

RS-05-130

September 29, 2005

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

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

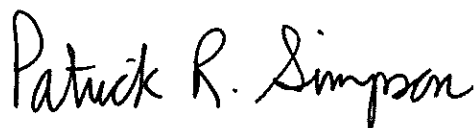
Subject: Quad Cities Nuclear Power Station Fourth Ten-Year Interval Inservice Testing Program

This letter provides a "for information" copy of the Quad Cities Nuclear Power Station (QCNPS) Fourth Ten-Year Interval Inservice Testing (IST) Program. Submittal of the IST Program is in accordance with the requirements of the American Society of Mechanical Engineers (ASME) OM Code, Subsection ISTA and consistent with the guidance provided in NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," Revision 1.

The enclosed IST Program has been updated for the fourth ten-year testing interval in accordance with 10 CFR 50.55a(f)(5)(i). As required by 10 CFR 50.55a(f)(4)(ii), this updated IST Program was written to meet the requirements of the ASME OM Code 1998 Edition through 2000 Addenda. As documented within the enclosed IST Program, the relief requests included in the IST Program have previously been submitted to the NRC and approved for use.

Should you have any questions concerning this letter, please contact Mr. David Gullott at (630) 657-2819.

Respectfully,



Patrick R. Simpson
Manager – Licensing

Attachment: QCNPS Inservice Testing Program Fourth Ten-Year Interval

Attachment

QCNPS Inservice Testing Program Fourth Ten-Year Interval

Quad Cities Nuclear Power Station Units 1 & 2

Inservice Testing Program Fourth Ten-Year Interval

Commercial Service Dates:

Unit 1 – 02/18/73

Unit 2 – 03/10/73

**Quad Cities Nuclear Power Station
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Cordova, Illinois 61242**

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P.O. Box 767
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IST Program Plan
Quad Cities Station Units 1 & 2, Fourth Ten Year Interval

REVISION LOG

Effective Date	Revision Description	Prepared; IST Program Engineer	Date	Approved; Engineering Programs Supervisor	Date
02/24/04	4 th Ten-Year Interval, Revision 0 Submittal to NRC. In compliance with 1998 Edition through 2000 Addenda except where relief is requested.	Bruce Phares	02/26/04	Tom Wojcik	02/26/04
05/13/04	Deleted Open Test for 1(2)-2301-004-MO and 1(2)-2301-005-MO	Bruce Phares	05/13/04	Kent Johnson for	05/14/04
09/30/04	Revised Code Class for Valves 1(2)-1301-15A, 15B, 16, 17, 25, and 26	Bruce Phares	09/30/04	Kent Johnson for	09/30/04
02/28/2005	Implementation of Condition Monitoring Incorporates changes stemming from Verification and Validation of the Program Plan as a result of discrepancies noted during the October 2004 NOS audit.	<i>Darryl Knapp</i>	2/28/05	<i>[Signature]</i>	03-01-05

Revision Date: 02/28/2005

IST-QDC-PLAN

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1.0 INTRODUCTION

1.1 Purpose

To provide requirements for the performance and administration of assessing the operational readiness of those pumps and valves whose specific functions are required to:

- Shutdown the reactor to the safe shutdown condition,
- Maintaining the safe shutdown condition, or
- To mitigate the consequences of an accident.

1.2 Scope

The program plan was prepared to meet the requirements of the following subsections of the American Society of Mechanical Engineers (ASME) OM Code (1998 Edition through 2000 Addenda).

- Subsection ISTA, *“General Requirements”*

ISTA contains the requirements directly applicable to inservice testing, including the Owner’s responsibility, duties of the Inspector, and records.

- Subsection ISTB, *“In-Service Testing of Pumps in Light-Water Reactor Nuclear Power Plants”*

Establishes the requirements for inservice testing of pumps in light-water reactor nuclear power plants. The pumps covered are those provided with an emergency power source, that are required in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. These pumps are either centrifugal or positive displacement type pumps.

- Subsection ISTC, *“In-service Testing of Valves in Light-Water Reactor Nuclear Power Plants”*

Establishes the requirements for inservice testing of valves in light-water reactor nuclear power plants. The valves covered include those which provide overpressure protection and are required to perform a specific function, either actively by changing valve obturator position or passively by effectively maintaining required obturator position in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident.

- Mandatory Appendix I, *“In-service Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants”*

Provides the requirements for performance testing and monitoring of nuclear plant pressure relief devices. Methods, intervals, and record requirements for monitoring and testing are established, as well as guidelines for the evaluation of results. Applies to safety valves, safety relief valves, pilot-operated pressure relief valves, power-actuated pressure relief valves, relief valves, nonreclosing pressure relief devices and vacuum relief devices, including all accessories and appurtenances.

- Mandatory Appendix II, *“Check Valve Condition Monitoring Program”*

Provides an alternative to the testing or examination requirements of ISTC-3510 through ISTC-5221. The purpose of this program is both to improve valve performance and to optimize testing, examination, and preventive maintenance activities in order to maintain the continued acceptable performance of a select group of check valves.

The Quad Cities Nuclear Power Station Pump and Valve Inservice Testing Plan will be in effect through the fourth 120-month interval.

This plan will be updated as required in accordance with 10CFR50.55a(f).

This program plan provides a complete listing of those pumps and valves included in the program per the requirements of:

- ISTA *“General Requirements”*
- ISTB *“In-service Testing of Pumps in Light-Water Reactor Nuclear Power Plants”*
- ISTC *“Inservice Testing of Valves in Light-Water Reactor Nuclear Power Plants”*
- Mandatory Appendix I, *“In-service Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants”*
- Mandatory Appendix II, *“Check Valve Condition Monitoring Program”*

2.0 INSERVICE TESTING PLAN FOR PUMPS

2.1 Pump Inservice Testing Plan Description

This program plan meets the requirements of ASME OM Code ISTB with the exception of specific relief requests contained in Attachment 2.

2.2 Pump Plan Table Description

The pumps included in the Quad Cities Nuclear Power Station IST Plan are listed in Attachment 14. The information contained in these tables identifies those pumps required to be tested to the requirements of ASME OM Code, the testing parameters and frequency of testing, and associated relief requests and remarks. The headings for the pump tables are delineated below.

<u>Pump Name</u> (Page Heading)	The descriptive name for the pump.	
<u>Pump EPN</u>	The unique Equipment Part Number (EPN) for the pump. Each EPN is preceded with a Unit designator for the pump:	
	0	Unit 0
	1	Unit 1
	2	Unit 2
<u>Test Group</u>	The pump group as defined in the definitions of ISTB	
	Group A	Continuous or routinely operated pumps
	Group B	Standby pumps not operated routinely except for testing
<u>Safety Class</u>	The ASME Code classification of the pump	
	1	Class 1
	2	Class 2
	3	Class 3
	NC	Non-Code, Safety Related
	NS	Non-Safety Related
<u>Pump Type</u>	The type of pump.	
	C	Centrifugal
	PD	Positive Displacement
	VLS	Vertical Line Shaft

2.2 Pump Plan Table Description (Cont'd)

<u>Pump Driver</u>	The type of pump driver.	
	MOTOR	Motor driven
	TURBINE	Steam turbine driven
<u>Nominal Speed</u>	The speed the pump “normally” operates at.	
<u>P&ID</u>	The Piping and Instrumentation Drawing on which the pump is represented.	
<u>P&ID Coord.</u>	The P&ID Coordinate location of the pump.	
<u>Test Type</u>	Measured test parameters.	
	DIFFERENTIAL PRESSURE	Calculated from suction and discharge pressures or obtained by direct measurement.
	DISCHARGE PRESSURE	Measured for positive displacement pumps.
	FLOW RATE	Measured using a rate or quantity meter installed in the pump test circuit.
	PUMP SPEED	Measured only for variable speed pumps.
	VIBRATION	Pump bearing vibration.
<u>Test Freq.</u>	The frequency for performing the specified in-service test.	
	M3	Quarterly (92 Days)
	Y2	Biennially (2 Years)
<u>Relief Request</u>	A relief request number is listed when a specific code requirement is determined to be impracticable.	
<u>Tech. Pos.</u>	A technical position number is listed when the requirements of the code are not easily interpreted and clarifying information is needed. The technical position is used to document how Code requirements are being implemented at the station.	

3.0 INSERVICE TESTING PLAN FOR VALVES

3.1 Valve Inservice Testing Plan Description

This plan establishes the test intervals, parameters to be measured and meets the requirements of ISTA, ISTC, Appendix I, and Appendix II with the exception of the specific relief requests contained in Attachment 4.

Where the frequency requirements for valve testing have been determined to be impracticable, Cold Shutdown or Refuel Outage Justifications have been identified and written. These justifications are provided in Attachments 6 and 8 respectively.

3.2 Valve Plan Table Description

The valves included in the Quad Cities Nuclear Power Station IST Plan are listed in Attachment 16. The information contained in these tables identify those valves that are required to be tested to the requirements of ASME OM Code ISTC, Mandatory Appendix I and Mandatory Appendix II, the test parameters, frequency of testing, and the associated relief requests. The headings for the valve tables are delineated below.

System Name The unique system identifier.

Valve Name The description of the valve.

Valve EPN A unique identifier for the valve. Each EPN is preceded with a Unit designator for the valve:

0	Unit 0
1	Unit 1
2	Unit 2

Safety Class The ASME Code classification of the valve.

1	Class 1
2	Class 2
3	Class 3
MC	Metal Containment
NC	Non-Code, Safety Related
NS	Non-Safety Related

3.2 Valve Plan Table Description (Cont'd)

Category The code category (or categories) as defined in ISTC-1300

A	Seat Leakage Limited.
B	Seat Leakage Not Required.
C	Self-Actuating Valves.
D	Single Use Valves.
AC	Both Categories A and C.
BC	Both Categories B and C.

Size The nominal pipe size of the valve, in inches.

Valve Type The valve body style abbreviation.

BAL	Ball Valve
BTF	Butterfly Valve
CK	Check Valve
DAM	Damper
DIA	Diaphragm Valve
GA	Gate Valve
GL	Globe Valve
PLG	Plug Valve
PLT	Pilot Valve
PPT	Poppet Valve
RPD	Rupture Disk
RV	Relief Valve
SCK	Stop Check Valve
SHR	Shear Valve/SQUIB Valve
3W	3-Way Valve
4W	4-Way Valve
XFC	Excess Flow Check Valve

Act. Type The actuator type abbreviation.

