into the RCS. The check valves are downstream of the isolation valves 204A and 204B on the normal and alternate charging lines from the Chemical Volume and Control System to the Reactor Coolant System.

JUSTIFICATION:

These valves are full stroked to pass full charging flow whenever the respective isolation valve is open during normal operation. The isolation valves will no longer be cycled during normal operation. Cycling of the charging and letdown isolation valves during plant operation has been identified as a possible contributor to fatigue. If the valves are cycled during power operation, cold water is injected in to the charging lines while the lines are at normal operating temperatures. This potentially results in a thermal fatigue cycle, reducing the design life of components in the charging lines. Therefore, it is impractical to exercise these valves during plant operation.

ALTERNATIVE TESTING:

The check valve downstream of the isolation valve (204A or 204B) which is closed during normal operation will be full stroke exercised open in conjunction with the VT-2 Inspection of that portion of line during the RCS Hydro at Refueling intervals.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

WCPS

VALVES:

85C, 85D, 95C, 95D

FUNCTION:

These are Non-ASME Code Class Valves.

These check valves function as CIVs for the airlock.

JUSTIFICATION:

There are no positive means available for exercising these valves. Proper operation may be deduced when making periodic entries to containment. In addition, the Appendix J tests for leak rate serve to verify the operability of these valves.

ALTERNATIVE TESTING:

These valves will be tested at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

211

FUNCTION:

This valve is a spring loaded normally closed check valve and its safety function is to open to provide Auxiliary Pressurizer Spray. This spray path is a backup for Normal Spray from Reactor Coolant Loops 3 and 4. During Auxiliary Pressurizer Spray this check valve is required to close for an upstream pipe break to prevent RCS leakage into containment. This check valve also has the secondary safety function to open to provide a pressure relief path for the piping and components upstream of Valve 212 (Aux. Spray Iso).

JUSTIFICATION:

Check Valve 211 is normally closed due to back pressure from the RCS. Technical Specifications require that "Spray shall not be used if the temperature difference between the pressurizer and the spray fluid is greater than 320 ^{0}F". In addition, there is no driving force to overcome RCS Pressure and flow through 211 during power operation.

ALTERNATIVE TESTING:

Check Valve 211 will be full-stroke exercised open at cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVES:

212

FUNCTION:

This valve is normally closed and is required to open to provide Auxiliary Pressurizer Spray. Control is from the Central Control Room. This spray path is a backup for Normal Spray from Reactor Coolant Loops 3 and 4. Valve 212 has a secondary function of acting as a relief path for the Regenerative Heat Exchanger when the RCS pressure upstream exceeds normal RCS pressure by 240 psi.

JUSTIFICATION:

This valve fails closed on loss of power to prevent depressurization. Normal Pressurizer Spray is provided through other piping which does not require use of this valve. During normal operation, valve 212 is closed. This valve is only opened to establish Auxiliary Pressurizer Spray. This valve closes to isolate Auxiliary Spray. If valve 212 fails to close, Auxiliary Spray may be isolated by closing MOV-205 or MOV-226 and MOV-227.

ALTERNATIVE TESTING:

Valve 212 will be full-stroke tested at Cold Shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

PCV-455A
PCV-455B

FUNCTION:

The Pressurizer Spray valves, PCV-455A and PCV-455B, are used to control RCS pressure and pressurizer temperature. They modulate as necessary to spray the Pressurizer with RCS water from either Loop 23 Cold Leg or Loop 24 Cold Leg.

JUSTIFICATION:

If valves PCV-455A and PCV-455B are unavailable for pressurizer control, then the Power Operated Relief Valves would be used to reduce RCS pressure and cool down the pressurizer. It is not desirable to full-stroke PCV-455A and PCV-455B on line due to the transients caused in RCS pressure and pressurizer temperature.

ALTERNATIVE TESTING:

Valves PCV-455A and PCV-455B will be tested at cold shutdown.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

535, 536

FUNCTION:

Valves 535 and 536 are motor operated block valves and are normally open. They are closed when leakage from the downstream power operated relief valves (PCV-456, 455C) exists. These valves are required to function, as part of the Overpressure Protection System and the RCS Vent System, post-accident.