AO	Air Operator
DF	Dual Function (Self Actuated and Power Operated)
EXP	Explosive Actuator
HO	Hydraulic Operator
M	Manual
MO	Motor Operator
SA	Self-Actuating
SAP	Self-Actuated Pilot
SO	Solenoid Operator

3.2 Valve Plan Table Description (Cont'd)

<u>Active/Passive</u>	Designates if the valve is required to change position to fulfill its safety function.																		
<u>Normal Position</u>	The normal position abbreviation. The valve's position during normal power operation. If the system does not operate during power operation, then the normal position is the position of the valve when the system is not operating. <table><tr><td>C</td><td>Closed</td></tr><tr><td>CKL</td><td>Closed / Hand Switch Key Locked in Position</td></tr><tr><td>LC</td><td>Locked Closed</td></tr><tr><td>D</td><td>De-energized (3-way and 4-way valves)</td></tr><tr><td>E</td><td>Energized (3-way and 4-way valves)</td></tr><tr><td>O</td><td>Open</td></tr><tr><td>OKL</td><td>Open / Hand Switch Key Locked in Position</td></tr><tr><td>LO</td><td>Locked Open</td></tr><tr><td>SYS</td><td>System Condition Dependent</td></tr></table>	C	Closed	CKL	Closed / Hand Switch Key Locked in Position	LC	Locked Closed	D	De-energized (3-way and 4-way valves)	E	Energized (3-way and 4-way valves)	O	Open	OKL	Open / Hand Switch Key Locked in Position	LO	Locked Open	SYS	System Condition Dependent
C	Closed																		
CKL	Closed / Hand Switch Key Locked in Position																		
LC	Locked Closed																		
D	De-energized (3-way and 4-way valves)																		
E	Energized (3-way and 4-way valves)																		
O	Open																		
OKL	Open / Hand Switch Key Locked in Position																		
LO	Locked Open																		
SYS	System Condition Dependent																		
<u>Safety Position</u>	The safety function position(s). For valves that perform safety functions in the open and closed positions more than one safety function position may be specified. <table><tr><td>C</td><td>Closed</td></tr><tr><td>D</td><td>De-energized (3-way and 4-way valves)</td></tr><tr><td>E</td><td>Energized (3-way and 4-way valves)</td></tr><tr><td>D/E</td><td>De-energized or Energized</td></tr><tr><td>O</td><td>Open</td></tr><tr><td>O/C</td><td>Open and Closed</td></tr></table>	C	Closed	D	De-energized (3-way and 4-way valves)	E	Energized (3-way and 4-way valves)	D/E	De-energized or Energized	O	Open	O/C	Open and Closed						
C	Closed																		
D	De-energized (3-way and 4-way valves)																		
E	Energized (3-way and 4-way valves)																		
D/E	De-energized or Energized																		
O	Open																		
O/C	Open and Closed																		
<u>P&ID</u>	The Piping and Instrumentation Drawing (P&ID) number on which the valve appears. If the valve appears on multiple P&IDs, the primary P&ID will be listed.																		
<u>P&ID Coord.</u>	The coordinate location on the P&ID where the valve appears.																		

3.2 Valve Plan Table Description (Cont'd)

<u>Test Type</u>	The test type abbreviation.
CC	Exercise Closed – Check Valve
CCA	Exercise Closed – Condition Monitoring (Acoustics)
CCD	Exercise Closed – Condition Monitoring (Disassembly & Examination)
CCF	Exercise Closed – Condition Monitoring (Flow Indication)
CCM	Exercise Closed – Condition Monitoring (Magnetics)
CCR	Exercise Closed – Condition Monitoring (Radiography)
CCU	Exercise Closed – Condition Monitoring (Ultrasonics)
CCX	Exercise Closed – Condition Monitoring (Manual Exercise)
CO	Exercise Open – Check Valve
COA	Exercise Open – Condition Monitoring (Acoustics)
COD	Exercise Open – Condition Monitoring (Disassembly & Examination)
COF	Exercise Open – Condition Monitoring (Flow Indication)
COM	Exercise Open – Condition Monitoring (Magnetics)
COR	Exercise Open – Condition Monitoring (Radiography)
COU	Exercise Open – Condition Monitoring (Ultrasonics)

3.2 Valve Plan Table Description (Cont'd)

<u>Test Type</u>	The test type abbreviation.
COX	Exercise Open – Condition Monitoring (Manual Exercise)
CP	Partial Exercise Open
CPA	Partial Exercise Open – Condition Monitoring (Acoustics)
CPD	Partial Exercise Open – Condition Monitoring (Disassembly & Examination)
CPF	Partial Exercise Open – Condition Monitoring (Flow Indication)
CPM	Partial Exercise Open – Condition Monitoring (Magnetics)
CPR	Partial Exercise Open – Condition Monitoring (Radiography)
CPU	Partial Exercise Open – Condition Monitoring (Ultrasonics)
CPX	Partial Exercise Open – Condition Monitoring (Manual Exercise)
DT	Rupture Disk / Explosive Valves
FC	Fail Safe Test Closed
FO	Fail Safe Test Open
LT	Leak Test
LTH	Leak Test – Condition Monitoring (High Pressure)
LTJ	Leak Test – Condition Monitoring (Appendix J)
LTL	Leak Test – Condition Monitoring (Low Pressure)
OPR	Routine Operator Rounds - Condition Monitoring
PC	Partial Exercise Closed

3.2 Valve Plan Table Description (Cont'd)

<u>Test Type</u>	The test type abbreviation.
PI	Position Indication Test
RT	Relief Valve Test
SC	Exercise Closed
SD	De-energize
SE	Energize
SO	Exercise Open
TMP	Temperature Monitoring – Condition Monitoring

3.2 Valve Plan Table Description (Cont'd)

<u>Test Freq.</u>	The test frequency abbreviation.	
	AJ	Appendix J
	CM	Condition Monitoring
	CS	Cold Shutdown
	M3	Quarterly (92 Days)
	OP	Operating Activities
	RR	Refuel Outage
	S2	Explosive Charge Sample
	SA	Check Valve Disassembly Sample
	Y2	Biennially (2 Years)
	Y5	Five Year
	Y10	Ten Year

Relief Request A relief request number is listed when a specific code requirement is determined to be impracticable.

3.2 Valve Plan Table Description (Cont'd)

Deferred Just.

Deferred Test Justification.

- CS- A Cold Shutdown Justification number is listed when the testing frequency coincides with Cold Shutdowns instead of being performed quarterly
- RJ- A Refuel Outage Justification number is listed when the testing frequency coincides with Refuel Outages instead of being performed quarterly or during Cold Shutdowns.

Tech. Pos.

Technical Position

- TP- A Station Specific Technical Position is listed when the requirements of the code are not easily interpreted and clarifying information is needed. The technical position is used to document how Code requirements are being implemented for this specific station.
- CTP- A Corporate Technical Position is listed when the requirements of the code are not easily interpreted and clarifying information is needed. The technical position is developed by Corporate Engineering to document how Code requirements are being implemented across multiple Exelon nuclear stations.

4.0 ATTACHMENTS

ATTACHMENT 1

PUMP RELIEF REQUEST INDEX

(Page 1 of 1)

Designator

Description

Approval Date

There are no Pump Relief Requests

ATTACHMENT 2

PUMP RELIEF REQUESTS

ATTACHMENT 3

VALVE RELIEF REQUEST INDEX

(Page 1 of 1)

<u>Designator</u>	<u>Description</u>	<u>Approval Date</u>
RV-23A	High Pressure Coolant Injection System Exhaust Line Drain Pot to Gland Seal Condenser Solenoid Valve Can Not be Stroke Timed	02/20/04
RV-30B	Main Steam Safety Valve Set Point Testing, Additional Testing Requirements	02/20/04
RV-30C	Main Steam Isolation Valve Technical Specification Stroke Time Limits in Lieu of ASME OM ISTC Stroke Time Limits.	02/20/04
RV-30D	Main Steam Pressure Relief Valves With Auxiliary Actuating Devices Post Installation Testing	02/20/04

ATTACHMENT 4

VALVE RELIEF REQUESTS

10 CFR 50.55a Request Number RV-23A

**Relief Requested
In Accordance with 10 CFR 50.55a(f)(5)(iii)**

Inservice Testing Impracticality

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-2301-032-SO	HPCI	2	B
2-2301-032-SO	HPCI	2	B

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-5150, Solenoid Valve Stroke Testing

4. Impracticality of Compliance

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (f)(5)(iii), relief is requested from the requirement of ASME OM Code ISTC-5150. The basis of the relief request is that the Code requirement is impractical.

These solenoid valves function as a backup to the exhaust line drain pot steam trap. During normal operation of the HPCI turbine using high quality steam, the drain path from the drain pot to the torus via the steam trap is adequate to remove condensate from the turbine exhaust line. However, during HPCI turbine operation with low pressure and low quality steam (e.g., during certain HPCI surveillance tests), condensate collects in the drain pot faster than it can be drained through the trap. Under these conditions, solenoid valve 1(2)-2301-032 opens automatically to drain to the gland seal condenser upon receipt of a signal from a drain pot level switch when the drain pot level reaches the high-level alarm set point. A high level condition alarms a control room annunciator.

These valves are not equipped with hand switches or position indicators and the valves are totally enclosed, so valve position cannot be verified by direct observation. Therefore, it is impractical to exercise and stroke time these valves in accordance with Code requirements.

Valve actuation may be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing that the high level alarm clears. It is impractical to assign a maximum limiting stroke time to

these valves using this test method because the time for the alarm to clear would depend primarily on variables such as the rate of filling and the level of the drain pot when the filling is secured. The steam line drain pot is not equipped with direct level indication; therefore, the time required for the alarm to clear may vary significantly.

Failure of these valves to perform their safety function would be indicated by a drain pot high level alarm. Additionally, condensate entrapped in the steam would cause significant fluctuations in exhaust steam header pressure.

5. Burden Caused By Compliance

Compliance with the quarterly exercising and stroke timing requirements of the Code would require either system modifications to replace these valves with ones of testable design, or to purchase non-intrusive test equipment and develop new test methods and procedures.

6. Proposed Alternative and Basis for Use

A functional verification test is conducted on the drain pot level limit switches and the associated control room annunciators at least once every 92 days. Valve actuation will be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing a positive draining of the HPCI drain pot as indicated by a level increase in gland seal condenser and the high level alarm clears.

7. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

8. Precedents

This relief request RV-23A was previously approved for Quad Cities Nuclear Power Station Units 1 and 2 for the 3rd 120 month interval. Approval Date – June 16, 1999.

10 CFR 50.55a Request Number RV-30B

**Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(ii)**

**Hardship or Unusual Difficulty without Compensating
Increase in Level of Quality or Safety**

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0203-003A	Main Steam	1	C
1-0203-004A	Main Steam	1	C
1-0203-004B	Main Steam	1	C
1-0203-004C	Main Steam	1	C
1-0203-004D	Main Steam	1	C
1-0203-004E	Main Steam	1	C
1-0203-004F	Main Steam	1	C
1-0203-004G	Main Steam	1	C
1-0203-004H	Main Steam	1	C
2-0203-003A	Main Steam	1	C
2-0203-004A	Main Steam	1	C
2-0203-004B	Main Steam	1	C
2-0203-004C	Main Steam	1	C
2-0203-004D	Main Steam	1	C
2-0203-004E	Main Steam	1	C
2-0203-004F	Main Steam	1	C
2-0203-004G	Main Steam	1	C
2-0203-004H	Main Steam	1	C

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

Appendix I, I-1330(c) – Requirements for Testing Additional Valves

4. Reason for Request

Pursuant to 10 CFR 50.55a, “Codes and standards,” paragraph (a)(3)(ii), relief is requested from the requirement of ASME OM Code, Appendix I, I-1330(c). The basis of the relief request is that the Code requirement presents an undue hardship without a compensating increase in level of quality or safety.

Valve 1(2)-0203-003A is a dual function safety/relief valve manufactured by Target Rock. The remaining valves are simple safety valves. These main steam safety valves are used to terminate an abnormal pressure increase in the reactor vessel and the reactor coolant pressure boundary (i.e., they provide overpressure protection).

In accordance with Technical Specifications, at least half of the subject valves are tested and rebuilt during each refueling outage. This accelerated maintenance schedule provides a high level of assurance that these safety valves will perform their safety function.

Quad Cities does not have the facilities required to perform set-point tests on large relief and safety valves. These valves are unbolted from their mounting flanges, decontaminated, and shipped to an off-site test facility. Because of the lengthy period required for removal, transportation, testing and re-installation, the removal and testing of additional valves due to sample expansion would delay unit start-up from refueling outages by at least several days. This represents a significant hardship.

The sample expansion requirements of Appendix I would require two additional valves be tested if one valve failed its set-point test. Since the dual function safety/relief valve is tested each outage, and no less than four of the remaining valves are tested during each outage, the valves already being tested represent an increased sample expansion. Therefore, based on the sample expansion requirements already being met for one valve, and the hardship associated with pulling additional valves, no additional valves will be tested if only one valve fails the set-point test.

5. Proposed Alternative and Basis for Use

The dual function safety/relief valve, and at least half of the eight (8) safety valves, will be tested, rebuilt and reset in accordance with Technical Specifications during each reactor refueling outage. If only one of the eight (8) safety valves fails its set-point test, additional safety valves will not be tested. If more than one safety valve fails, the sample expansion criteria of Appendix I, 1330(c) will be implemented for every additional failed valve.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

This relief request RV-30B was previously approved for Quad Cities Nuclear Power Station Units 1 and 2 for the 3rd 120 month interval. Approval Date – May 3, 1994.

10 CFR 50.55a Request Number RV-30C

Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0203-001A-AO	Main Steam	1	A
1-0203-001B-AO	Main Steam	1	A
1-0203-001C-AO	Main Steam	1	A
1-0203-001D-AO	Main Steam	1	A
1-0203-002A-AO	Main Steam	1	A
1-0203-002B-AO	Main Steam	1	A
1-0203-002C-AO	Main Steam	1	A
1-0203-002D-AO	Main Steam	1	A
2-0203-001A-AO	Main Steam	1	A
2-0203-001B-AO	Main Steam	1	A
2-0203-001C-AO	Main Steam	1	A
2-0203-001D-AO	Main Steam	1	A
2-0203-002A-AO	Main Steam	1	A
2-0203-002B-AO	Main Steam	1	A
2-0203-002C-AO	Main Steam	1	A
2-0203-002D-AO	Main Steam	1	A

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-5132(b) – Stroke Time Acceptance Criteria – Valves with reference stroke times of less than or equal to 10 seconds shall exhibit no more than +/- 50 % change in stroke time when compared to the reference value.

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), relief is requested from the requirement of ASME OM Code ISTC-5132(b). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The main steam isolation valves (MSIVs) open to admit reactor steam to the main turbine. They close to provide containment and reactor isolation.

The ISTC Code requirement bases the stroke time acceptance criteria on a fixed reference value taken from a baseline test. However, Technical Specification 3.6.1.3, "Primary Containment Isolation Valves (PCIV's)," establishes an invariable acceptable stroke time range for the MSIVs of ≥ 3 seconds to ≤ 5 seconds. This fixed range is more conservative and consistent than that required by ISTC-5132(b) since the range is not dependent on a baseline value that may vary by as much as ± 1 second.

5. Proposed Alternative and Basis for Use

Technical Specification 3.6.1.3 establishes an acceptable stroke time range for the MSIVs of $3.0 \text{ seconds} \leq T_{\text{MSIV}} \leq 5.0 \text{ seconds}$. Quad Cities will utilize this range for evaluating an acceptable MSIV stroke time in lieu of establishing an acceptance band based on MSIV stroke time reference values. Quad Cities has also established additional limitations on stroke time based on reactor power levels to ensure that the Technical Specification limits are always met. Any MSIV that fails to meet the Technical Specification limits will be considered inoperable and required actions will be in accordance with the Technical Specifications.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

This relief request RV-30C was previously approved for Quad Cities Nuclear Power Station Units 1 and 2 for the 3rd 120 month interval. Approval Date – November 1, 1995.

10 CFR 50.55a Request Number RV-30D

**Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(i)**

Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0203-003A	Main Steam	1	B/C
1-0203-003B	Main Steam	1	B/C
1-0203-003C	Main Steam	1	B/C
1-0203-003D	Main Steam	1	B/C
1-0203-003E	Main Steam	1	B/C
2-0203-003A	Main Steam	1	B/C
2-0203-003B	Main Steam	1	B/C
2-0203-003C	Main Steam	1	B/C
2-0203-003D	Main Steam	1	B/C
2-0203-003E	Main Steam	1	B/C

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

Appendix I, I-3410(d) – Class 1 Main Steam Pressure Relief Valves With Auxiliary Actuating Devices – Each valve that has been maintained or refurbished in place, removed for maintenance and testing, or both, and reinstalled shall be remotely actuated at reduced or normal system pressure to verify open and close capability of the valve before resumption of electric power generation. Set-pressure verification is not required.

4. Reason for Request

Pursuant to 10 CFR 50.55a, “Codes and standards,” paragraph (a)(3)(i), relief is requested from the requirement of ASME OM Code Appendix I, I-3410(d). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

Experience in the industry and at Quad Cities Nuclear Power Station (QCNPS) has indicated that manual actuation of the main steam relief valves during plant operation can lead to valve seat leakage. Currently, QCNPS Unit 1 has four Electromatic Relief Valves (ERVs) designated 1-203-3B, 1-203-3C 1-203-3D 1-203-3E. Currently, QCNPS Unit 2

has four Power Operated Relief Valves designated 2-203-3B, 2-203-3C, 2-203-3D, 2-203-3E. Each unit also has a dual function Target Rock safety/relief valve (S/RV) designated 1-203-3A and 2-203-3A for Unit 1 and Unit 2 respectively. The Target Rock valve can actuate by either the safety mode or the relief mode. Each ERV, PORV and S/RV consists of a main valve disc and seat and a pilot valve arrangement.

Past history has indicated elevated tailpipe temperatures downstream of some of the subject valves. Based on previous testing and temperature trends, the most likely cause of the high tailpipe temperatures is leakage from the main valve disc and seat, rather than leakage from the pilot valve.

Valve seat leakage from either the main valve disc or pilot valve can result in increased suppression pool temperature, which has little safety significance, as long as suppression pool temperature is maintained within Technical Specification limits. However, leakage from a pilot valve can lead to inadvertent opening of the main valve, and the subsequent inability to re-close the valve.

The purpose of this relief request is to allow the testing of the ERVs, PORVs and S/RVs such that full valve functionality is demonstrated through overlapping tests, without cycling the valve. The use of an overlapping series of tests has been successfully applied at other stations.

Additionally, the Boiling Water Reactor Owners' Group (BWROG) Evaluation of NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves," recommended that the number of safety valve openings be reduced as much as possible and unnecessary challenges should be avoided.

5. Proposed Alternative and Basis for Use

The QCNPS ERVs are solenoid operated with a single stage pilot. Operation of the pilot valve vents the chamber under the main valve, which causes it to open. The PORVs are solenoid operated with a dual stage pilot. They are similar to other multi-stage pilot actuated SRVs in that lifting of the first stage pilot relieves loading from the second stage pilot, allowing it to change position, relieving pressure on the main disc. With this pressure relieved, the solenoid is able lift the main disc with the assistance of inlet pressure. This causes the main disc to move rapidly to its full open position. The S/RVs have two pilots; both pilots operate in the safety mode. In the relief mode, the second-stage disc is stroked by an air plunger.

The proposed alternative testing uses overlapping tests to verify the valves function properly at operating conditions and are capable of being opened when installed in the plant.

This proposed alternate will allow QCNPS to test the manual actuation of the ERVs, PORVs, and S/RVs in two overlapping tests. The first test will be performed at a steam

test facility, where each valve will be installed on a steam header in the same orientation as in the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing, and leak tested a final time.

The valve will then be shipped to the plant without any disassembly or alteration of the valve components. A receipt inspection will be performed in accordance with the requirements of the EGC Quality Assurance Program upon arrival of the valve at QCNPS. The storage requirements in effect at QCNPS ensure the valves are protected from exposure to the environment, airborne contamination, acceleration forces, and physical damage.

Second Test – PORV

Prior to installation, electrical continuity checks of the limit switches will be performed, and the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and electrically connected. Proper electrical connections will be verified per procedure. Electrical power to the control panel and signals causing application of power to the PORV solenoid will be verified to be present at the control panel per procedure. Electrical continuity and resistance checks from the control panel to the relief valve will be performed. These verifications will provide a complete check of the capability of the valve to open and close.

Second Test – ERV and SRV

Prior to installation, the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and electrically connected. Proper electrical connections will be verified per procedure. Electrical power to the control panel and signals causing application of power to the SRV and ERV solenoids will be verified to be present at the control panel per procedure. In addition, ERV limit switches will be tested. For the relief mode of SRVs, the second test will be performed after installation in the plant by energizing a solenoid that pneumatically actuates a plunger located within the main valve body. Actuation of the plunger allows pressure to be vented from the top of the main valve piston. This allows reactor pressure to lift the main valve piston, which opens the main valve. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure forces, the main valve will not stroke during the test. This test also does not disturb the safety-mode pilot valve, leakage through which is an issue with temperature detection of leakage after steam is applied to the valve.

For the ERVs, the second test will be performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid, actuator, pilot operating lever, and pilot plunger. However, since this test will be performed prior to establishing the necessary reactor pressure to overcome main valve closure forces, the main valve will not be stroked during the test.

These verifications will provide a complete check of the capability of the valves to open and close. Therefore, the proposed alternative will allow the testing of the ERVs, PORVs and S/RVs such that full functionality is demonstrated through overlapping tests without cycling the valves.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

Similar relief for the PORVs was previously approved for QCNPS Unit 2 for the 3rd 120 month interval by letter dated May 8, 2003. In addition, similar relief for the QCNPS Unit 1 ERVs, and QCNPS Units 1 and 2 S/RVs, was approved for the 3rd 120 month interval by letter dated May 28, 2003.



ATTACHMENT 5

COLD SHUTDOWN JUSTIFICATION INDEX

(Page 1 of 1)

<u>Designator</u>	<u>Description</u>	<u>Approval Date</u>
CS-00A	RHR and Core Spray Injection Check Valves Open Exercise Testing	02/20/04
CS-02A	Reactor Recirculation Pump Suction and Discharge Valve Closure Time Testing	02/20/04
CS-03A	CRD Charging Water Check Valve Closure Testing	02/20/04
CS-03B	CRD Air and Scram Dump Valve Exercise Testing	02/20/04
CS-10A	RHR Shutdown Cooling Suction Primary Containment Valve Time Testing	02/20/04
CS-30A	Outboard MSIV Fail Safe Testing	02/20/04
CS-30B	MSIV Exercise Testing	02/20/04
CS-37A	RBCCW Primary Containment Isolation Valve Time Testing	02/20/04

ATTACHMENT 6

COLD SHUTDOWN JUSTIFICATIONS

COLD SHUTDOWN JUSTIFICATION: CS-00A

(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-1001-068A	RHR	1	A/C
1-1001-068B	RHR	1	A/C
1-1402-009A	Core Spray	1	A/C
1-1402-009B	Core Spray	1	A/C
1-2901-010	Safe Shutdown Makeup	2	C
2-1001-068A	RHR	1	A/C
2-1001-068B	RHR	1	A/C
2-1402-009A	Core Spray	1	A/C
2-1402-009B	Core Spray	1	A/C
2-2901-010	Safe Shutdown Makeup	2	C

Component Function(s)

These Residual Heat Removal (RHR), Core Spray, and Safe Shutdown Makeup (SSMP) injection check valves must open when the associated system is required to inject water into the reactor vessel.