JUSTIFICATION:

Valves 535 and 536 will be exercised and stroke timed quarterly when maintained in the open position. Should a block valve be closed due to associated excessive seat leakage in its series PORV, the block valve then becomes part of the reactor coolant pressure boundary. In that case, opening the block valve will likely invoke the technical specification limiting condition for operation for identified leakage, and perhaps, cause further degradation to the PORV. If the block valve had been closed because of a stuck open series PORV, then opening that block valve will cause a small LOCA. In the modified Standard Technical Specifications the block valves are exempt from the surveillance requirements to cycle the valves when they have been closed to comply with ACTION requirements.

ALTERNATIVE TESTING:

These valves will be Full-stroke exercised and timed quarterly when they have been open for durations of 90 days or greater, and exercised and stroke timed at a cold shutdown frequency when they have been closed to prevent PORV leakage.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

RCS

VALVES:

PCV-456, PCV-455C

FUNCTION:

These valves function as part of the Low Temperature Over-Pressurization Protection System. They also operate during power operation to limit any pressure excursion and thus limit the operation of the spring loaded Pressurizer Safety Valves. PCV-456 and PCV-455C are normally shut pressure relief valves.

JUSTIFICATION:

The September 1983 Safety Evaluation Report for the remote reactor head vent system requires "the licensee to exercise the remote reactor head vent system valves during cold shutdown or each refueling outage, and not every three months." PORV's PCV-456 and PCV-455C are used in the remote reactor head vent (RCS Vent) system.

In Generic Letter 90-06, the NRC staff included PORVs within the scope of a program covered by the ASME Section XI, Subsection IWV. Stroke testing of PORVs should only be performed during Mode 3 (HOT STANDBY) or Mode 4 (HOT SHUTDOWN) and in all cases prior to establishing conditions where PORVs are used for low-temperature overpressure protection. Stroke testing of PORVs should not be performed during power operation.

ALTERNATIVE TESTING:

These valves will be full-stroke exercised at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

MS

VALVES:

MS-2A, MS-2B, MS-2C, MS-2D

FUNCTION:

These valves are reverse current check valves in the main steam line from each steam generator. The four main steam lines are headered together. A steamline break upstream of an MS-2 valve would permit the other three steam generators to feed the break. Closure of the MS-2 valves under such a scenario limits the break flow (and the cooldown) to that associated with a single steam generator. As such, the safety function of these valves is to close.

JUSTIFICATION:

These valves are normally open during power operation passing nuclear generated steam to the turbine-generator unit. There are no means available to physically stroke these valves either on-line or off-line. However, as they are normally open check valves and are equipped with external position indication that is physically observable, physical observation to assure these valves are in the closed position can be verified at cold shutdown. In addition, these valves are equipped with an external counterweight. For a steamline break upstream of an MS-2, the check valve closes by the extreme differential pressure. Occasionally, on a controlled cooldown, the counterweight is assisted by hand to provide valve closure (due to lack of differential pressure). The torque to assist the counter weight is not measured since it is negligible when compared to steamline break differential pressure.

ALTERNATIVE TESTING:

These valves will be verified closed at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

MS

VALVES:

PCV-1134, 1135, 1136, 1137

FUNCTION:

These valves are atmospheric steam dump valves and are located outside of containment. They are used to manually control reactor cooldown and are used during the natural circulation mode of reactor cooldown.

JUSTIFICATION:

These valves are remote manual rheostat controlled valves and are operated manually from the control room and automatically controlled by pressure. It is impractical to exercise these valves during normal plant operation due to the steam flow that would ensue. In addition, a reactor trip and uncontrolled cooldown could result if one were to fail open while testing.

ALTERNATIVE TESTING:

These valves will be full-stroked exercised during cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SW

VALVES:

SWN-35, SWN-35-1

FUNCTION:

These manual butterfly valves are used as throttle valves to control Service Water Flow through the Component Cooling Heat Exchangers, thus controlling Component Cooling Water Temperature. They must also be closed to isolate an individual CCW Heat Exchanger.