Justification

Injection of cold water from the Contaminated Condensate Storage Tanks and/or Suppression Chamber would produce reactivity excursions. This cold water would create a thermal shock to various Class 1 piping systems especially causing concerns at the weld joints. Providing there is inadequate thermal mixing in the reactor vessel, there is a possibility that the cold water could reach the reactor vessel nozzles and reactor vessel internals. By minimizing the number of injections into the reactor vessel, the thermal cycling of weld joints and reactor components and the resulting piping stresses would be reduced. In addition, the RHR and Core Spray check valves cannot be exercised open during normal operation via a full flow test because the system injection motor operated valves can only be opened at reactor pressures less than 325 psig.

The RHR check valves will be stroked by their air operators and the Core Spray and SSMP Check Valves will be tested by a full flow injection test during Cold Shutdowns.

COLD SHUTDOWN JUSTIFICATION: CS-02A

(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0202-005A-MO	Reactor Recirculation	1	B
1-0202-005B-MO	Reactor Recirculation	1	B
1-0202-009A-MO	Reactor Recirculation	1	B
2-0202-005A-MO	Reactor Recirculation	1	B
2-0202-005B-MO	Reactor Recirculation	1	B
2-0202-009A-MO	Reactor Recirculation	1	B

Component Function(s)

Valves 0202-005A and 0202-005B are the Reactor Recirculation (RR) pump discharge isolation valves. Valve 0202-009A is the Recirculation Loop cross-tie bypass whose primary purpose is to stay open during operation to equalize temperature and pressure in the cross-tie area of the recirculation loop. The RR pump discharge isolation valve and the cross-tie bypass valve must close upon receipt of a Residual Heat Removal Low Pressure Coolant Injection (LPCI) mode (Loop Selection Logic) signal. Closure of the RR pump discharge isolation valve and the cross-tie bypass valve ensures that LPCI flow is directed to the reactor core, rather than being diverted out a RR system line break.

Justification

Valves 0202-005A and 0202-005B cannot be exercised closed during normal operation because one loop of the Reactor Recirculation system would have to be secured prior to performing the test. Single loop operation is limited by Technical Specifications and should be avoided because coolant flow imbalances may lead to neutron flux oscillations and requires a significant (30%) extended load reduction for the sole purpose of performing this exercise test.

Valve 0202-009A cannot be exercised closed during normal operation because differential pressures and temperatures may be created in the piping between the 0202-006A and 0202-006B valves causing undesirable stresses.

These valves will be exercised closed during cold shutdowns when the reactor recirculation system can be secured.

COLD SHUTDOWN JUSTIFICATION: CS-03A
(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0305-115	CRD	1	C
2-0305-115	CRD	1	C

Component Function(s)

The Control Rod Drive (CRD) charging water header check valves (typical of 177) must close when each CRD scram inlet valve (0305-126 -FCV) opens and discharges the CRD Hydraulic Control Unit (HCU) accumulator into the CRD under-piston area to insert a control rod. If this CRD charging water header check valve does not close, CRD HCU scram flow from the accumulator may be diverted to the charging water header.

Justification

These valves cannot be exercised closed during normal operation since the CRD pumps that are required for operation would have to be secured, and accumulator pressure monitored, to verify valve closure. If the CRD pumps are secured, cooling water to the CRD seals would be interrupted and the seals may be damaged.

The valves will be exercised closed during cold shutdowns when the CRD pumps can be secured.

COLD SHUTDOWN JUSTIFICATION: CS-03B
(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0302-019A-SO	CRD	NC	B
1-0302-019B-SO	CRD	NC	B
1-0302-020A-SO	CRD	NC	B
1-0302-020B-SO	CRD	NC	B
1-0302-025A-SO	CRD	NC	B
1-0302-025B-SO	CRD	NC	B
1-0302-181A-SO	CRD	NC	B
1-0302-181B-SO	CRD	NC	B
1-0302-182A-SO	CRD	NC	B
1-0302-182B-SO	CRD	NC	B
2-0302-019A-SO	CRD	NC	B
2-0302-019B-SO	CRD	NC	B
2-0302-020A-SO	CRD	NC	B
2-0302-020B-SO	CRD	NC	B
2-0302-025A-SO	CRD	NC	B
2-0302-025B-SO	CRD	NC	B
2-0302-181A-SO	CRD	NC	B
2-0302-181B-SO	CRD	NC	B
2-0302-182A-SO	CRD	NC	B
2-0302-182B-SO	CRD	NC	B

Component Function(s)

The Control Rod Drive Scram Air Header has multiple vent paths to ensure reliability in case scram action is necessary. 0302-020A, 0302-020B, 0302-019A and 0302-019B are the Scram Dump Valves and Scram Dump Backup valves respectively. Valves 0302-025A, 0302-025B, 0301-122, 0302-181A, 0302-181B, 0302-182A and 0302-182B are vent valves for the Anticipated Transient Without Scram/Alternate Rod Injection (ATWS/ARI) system. These valves must energize or open to provide a vent path to depressurize the Scram Air Header.

Justification

These valves cannot be exercised or fail safe tested during normal operation because their actuation could lead to an unplanned rapid insertion of all control rods and the closure of the scram discharge volume vent and drain valves. Valves 0302-019A, 0302-019B, 0302-020A and 0302-020B are in series and do not have individual position indication, the only positive method of determining that these valves open is to actuate both the A and B scram logic. The actuation of a single ARI/ATWS valve would result in the depressurization of the entire scram air header. The valves will be exercised and fail safe tested during cold shutdowns when the CRDs are not required.

COLD SHUTDOWN JUSTIFICATION: CS-10A

(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-1001-047-MO	RHR	1	A
1-1001-050-MO	RHR	1	A
2-1001-047-MO	RHR	1	A
2-1001-050-MO	RHR	1	A

Component Function(s)

These normally closed valves are Primary Containment Isolation Valves (PCIVs) and Pressure Isolation Valves (PIVs) for the Residual Heat Removal (RHR) Shutdown Cooling mode suction line. These valves are required to close for isolation purposes.

Justification

These valves cannot be exercised closed during normal operation. These normally closed valves must be exercised open prior to closure timing. These valves cannot be opened during normal operation due to an interlock that prevents the opening of the valves when the reactor pressure is greater than 100 psig.

These valves will be exercised and timed closed during cold shutdowns when the reactor pressure is less than 100 psig and when Shutdown Cooling can be secured.

COLD SHUTDOWN JUSTIFICATION: CS-30A

(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0203-002A-AO	Main Steam	1	A
1-0203-002B-AO	Main Steam	1	A
1-0203-002C-AO	Main Steam	1	A
1-0203-002D-AO	Main Steam	1	A
2-0203-002A-AO	Main Steam	1	A
2-0203-002B-AO	Main Steam	1	A
2-0203-002C-AO	Main Steam	1	A
2-0203-002D-AO	Main Steam	1	A

Component Function(s)

The main steam isolation valves open to admit reactor steam to the turbine. They close to provide reactor containment and reactor coolant system isolation.

Valves in the 0203-002-AP2 series are 2-Way Air Pilot Valves with air pilot operators that must fail open during a loss-of-instrument air event. When these valves open, the Main Steam Isolation valve will close.

Justification

A true fail safe test of these valves can only be performed BY simulating a loss of instrument air by locally venting the MSIV accumulator and verifying the valve changes position.

The 2-Way air pilot valves are exercised each time the associated Main Steam Isolation Valve (MSIV) is closed. The 2-Way air pilot valves provide a secondary vent path independent of the main 4-Way air pilot valve. So it is extremely difficult to determine whether the MSIV closed with actuator air exhausting through both the 4-Way air pilot and the subject 2-Way air pilot, or though the 4-Way air pilot alone.

A loss-of-instrument air event must be simulated by locally venting the MSIV accumulator to provide conclusive evidence that the 2-way air pilot valve was exercised open.

A true fail safe test of these valves can only be performed by locally venting the MSIV accumulator and observing the valve closure. This cannot be performed without significantly reducing reactor power. Also, the accumulators are located in the MSIV room, which is a high temperature, high humidity, and high radiation area. The ALARA and personnel safety aspects make it impractical to perform during power operation. These valves will be fail safe tested during cold shutdowns when entry into the MSIV room is permitted.

COLD SHUTDOWN JUSTIFICATION: CS-30B

(Page 1 of 2)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0203-001A-AO	Main Steam	1	A
1-0203-001B-AO	Main Steam	1	A
1-0203-001C-AO	Main Steam	1	A
1-0203-001D-AO	Main Steam	1	A
1-0203-002A-AO	Main Steam	1	A
1-0203-002B-AO	Main Steam	1	A
1-0203-002C-AO	Main Steam	1	A
1-0203-002D-AO	Main Steam	1	A
2-0203-001A-AO	Main Steam	1	A
2-0203-001B-AO	Main Steam	1	A
2-0203-001C-AO	Main Steam	1	A
2-0203-001D-AO	Main Steam	1	A
2-0203-002A-AO	Main Steam	1	A
2-0203-002B-AO	Main Steam	1	A
2-0203-002C-AO	Main Steam	1	A
2-0203-002D-AO	Main Steam	1	A

Component Function(s)

The main steam isolation valves (MSIVs) are normally open to provide a steam flow path from the reactor through containment to the turbine. This is not a safety-related function.

The MSIVs have a closed safety function to provide reactor containment and reactor coolant system isolation on a Group 1 Primary Containment Isolation Signal.

The 4-Way Air pilot has a safety function to actuate to its fail-safe position that allows the closure of the MSIV. This function is verified by the closure of the MSIV.

Justification

It is impractical to full-stroke exercise these valves to the closed position on a quarterly (nominal 92 days) frequency during plant operation. The MSIVs have the capability and are being partial stroked at least once per quarter during the Technical Specification MSIV scram sensor channel functional test requirements.

As identified in UFSAR section 6.2.6.3.1, "MSIV Testing", the performance of a full-stroke exercise to the closed position of individual MSIVs can be performed during power operation if reactor power is reduced sufficiently (< 75% power) to avoid a scram as a result of primary system pressure spikes and reactor power fluctuations.

COLD SHUTDOWN JUSTIFICATION: CS-30B
(Page 2 of 2)

NUREG-1482 "Guidelines for Inservice Testing at Nuclear Power Plants", Section 2.4.5, "Deferring Valve Testing to Cold Shutdown or Refueling Outages" identifies "impractical conditions justifying test deferrals" as those conditions that could result in unnecessary challenges to safety systems, place undue stress on components, cause unnecessary cycling of equipment, or unnecessarily reduce the life expectancy of the plant systems and components. Section 2.4.5 also identified that any testing that could cause a plant trip or require a power reduction can be considered as an example of impractical conditions. The note at the end of NUREG-1482, Section 4.2.4, "Main Steam Isolation Valves" also identified that the revised standard technical specification bases for MSIV surveillance requirements states that "MSIVs should not be exercised at power, since even a partial stroke exercise increases the risk of a valve closure when the unit is generating power."

No reduction from high power levels (>75% power) will be made specifically to accomplish this testing. The MSIV's will be full-stroke timed during Cold Shutdowns. In addition, these valves will be partially stroked closed at least once per quarter.

COLD SHUTDOWN JUSTIFICATION: CS-37A

(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-3702-MO	RBCCW	NC	A
1-3703-MO	RBCCW	NC	A
1-3706-MO	RBCCW	NC	A
2-3702-MO	RBCCW	NC	A
2-3703-MO	RBCCW	NC	A
2-3706-MO	RBCCW	NC	A

Component Function(s)

These valves are Primary Containment Isolation Valves (PCIVs) on the Reactor Building Closed Cooling Water (RBCCW) supply and return lines to the drywell. These valves must close to provide primary containment isolation.

Justification

These normally open valves cannot be closed during normal operation, because the RBCCW system supplies cooling water to both Reactor Recirculation (RR) pumps, the RR pump motor bearing coolers, and the drywell air coolers. Interrupting the cooling water supply to the RR pump or motor bearings for even a short time could result in damage to the pump bearings.

The valves will be exercised closed during cold shutdown periods when the component cooling water is not required.

ATTACHMENT 9

STATION TECHNICAL POSITION INDEX

(Page 1 of 1)

<u>Designator</u>	<u>Description</u>	<u>Approval Date</u>
TP-00A	Timing of Valves with Inaccurate Position Indication	02/20/04
TP-00B	Non-Safety Direction Testing of Check Valves by Normal Operations	02/20/04
TP-00C	Fail-Safe Testing of Valves	02/20/04
TP-00D	Definition of Vertical Line Shaft Pump	02/20/04
TP-00E	Classification of Skid-Mounted Components	02/20/04
TP-00F	Appendix J Exemption for Category B PCIVS	02/20/04
TP-00G	Appendix J testing of PCIVs	02/20/04
TP-00H	Testing of Fast-Acting Valves	02/20/04
TP-00I	Excess Flow Check Valve Testing	02/20/04
TP-03A	Testing of ARI Solenoid Valves	02/20/04
TP-07A	Transverse In-Core Probe System Shear Valves Can Not be Seat Leak Tested.	02/20/04
TP-16A	Drywell / Suppression Chamber Vacuum Breaker Leak Test	02/20/04
TP-41A	Control Room HVAC AFU Fire Header Valve Testing	02/20/04

ATTACHMENT 10

STATION TECHNICAL POSITIONS

STATION TECHNICAL POSITION: TP-00A

(Page 1 of 1)

Timing of Valves with Inaccurate Position Indication

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-1301-022-MO	RCIC	NS	B
1-1301-025-MO	RCIC	NC	B
1-1301-026-MO	RCIC	NC	B
1-1301-048-MO	RCIC	NS	B
1-1301-049-MO	RCIC	NS	B
1-1301-053-MO	RCIC	NS	B
1-1301-060-MO	RCIC	NS	B
1-1301-061-MO	RCIC	NS	B
1-1301-062-MO	RCIC	NS	B
2-1301-022-MO	RCIC	NS	B
2-1301-025-MO	RCIC	NC	B
2-1301-026-MO	RCIC	NC	B
2-1301-048-MO	RCIC	NS	B
2-1301-049-MO	RCIC	NS	B
2-1301-053-MO	RCIC	NS	B
2-1301-060-MO	RCIC	NS	B
2-1301-061-MO	RCIC	NS	B
2-1301-062-MO	RCIC	NS	B

Code Requirement(s)

ASME OM Code ISTC-5120(c) "Motor-Operated Valve Stroke Testing"

"The stroke time of all valves shall be measured to at least the nearest second."

Position Statement

These valves have been identified to have inaccurate position indication. Stroke timing of the valve will be measured locally at the valve's breaker. Stroke time will commence upon the closing of the contactor and end when the contactor re-opens.

Justification

Normally stroke timing is measured from remote position indication located in the Control Room. However, certain motor operated valves have been identified as having inaccurate light indication. The majority of these valves were modified to allow the accurate setting of position indication. However, this modification did not include all of the motor operated valves within the scope of the IST program. Locally at the breaker, stroke time measurements that commence upon the closing of the contactor and end when the contactor re-opens provide a much more accurate representation of the valve's full stroke time.

STATION TECHNICAL POSITION: TP-00B
(Page 1 of 3)

Non-Safety Direction Testing of Check Valves by Normal Operations

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
Check Valves	Various	All	C

Code Requirement(s)

The ASME OM Code 1998 through 2000 Addenda section ISTC 3550, "Valves in Regular Use," states the following:

"Check valves that operate in the course of plant operation at a frequency that would satisfy the exercising requirements of this Subsection need not be additionally exercised if the observations otherwise required for testing are made and analyzed during such operation and are recorded in the plant records at intervals not greater than specified in ISTC-3510"

ISTC-3510 indicates that check valves shall be exercised nominally every 3 months with exceptions (for extended exercise periods) referenced.

ISTC-5221(a)(2) states that,

"Check valves that have a safety function in only the open direction shall be exercised by initiating flow and observing that the obturator has traveled to either the full open position or to the position required to perform its intended function(s), and verify closure."

ISTC-5221(a)(3) states that,

"Check valves that have a safety function in only the close direction shall be exercised by initiating flow and observing that the obturator has traveled to at least the partially open position²,"

Footnote 2 to this section indicates that the partially open position should correspond to the normal or expected system flow.

NOTE

"Normal or expected," system flow rate may vary with plant conditions and configurations.

The open safety function of a check valve usually requires meeting a specified, required limiting accident flow rate. As Operators are trained in recognizing normal plant conditions, Operator judgment is acceptable in ascertaining whether the non-safety open check valve position is providing normal or expected flow rates or plant conditions.

STATION TECHNICAL POSITION: TP-00B

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As stated in these two sections, verifying closure or passing normal or expected flow to verify opening, as applicable satisfactorily demonstrates the non-safety function.

Position Statement

The purpose of this Technical Position is to establish Quad Cities' position for the verification of the non-safety exercise testing of check valves by normal plant operations.

This Technical Position is applicable to:

1. The testing of the **non-safety function** (position) of IST check valves ONLY and does not apply to the testing of the safety function (position) of the IST check valve as defined in the IST Bases document.
2. Check valves tested under Subsection ISTC, and to Appendix II (Condition Monitoring), of the ASME OM Code 1998 through 2000 Addenda.

Verification of the non-safety position of IST check valves may be performed through the execution of a dedicated surveillance. Alternately this verification may be satisfied as follows:

- An appropriate means shall be determined which establishes how the open/closed non-safety function of the specified check valve is demonstrated during normal operations. The position determination may be by direct indicator, or by other positive means such as changes in system pressure, flow rate, level, temperature, seat leakage, etc. This determination shall be documented in the respective Condition Monitoring Plan in the "Bases for Testing and Inspection Strategy," for valves in the Condition Monitoring Program. For check valves governed by Subsection ISTC and not in Condition Monitoring this determination shall be documented in the respective IST Bases Document valve group in the, "Bases Statement," section.
- Automated processes may be used to provide for the "observation and analysis," that a check valve is appropriately satisfying its' non-safety position function. An example of this would be a check valve that has a safety function in only the close direction and normally has flow through it to maintain normal plant operations. If the check valve is not opening to pass flow, alarms or indications would identify the problem to the Operator who is trained to respond to such situations and take appropriate actions. Condition Reports are normally written for abnormal plant conditions attributable to material condition concerns such as check valve failures.
- The "observation and analysis," of logs and other such records is satisfied by Operator reviews. Operating personnel are trained to look for off-normal data and adverse trends and take actions as appropriate. This would effectively determine if a check valve were satisfactorily fulfilling its' non-safety function.

STATION TECHNICAL POSITION: TP-00B

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- The open/closed non-safety function shall be recorded at a periodicity required by ISTC-3510, with exceptions as provided, in plant records such as Operator logs, Electronic Rounds, chart recorders, automated data loggers, etc.

NOTE

The safety function testing of these valves constitutes requiring a Quality Record. Records as indicated above are appropriate for the non-safety testing.

The method in which the check valve position is recorded shall be included in the Condition Monitoring Plan or Bases Document sections as indicated above.

Should any concerns arise regarding the material condition/operation of these check valves a Condition Report is written which is a Quality Record.

Justification

This Technical Position requires that the method of determining the non-safety position be established. The plant systems and Operator actions provide for the observations and analysis that the valve is satisfying its' non-safety function. Finally, the recording of parameters demonstrating valve position is satisfied at a frequency specified in ISTC 3510. These actions collectively satisfy demonstrating the non-safety position of IST check valves in regular use as required by ISTC 3550.

STATION TECHNICAL POSITION: TP-00C

(Page 1 of 1)

Fail-Safe Testing of Valves

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
Power Operated Valves with a Fail Safe function.	Various	All	A & B

Code Requirement(s)

ASME OM Code ISTC-3560, "Fail Safe Valves"

"Valves with fail-safe actuators shall be tested by observing the operation of the actuator upon the loss of valve actuating power in accordance with the exercising frequency of paragraph ISTC-3510"

Position Statement

In cases where normal valve operator action moves the valve to the open or closed position by de-energizing the operator electrically, by venting air, or both, the exercise test will satisfy the fail safe test requirements and an additional test specific for fail safe testing will not be performed.

Quad Cities uses remote position indication as applicable to verify proper fail-safe operation, provided that the indication is periodically verified in accordance with ASME OM Code ISTC-3700.

Justification

Quad Cities Inservice Testing Program valves that fail open or closed upon loss of actuator power use the fail-safe mechanism to stroke the valve to its safety position. For example, an air-operated valve that fails closed may use air to open the valve against spring force. When the actuator control switch is placed in the closed position, air is vented from the diaphragm and the spring moves the obturator to the closed position.

STATION TECHNICAL POSITION: TP-00D

(Page 1 of 1)

Definition of Vertical Line Shaft Pump

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-1002A	RHR	2	N/A
1-1002B	RHR	2	N/A
1-1002C	RHR	2	N/A
1-1002D	RHR	2	N/A
1-1401A	Core Spray	2	N/A
1-1401B	Core Spray	2	N/A
2-1002A	RHR	2	N/A
2-1002B	RHR	2	N/A
2-1002C	RHR	2	N/A
2-1002D	RHR	2	N/A
2-1401A	Core Spray	2	N/A
2-1401B	Core Spray	2	N/A

Code Requirement(s)

ISTB-2000, Supplemental Definitions

Position Statement

The pumps identified above have motors that are vertically mounted, but are not considered vertical line shaft pumps. The test parameters for these pumps are established and analyzed in accordance with the centrifugal pump type criteria of ISTB Table ISTB-5100-1.