JUSTIFICATION:

Stroking valve SWN-35 or SWN-35-1 while the CCW Heat Exchangers are controlling heat load would effect the operating temperatures of the safety related equipment cooled by CCW.

ALTERNATIVE TESTING:

These valves will be full-stroked exercised open and closed at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CCW

VALVES:

756A, 756B
1873A, 1873B, 1873C, 1873D, 1874

FUNCTION:

Valves 756A and 756B are the normally open supply and return of CCW to the CHP Fluid Drive Coolers. The 1873 and 1874 valves are normally closed CCW backup from the City Water System and hose connections. In the unlikely event of loss off CCW when the CHP's are required for achieving Cold Shutdown or Accident Mitigation, these valve positions would be required to be manually changed.

JUSTIFICATION:

Cycling these valves quarterly or at Cold Shutdown will interrupt CCW flow to the CHP Fluid Drive Coolers and then introduce City Water into the CCW System. Although the CHP's are not required in Cold Shutdown, the CCW System is and it is undesirable to introduce City Water into the chemically treated CCW System. These valves can be cycled when the CCW System is not required. This occurs during Refueling Outages with fuel out of the core.

ALTERNATIVE TESTING:

These valves will be full-stroked exercised At Refueling Outages.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CCW

VALVES:

733C
734A, 734B, 734E, 734F

FUNCTION:

Valves 734A and 734B are the normally open supply and return of CCW to the RHR/SIS Pump Bearing Coolers. Valves 733C, 734E and 734F are normally closed CCW backup from the Primary Water System and hose connections. In the unlikely event of loss off CCW when the RHR/SIS Pumps are required for achieving Cold Shutdown or Accident Mitigation, these valve positions would be required to be manually changed.

JUSTIFICATION:

Cycling these valves quarterly or at Cold Shutdown will interrupt CCW flow to the RHR/SIS Pump Bearing Coolers and then introduce Primary Water into the CCW System. Although these pumps are not required in Cold Shutdown, the CCW System is and it is undesirable to introduce Primary Water into the chemically treated CCW System. These valves can be cycled when the CCW System is not required. This occurs during Refueling Outages with fuel out of the core.

ALTERNATIVE TESTING:

These valves will be full-stroked exercised At Refueling Outages.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

CVCS

VALVES:

7001

FUNCTION:

Valve 7001 is a spring loaded check valve in the line from the Regenerative Heat Exchanger to the RCS via Auxiliary Spray. Its safety function is to open to provide a pressure relief path for the piping and components upstream of Valve 212 (Aux. Spray Iso).

JUSTIFICATION:

Technical Specifications require that "Spray shall not be used if the temperature difference between the pressurizer and the spray fluid is greater than 320^{0}F". In addition, there is no driving force to overcome RCS pressure and flow through Valve 7001 during power operation.

ALTERNATIVE TESTING:

This valve will be full-stroke exercised open at cold shutdowns.

COLD SHUTDOWN/REFUELING JUSTIFICATION

SYSTEM:

SW

VALVES:

SWN-6, SWN-7

FUNCTION:

Valve SWN-6 AND SWN-7 are the Service Water Header isolation to the Turbine Oil Coolers, Boiler Feed Pump Turbine Oil Coolers and the Seal Oil Coolers. All of these loads are Non- Essential. During normal (three header) operation, these valves are both closed and the equipment is fed via the River Water Header. During those periods of two header operation, (during maintenance) the valve supplying from the Non-essential Header would be maintained open. If a seismic event occurs, operators are directed to inspect the Service Water piping downstream of these valves. Since alignment is to the Non-Essential Header, sufficient time is available for local operator action to restore full header integrity.

JUSTIFICATION:

With the Service Water System on normal three header operation, valves SWN-6 and SWN-7 must remain closed to avoid cross-tieing of headers. During the swap over to two header operation one of the valves will be stroked depending on selection of the Non-Essential Header.

ALTERNATIVE TESTING:

These valves will be full-stroke tested at Cold Shutdown.