Justification

ISTB-2000 defines vertical line shaft pump as “a vertically suspended pump where the pump driver and pump element are connected by a line shaft within an enclosed column”.

The subject pumps are not considered vertical line shaft type pumps.

STATION TECHNICAL POSITION: TP-00E

(Page 1 of 2)

Classification of Skid-Mounted Components

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
Various	Various	All	All

Code Requirement(s)

The ASME Code allows classification of some components as skid mounted when their satisfactory operation is demonstrated by the performance of major components. Testing of the major component is sufficient to satisfy IST testing requirements for skid-mounted components.

The term “*skid-mounted*” was clarified by the addition of ISTA paragraph 1.7 of the 1996 addenda to the ASME OM Code (endorsed by 10CFR50.55(a) in October 2000), which states:

“ISTA 1.7 Definitions

***Skid mounted components and component sub assemblies** – components integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these components are supplied by the manufacturer of the major component. Examples include: diesel skid-mounted fuel oil pumps and valves, steam admission and trip throttle valves for high-pressure coolant injection or auxiliary feedwater turbine-driven pumps, and solenoid-operated valve provided to control the air-operated valve.”*

This definition was further clarified in the 1998 ASME OM Code:

ISTA-2000 DEFINITIONS

***Skid mounted pumps and valves** – pumps and valves integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these pumps and valves are supplied by the manufacturer of the major component. Examples include:*

- (a) diesel fuel oil pumps and valves;*
- (b) steam admission and trip throttle valves for high-pressure coolant injection pumps;*
- (c) steam admission and trip throttle valves for auxiliary feedwater turbine driven pumps;*
- (d) solenoid-operated valves provided to control an air-operated valve.*

In section 3.4 of NUREG 1482, the NRC supports the designation of components as skid mounted:

“The staff has determined that the testing of the major component is an acceptable means for verifying the operational readiness of the skid-mounted and component subassemblies if the licensee documents this approach in the IST Program. This is acceptable for both Code class components and non-Code class components tested and tracked by the IST Program.”

Subsection ISTC-1200 “Exemptions” states:

“....Skid-mounted valves are excluded from this Subsection provided they are tested as part of the major component and are justified by the Owner to be adequately tested.”

STATION TECHNICAL POSITION: TP-00E

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Position Statement

The purpose of this technical position is to clarify requirements for classification of various components as skid mounted components.

The 1998 ASME OM Code definition of skid mounted should be used for classification of components in the Quad Cities Inservice Testing Program. In addition, for a component to be considered skid mounted:

- The major component associated with the skid-mounted component must be surveillance tested at a frequency sufficient to meet ASME OM Code test frequency for the skid-mounted component.
- Satisfactory operation of the skid-mounted component must be demonstrated by satisfactory operation of the major component.
- The IST Bases Document should describe the bases for classifying a component as skid mounted, and the IST Program Plan should reference this technical position for the component.

Justification

Classification of components as skid-mounted eliminates the need for testing of sub-components that are redundant with testing of major components provided testing of the major components demonstrates satisfactory operation of the “skid mounted” components.

STATION TECHNICAL POSITION: TP-00F

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Appendix J Exemption for Category B PCIVS

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-1001-007A-MO	RHR	2	B
1-1001-007B-MO	RHR	2	B
1-1001-007C-MO	RHR	2	B
1-1001-007D-MO	RHR	2	B
1-1301-025-MO	RCIC	NC	B
1-1402-003A-MO	Core Spray	2	B
1-1402-003B-MO	Core Spray	2	B
1-2301-036-MO	HPCI	2	B
2-1001-007A-MO	RHR	2	B
2-1001-007B-MO	RHR	2	B
2-1001-007C-MO	RHR	2	B
2-1001-007D-MO	RHR	2	B
2-1301-025-MO	RCIC	NC	B
2-1402-003A-MO	Core Spray	2	B
2-1402-003B-MO	Core Spray	2	B
2-2301-036-MO	HPCI	2	B

Code Requirement(s)

ASME OM Code ISTC-3620, "Containment Isolation Valves"

Position Statement

These PCIVs are considered to be Category B and are not leak tested due to the system accident condition configuration, as well as being closed systems, and having a qualified inboard water seal.

Justification

Primary Containment Isolation Valves (PCIVs) are normally Category "A" valves subject to leak rate testing in accordance with the Appendix J Type "C" test program. However, These valves are considered to be Category "B" PCIVs. These valves are not subject to the Plant Appendix J Test Program due to the system accident condition configuration, as well as being closed systems, and having a qualified inboard water seal. This exemption is verified through the Plant Appendix J Testing Program.

STATION TECHNICAL POSITION: TP-00G

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Appendix J testing of PCIVs

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
Primary Containment Isolation Valves (PCIVs)	Various	All	A

Code Requirement(s)

ASME OM Code ISTC-3620, Containment Isolation Valves

ASME OM Code ISTC-3630, Leakage Rate for Other Than Containment Isolation Valves

Position Statement

Primary containment isolation valve seat leak rate testing will be performed in accordance with the requirements of 10CFR50, Appendix J for Type C testing. Testing will comply with all regulations and commitments applicable to the Appendix J program.

When Appendix J, Type C testing covers multiple PCIVs during the local leak rate test, the total leakage measured during the test will be attributed to the CIV volume tested. (Reference NUREG-1482, Paragraph 4.4.3).

The results of primary containment isolation valve seat leak rate testing will be analyzed in accordance with the requirements of:

1. 10CFR50, Appendix J for Type C leak rate tests, and
2. Technical Specification Section 3.7 [Improved Technical Specifications 3.6.1.1 and 5.5.12]

Justification

The intent of ISTC-3620 is met by a primary containment isolation valve surveillance program that complies with the requirements of 10CFR50, Appendix J for Type C Local Leak Rate Testing and ISTC-3630.

STATION TECHNICAL POSITION: TP-00H

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Testing of Fast-Acting Valves

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
Category A and B valves with a reference stroke time of ≤ 1.000 second (i.e., fast acting valves)	Various	All	A & B

Code Requirement(s)

ISTC-5114(c), Power Operated Relief Valve Stroke Test Acceptance Criteria
ISTC-5122(c), Motor Operated Valve Stroke Test Acceptance Criteria
ISTC-5132(c), Pneumatically Operated Valve Stroke Test Acceptance Criteria
ISTC-5142(c), Hydraulically Operated Valve Stroke Test Acceptance Criteria
ISTC-5152(c), Solenoid Operated Valve Stroke Test Acceptance Criteria

Position Statement

The maximum limiting stroke time of 2 seconds allowed by the above sections will be applied to only those valves that have a reference stroke time of ≤ 1.000 second. The criteria specified in paragraphs ISTC-5114(b), 5122(b), 5132(b), 5142(b) and 5152(b) as applicable will be applied to those valves with reference stroke times of > 1.000 second.

Justification

The sections referenced above state that "valves that stroke in less than 2 seconds may be exempted from the acceptance criteria specified in the applicable (b) section. In such cases the maximum limiting stroke time shall be 2 seconds."

For valves with a reference stroke time of between 1.000 and 2.000 seconds, the acceptable range is considerably tight. (i.e. actual stroke time = 1.800 seconds with a max stroke time of 2.000 seconds leaves an Acceptable range of only 0.200 seconds).

On fast-acting valves, operator and timing device inconsistency is the most significant contributor to the difference in stroke time from one test to the next. Since it is undesirable to unnecessarily declare a valve inoperable based on an unreasonably tight acceptance range, the maximum limiting stroke time of 2 seconds allowed by the applicable (c) section will be applied to only those valves that have a reference stroke time of ≤ 1.000 second. The criteria specified in the applicable (b) section will be applied to those valves with reference stroke times of > 1.000 second.

STATION TECHNICAL POSITION: TP-001

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Excess Flow Check Valve Testing

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
Excess Flow Check Valves (EFCVs)	Various	All	A

Code Requirement(s)

PUT IN CONDITION MONITORING!

Purpose

The purpose of this position paper is to clarify inservice testing requirements for Excess Flow Check Valves (EFCVs). This position is site-specific, and is implemented on a voluntary basis only.

Position

1. Seat leakage testing of excess flow check valves is not required by IST or Appendix J programs.
2. Closure testing of excess flow check valves can be performed at all system pressures between 600 psig and the system design basis pressure. Acceptance criteria for the test shall be audible click denoting valve closure or significant reduction in flow.
3. Excess flow check valve open (non-safety direction) exercise testing is satisfied through normal plant operations.
4. Only high-pressure excess flow check valves (EFCVs directly connected to the reactor coolant pressure boundary) are subject to IST. Low-pressure EFCVs that sense containment atmosphere have no safety function, so are excluded from the IST Program.
5. The use of Condition Monitoring (CTP-001) is an acceptable means to control the test frequency of excess flow check valves.

6. Excess flow check valves are full stroke exercised closed during refuel outages since it is not practicable to perform a full stroke every 3 months or during cold shutdown.

Justification

1. Excess flow check valves are utilized in BWR containments to limit the release of fluid in the event of an instrument line break. These valves are classified as containment isolation valves. However, isolation of instrument lines during a LOCA is not prudent, since these instrument lines provide safety functions for reactor protection and containment isolation which need to be operable during a LOCA. These valves are not required to close in response to an automatic containment isolation signal. Consequently, the valve disks are drilled to intentionally allow leakage past the valve. EFCVs are to be designated Category C in the IST Program, with no seat leakage requirements.

STATION TECHNICAL POSITION: TP-001

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Excess Flow Check Valve Testing

2. EFCVs are designed to close when the flow rate past the valve disk is sufficient to pull the disk to the closed position. Quad Cities Tech Spec SR 3.6.1.3.8 requires verification that excess flow check valves actuate to the isolation position on an actual or simulated instrument line break. This surveillance requirement has a frequency of every 24 months. The test is performed by blowing down the instrument line during an inservice leak or hydrostatic test and verifying a distinctive 'click' when the poppet valve seats or a quick reduction in flow. System pressure has little impact on check valve performance during the closure test. In fact, a higher system pressure is likely to create a higher flow rate through the valve while it is open. Therefore, testing the valves at lower than design pressure should be conservative with respect to closure capability.
3. Non-safety direction (open) testing requirements of ISTC-5221(a)(3) are satisfied in the course of normal plant operations by proper operation of associated instruments.
4. Instrument lines that connect to the containment atmosphere are extensions of containment. A failure of one of these instrument lines during normal operation would not result in closure of the associated EFCV since normal operating containment pressure is not sufficient to operate the valve. Such EFCVs will only close with a downstream line break concurrent with a LOCA, which is beyond the plant design basis. Since closure of these low-pressure EFCVs is not needed, they are excluded from IST requirements.
5. Condition monitoring per Appendix II OM-1998 is applicable to EFCVs. Condition monitoring provides a valid means to extend exercise test frequency of individual valves and allow for grouping of valves and continued periodic review of group performance.
6. It is impractical to full-stroke exercise excess flow check valves to the closed position during plant operation or during cold shutdowns. These valves are controlled leakage check valves, which are designed to automatically close in the event of a downstream line rupture. Upon closing, these valves are designed to allow a controlled leakage. Exercising these valves requires that the instrumentation tubing downstream of each EFCV be depressurized or drained (as applicable) and the closure function verified by change in the amount of flow and/or verification of an audible click when the poppet seats. Draining or depressurizing the downstream side of these valves will separate the subject instrument from its source. These instruments provide indication of a large number of essential plant operational parameters. This instrumentation supplies input to a large number of reactor protection type actuations such as ECCS initiation, Primary Containment Isolation, Secondary Containment Isolation, etc. Isolation and testing of the subject valves during plant operation would render their respective instrumentation inoperable and could cause an unexpected plant transient, equipment actuations or a plant scram. Additionally, the performance of this closure test requires the installation of test equipment to monitor the expected change in flow when the

valve moves to the check position. It was determined in section 4.1.4 of NUREG-1482, that the need to setup test equipment in order to verify valve closure is adequate justification to defer backflow testing of a check valve to a refueling outage.

STATION TECHNICAL POSITION: TP-03A

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Testing of ARI Solenoid Valves

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0302-019A-SO	CRD	NC	B
1-0302-019B-SO	CRD	NC	B
1-0302-020A-SO	CRD	NC	B
1-0302-020B-SO	CRD	NC	B
1-0302-025A-SO	CRD	NC	B
1-0302-025B-SO	CRD	NC	B
1-0302-181A-SO	CRD	NC	B
1-0302-181B-SO	CRD	NC	B
1-0302-182A-SO	CRD	NC	B
1-0302-182B-SO	CRD	NC	B
2-0302-019A-SO	CRD	NC	B
2-0302-019B-SO	CRD	NC	B
2-0302-020A-SO	CRD	NC	B
2-0302-020B-SO	CRD	NC	B
2-0302-025A-SO	CRD	NC	B
2-0302-025B-SO	CRD	NC	B
2-0302-181A-SO	CRD	NC	B
2-0302-181B-SO	CRD	NC	B
2-0302-182A-SO	CRD	NC	B
2-0302-182B-SO	CRD	NC	B

Code Requirement(s)

ASME OM Code ISTC-5151(c), "Solenoid-Operated Valve Stroke Testing"

- ♦ "Stroke time shall be measured to at least the nearest second."

Position Statement

The Alternate Rod Insertion/Anticipated Transient Without Scram (ARI/ATWS) Air Header Bleed Off Solenoid Operated Valves will not be timed.

STATION TECHNICAL POSITION: TP-03A

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Justification

These solenoid-operated valves provide an alternate method of relieving the CRD scram air header pressure so as to provide CRD insertion.

Check valve, 1(2)-0302-026 bypasses 1(2)-0302-025A to provide flow to 1(2)-0302-025B. Valves 1(2)-0302-025A and 1(2)-0302-025B vent directly to atmosphere, and airflow can be verified to exit through both ports. Flow through 1(2)-0302-025B and 1(2)-0302-026 cannot be independently quantified.

The backup scram and scram dump valves operate to vent instrument air from the scram valves and the scram discharge volume vent and drain valves. Valves 0302-19A and 0302-19B are in series and each shift to vent air. Check valve, 0301-122, bypasses 0302-19A to provide flow to 0302-19B. The series of valves provide multiple vent paths. Valves 0302-20B and 0302-20A are in series. Valve 0302-20B shifts to provide flow to 0302-20A.

These 0.5" valves operate rapidly and there is no position indication for any practical timing measurements. These valves will be exercised, without timing during Cold Shutdowns as discussed in Cold Shutdown Justification CS-03B.

STATION TECHNICAL POSITION: TP-07A

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Transverse In-Core Probe System Shear Valves Can Not be Seat Leak Tested

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0737-002B	TIP	NC	A/D
1-0737-002C	TIP	NC	A/D
1-0737-002D	TIP	NC	A/D
1-0737-002E	TIP	NC	A/D
1-0737-002F	TIP	NC	A/D
2-0737-002B	TIP	NC	A/D
2-0737-002C	TIP	NC	A/D
2-0737-002D	TIP	NC	A/D
2-0737-002E	TIP	NC	A/D
2-0737-002F	TIP	NC	A/D

Component Function(s)

These valves are the Transverse In-Core Probe system shear valves that must close for containment isolation purposes. These valves have an explosive actuator capable of a one time use.

Code Requirement(s)

ASME OM Code ISTC-3630, "Leakage Rate for Other Than Containment Isolation Valves"

- ♦ Category A valves, which perform a function other than Containment Isolation (Note: the subject valves are classified as PCIVs, See TP-00G), shall be seat leakage tested to verify their leak-tight integrity. Valve closure prior to seat leakage testing shall be by using the valve operator with no additional closing force applied.

Position Statement

These valves are not seat leakage tested. Twenty percent of these valves are exploded once every two (2) years and replaced in accordance with ISTC-5260(c), "Explosively Actuated Valves."

Justification

The TIP shear valves cannot be seat leakage tested due to their design and operating characteristics. The shear valve assembly would need to be exploded with the in-core probe extended to ensure that the containment isolation leakage function of the valve is correctly tested.

STATION TECHNICAL POSITION: TP-07A

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Destructive testing of this nature is impractical. Additionally, this type of testing would require replacing the TIP shear valve and in-core probe every outage if the explosive actuator was detonated to crush the TIP guide tube to perform a seat leakage test. This would impose a significant hardship on Quad Cities.

STATION TECHNICAL POSITION: TP-16A

(Page 1 of 2)

Drywell / Suppression Chamber Vacuum Breaker Leak Test

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-1601-032A	Pressure Suppression	NC	A/C
1-1601-032B	Pressure Suppression	NC	A/C
1-1601-032C	Pressure Suppression	NC	A/C
1-1601-032D	Pressure Suppression	NC	A/C
1-1601-032E	Pressure Suppression	NC	A/C
1-1601-032F	Pressure Suppression	NC	A/C
1-1601-033A	Pressure Suppression	NC	A/C
1-1601-033B	Pressure Suppression	NC	A/C
1-1601-033C	Pressure Suppression	NC	A/C
1-1601-033D	Pressure Suppression	NC	A/C
1-1601-033E	Pressure Suppression	NC	A/C
1-1601-033F	Pressure Suppression	NC	A/C
2-1601-032A	Pressure Suppression	NC	A/C
2-1601-032B	Pressure Suppression	NC	A/C
2-1601-032C	Pressure Suppression	NC	A/C
2-1601-032D	Pressure Suppression	NC	A/C
2-1601-032E	Pressure Suppression	NC	A/C
2-1601-032F	Pressure Suppression	NC	A/C
2-1601-033A	Pressure Suppression	NC	A/C
2-1601-033B	Pressure Suppression	NC	A/C
2-1601-033C	Pressure Suppression	NC	A/C
2-1601-033D	Pressure Suppression	NC	A/C
2-1601-033E	Pressure Suppression	NC	A/C
2-1601-033F	Pressure Suppression	NC	A/C

Code Requirement(s)

ASME OM Code ISTC-3630, Leakage Rate for Other Than Containment Isolation Valves.

Position Statement

A "decay rate less than a one inch orifice" acceptance criteria will be applied collectively to all twelve vacuum breakers in accordance with Quad Cities Technical Specifications.

[A drywell to suppression chamber bypass leakage limit is applicable in accordance with Quad Cities Improved Technical Specification 3.6.1.1 (SR 3.6.1.1.2). The acceptance criteria is $\leq 2\%$ of the drywell to suppression chamber bypass leakage limit. This acceptance criteria is essentially applied collectively to all twelve vacuum breakers.]

STATION TECHNICAL POSITION: TP-16A

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Justification

Individual leak rates for the drywell / suppression chamber vacuum breakers cannot be measured. One end of the valve is open directly to the Torus atmosphere. The other is connected to the Torus downcomer vent header that is submerged in the Torus water volume. There is no means to isolate these valves individually for individual leak rate testing. They can only be tested by pressurizing the drywell and measuring the pressure decay rate. The NRC previously recognized the impracticality of individual testing when it approved a collective test of all of the valves in Quad Cities Technical Specifications.

STATION TECHNICAL POSITION: TP-41A
(Page 1 of 1)

Control Room HVAC AFU Fire Header Valve Testing

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
0-4199-315-AO	Fire Protection	NC	B

Code Requirement(s)

ASME OM Code ISTC-3520, Exercising Requirements

ASME OM Code ISTC-3560, Fail-Safe Valves

ASME OM Code ISTC-3700, Position Verification Testing

Position Statement

Due to potential damage to the charcoal absorbers in the Control Room HVAC Air Filtration Unit (AFU), this valve cannot be opened at any time and is considered to be passive. This valve will not be exercised or fail-safe tested. Position indication will be verified in the closed position every two years.

Justification

The subject valve has a closed safety function to prevent water from injecting into the Control Room HVAC Air Filtration Unit (AFU) that would cause damage to the charcoal absorbers. The open function of the valve is regulatory related for fire protection only and is not considered to be a function important to safety. The valve can perform its safety function only by remaining closed at all times. Any situation where the valve is to be opened would result in a reduction in the plant's margin of safety due to the loss of Control Room HVAC because of water and/or fire damage. The fail-safe closed function of the valve and the exercise closed test would only prove that the valves could be closed after water had already been injected into the AFU.

ATTACHMENT 11

CORPORATE TECHNICAL POSITION INDEX

(Page 1 of 2)

<u>Designator</u>	<u>Description</u>	<u>Approval Date</u>
CTP-001	Check Valve Condition Monitoring	02/20/04

ATTACHMENT 12

CORPORATE TECHNICAL POSITIONS

CORPORATE TECHNICAL POSITION: CTP-001

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This position has been incorporated into Corporate Procedure ER-AA-3221-1005,
“CONDITION MONITORING FOR INSERVICE TESTING OF CHECK VALVES”

CTP-001 is being maintained to identify in the IST Program Plan those Check Valves that have
been incorporated into a Condition Monitoring Plan.

ATTACHMENT 13

INSERVICE TESTING PUMP TABLE INDEX

(Page 1 of 1)

<u>System Number</u>	<u>System Description</u>
10	Residual Heat Removal
11	Standby Liquid Control
13	Reactor Core Isolation Coolant
14	Core Spray
23	High Pressure Coolant Injection
29	Safe Shutdown Makeup
39	Diesel Generator Cooling Water

ATTACHMENT 14

INSERVICE TESTING PUMP TABLE

Residual Heat Removal (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-65A	A	3	C	Motor	1780	M-0037	D-02	Differential Pressure	M3			
	A							Differential Pressure	Y2			
	A							Flow Rate	Y2			
	A							Flow Rate	M3			
	A							Vibration	M3			
Pump Name U1A Residual Heat Removal Service Water												
1-1001-65B	A	3	C	Motor	1780	M-0037	F-02	Differential Pressure	Y2			
	A							Differential Pressure	M3			
	A							Flow Rate	M3			
	A							Flow Rate	Y2			
	A							Vibration	M3			
Pump Name U1B Residual Heat Removal Service Water												
1-1001-65C	A	3	C	Motor	1780	M-0037	D-09	Differential Pressure	Y2			
	A							Differential Pressure	M3			
	A							Flow Rate	Y2			
	A							Flow Rate	M3			
	A							Vibration	M3			
Pump Name U1C Residual Heat Removal Service Water												
1-1001-65D	A	3	C	Motor	1780	M-0037	F-09	Differential Pressure	M3			
	A							Differential Pressure	Y2			
	A							Flow Rate	Y2			
	A							Flow Rate	M3			
	A							Vibration	M3			
Pump Name U1D Residual Heat Removal Service Water												
1-1002A	A	2	C	Motor	3560	M-0039-2	C-04	Differential Pressure	Y2			TP-00D
	A							Differential Pressure	M3			TP-00D
	A							Flow Rate	Y2			TP-00D
	A							Flow Rate	M3			TP-00D
	A							Vibration	M3			TP-00D
Pump Name U1A Residual Heat Removal												

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Residual Heat Removal (Page 2)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1002B	A	2	C	Motor	3560	M-0039-2	F-04	Differential Pressure	M3			TP-00D
	A							Differential Pressure	Y2		TP-00D	
	A							Flow Rate	M3		TP-00D	
	A							Flow Rate	Y2		TP-00D	
	A							Vibration	M3		TP-00D	
Pump Name			U1B Residual Heat Removal									
1-1002C	A	2	C	Motor	3560	M-0039-2	C-07	Differential Pressure	M3			TP-00D
	A							Differential Pressure	Y2		TP-00D	
	A							Flow Rate	M3		TP-00D	
	A							Flow Rate	Y2		TP-00D	
	A							Vibration	M3		TP-00D	
Pump Name			U1C Residual Heat Removal									
1-1002D	A	2	C	Motor	3560	M-0039-2	F-07	Differential Pressure	Y2			TP-00D
	A							Differential Pressure	M3		TP-00D	
	A							Flow Rate	M3		TP-00D	
	A							Flow Rate	Y2		TP-00D	
	A							Vibration	M3		TP-00D	
Pump Name			U1D Residual Heat Removal									
2-1001-65A	A	3	C	Motor	1780	M-0079	D-02	Differential Pressure	M3			
	A							Differential Pressure	Y2			
	A							Flow Rate	Y2			
	A							Flow Rate	M3			
	A							Vibration	M3			
Pump Name			U2A Residual Heat Removal Service Water									
2-1001-65B	A	3	C	Motor	1780	M-0079	F-02	Differential Pressure	M3			
	A							Differential Pressure	Y2			
	A							Flow Rate	M3			
	A							Flow Rate	Y2			
	A							Vibration	M3			
Pump Name			U2B Residual Heat Removal Service Water									

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Residual Heat Removal (Page 3)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-65C	A	3	C	Motor	1780	M-0079	D-09	Differential Pressure	M3			
	A							Differential Pressure	Y2			
	A							Flow Rate	M3			
	A							Flow Rate	Y2			
	A							Vibration	M3			
	Pump Name U2C Residual Heat Removal Service Water											
2-1001-65D	A	3	C	Motor	1780	M-0079	F-09	Differential Pressure	Y2			
	A							Differential Pressure	M3			
	A							Flow Rate	M3			
	A							Flow Rate	Y2			
	A							Vibration	M3			
	Pump Name U2D Residual Heat Removal Service Water											
2-1002A	A	2	C	Motor	3560	M-0081-2	C-04	Differential Pressure	M3			TP-00D
	A							Differential Pressure	Y2			TP-00D
	A							Flow Rate	Y2			TP-00D
	A							Flow Rate	M3			TP-00D
	A							Vibration	M3			TP-00D
	Pump Name U2A Residual Heat Removal											
2-1002B	A	2	C	Motor	3560	M-0081-2	F-04	Differential Pressure	Y2			TP-00D
	A							Differential Pressure	M3			TP-00D
	A							Flow Rate	Y2			TP-00D
	A							Flow Rate	M3			TP-00D
	A							Vibration	M3			TP-00D
	Pump Name U2B Residual Heat Removal											
2-1002C	A	2	C	Motor	3560	M-0081-2	C-07	Differential Pressure	M3			TP-00D
	A							Differential Pressure	Y2			TP-00D
	A							Flow Rate	M3			TP-00D
	A							Flow Rate	Y2			TP-00D
	A							Vibration	M3			TP-00D
	Pump Name U2C Residual Heat Removal											

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Residual Heat Removal (Page 4)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1002D	A	2	C	Motor	3560	M-0081-2	F-07	Differential Pressure	Y2			TP-00D
	A							Differential Pressure	M3			TP-00D
	A							Flow Rate	M3			TP-00D
	A							Flow Rate	Y2			TP-00D
	A							Vibration	M3			TP-00D

Pump Name U2D Residual Heat Removal

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Standby Liquid Control (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1102A	B	2	PD	Motor	420	M-0040	D-06	Discharge Pressure	M3			
	B							Flow Rate	Y2			
	B							Flow Rate	M3			
	B							Vibration	Y2			
Pump Name U1A Standby Liquid Control												
1-1102B	B	2	PD	Motor	420	M-0040	E-06	Discharge Pressure	M3			
	B							Flow Rate	M3			
	B							Flow Rate	Y2			
	B							Vibration	Y2			
Pump Name U1B Standby Liquid Control												
2-1102A	B	2	PD	Motor	420	M-0082	D-06	Discharge Pressure	M3			
	B							Flow Rate	M3			
	B							Flow Rate	Y2			
	B							Vibration	Y2			
Pump Name U2A Standby Liquid Control												
2-1102B	B	2	PD	Motor	420	M-0082	F-06	Discharge Pressure	M3			
	B							Flow Rate	Y2			
	B							Flow Rate	M3			
	B							Vibration	Y2			
Pump Name U2B Standby Liquid Control												

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Reactor Core Isolation Cooling (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1302	B	N	C	Turbine	4400	M-0050-1	B-06	Differential Pressure	M3			
	B							Differential Pressure	Y2			
	B							Flow Rate	M3			
	B							Pump Speed	M3			
	B							Vibration	Y2			
Pump Name U1 Reactor Core Isolation Cooling												
2-1302	B	N	C	Turbine	4400	M-0089-1	B-06	Differential Pressure	M3			
	B							Differential Pressure	Y2			
	B							Flow Rate	M3			
	B							Pump Speed	M3			
	B							Vibration	Y2			
Pump Name U2 Reactor Core Isolation Cooling												

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Core Spray (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1401A	B	2	C	Motor	3550	M-0036	E-08	Differential Pressure	Y2			TP-00D
	B							Differential Pressure	M3		TP-00D	
	B							Flow Rate	Y2		TP-00D	
	B							Flow Rate	M3		TP-00D	
	B							Vibration	Y2		TP-00D	
Pump Name U1A Core Spray												
1-1401B	B	2	C	Motor	3550	M-0036	E-05	Differential Pressure	Y2			TP-00D
	B							Differential Pressure	M3		TP-00D	
	B							Flow Rate	M3		TP-00D	
	B							Flow Rate	Y2		TP-00D	
	B							Vibration	Y2		TP-00D	
Pump Name U1B Core Spray												
2-1401A	B	2	C	Motor	3550	M-0078	F-09	Differential Pressure	Y2			TP-00D
	B							Differential Pressure	M3		TP-00D	
	B							Flow Rate	Y2		TP-00D	
	B							Flow Rate	M3		TP-00D	
	B							Vibration	Y2		TP-00D	
Pump Name U2A Core Spray												
2-1401B	B	2	C	Motor	3550	M-0078	F-05	Differential Pressure	M3			TP-00D
	B							Differential Pressure	Y2		TP-00D	
	B							Flow Rate	Y2		TP-00D	
	B							Flow Rate	M3		TP-00D	
	B							Vibration	Y2		TP-00D	
Pump Name U2B Core Spray												

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High Pressure Coolant Injection (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2302	B	2	C	Turbine	3500	M-0046-1	A-05	Differential Pressure	Y2			
	B							Differential Pressure	M3			
	B							Flow Rate	M3			
	B							Pump Speed	M3			
	B							Vibration	Y2			
Pump Name			U1 High Pressure Coolant Injection									
1-2304	Skid	2	C	Motor	N/A	M-0046-1	E-02	Differential Pressure	M3			TP-00E
	Skid							Flow Rate	M3			TP-00E
Pump Name			U1 HPCI Gland Seal Condensate									
1-2308	Skid	NS	VLS	Motor	N/A	M-0046-3	A-03	Discharge Pressure	M3			TP-00E
	Skid							Flow Rate	M3			TP-00E
Pump Name			U1 HPCI Auxiliary Oil									
1-2312	Skid	NC	PD	Turbine	N/A	M-0046-3	C-06	Differential Pressure	M3			TP-00E
	Skid							Flow Rate	M3			TP-00E
Pump Name			U1 HPCI Main Oil									
2-2302	B	2	C	Turbine	3500	M-0087-1	B-05	Differential Pressure	M3			
	B							Differential Pressure	Y2			
	B							Flow Rate	M3			
	B							Pump Speed	M3			
	B							Vibration	Y2			
Pump Name			U2 High Pressure Coolant Injection									
2-2304	Skid	2	C	Motor	N/A	M-0087-1	E-02	Differential Pressure	M3			TP-00E
	Skid							Flow Rate	M3			TP-00E
Pump Name			U2 HPCI Gland Seal Condensate Pump									
2-2308	Skid	NS	VLS	Motor	N/A	M-0087-3	A-03	Discharge Pressure	M3			TP-00E
	Skid							Flow Rate	M3			TP-00E
Pump Name			U2 HPCI Auxiliary Oil									
2-2312	Skid	NC	PD	Turbine	N/A	M-0087-3	C-06	Differential Pressure	M3			TP-00E
	Skid							Flow Rate	M3			TP-00E
Pump Name			U2 HPCI Main Oil									

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Safe Shutdown Makeup (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-2901	B	NS	C	Motor	3550	M-0070	D-06	Differential Pressure	M3			
	B							Differential Pressure	Y2			
	B							Flow Rate	M3			
	B							Vibration	Y2			

Pump Name U0 Safe Shutdown Make-Up

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Diesel Generator Cooling Water (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-3903	B	3	C	Motor	N/A	M-0022-3	C-09	Differential Pressure	Y2			
	B							Differential Pressure	M3			
	B							Flow Rate	M3			
	B							Vibration	Y2			
Pump Name			U0 Diesel Generator Cooling Water									
1-3903	B	3	C	Motor	N/A	M-0022-3	F-09	Differential Pressure	Y2			
	B							Differential Pressure	M3			
	B							Flow Rate	M3			
	B							Vibration	Y2			
Pump Name			U1 Diesel Generator Cooling Water									
2-3903	B	3	C	Motor	N/A	M-0069-3	F-09	Differential Pressure	M3			
	B							Differential Pressure	Y2			
	B							Flow Rate	M3			
	B							Vibration	Y2			
Pump Name			U2 Diesel Generator Cooling Water									

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Diesel Generator Fuel Oil Transfer (Page 1)

Pump EPN	Test Group	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.	
0-5203	Skid	NC	PD	Motor	N/A	M-0029-2	F-05	Discharge Pressure	M3			TE-00E	
	Skid								Flow Rate	M3			TE-00E
	Skid								Vibration	M3			TE-00E
	Pump Name U0 Diesel Generator Fuel Oil Transfer												
1-5203	Skid	NC	PD	Motor	N/A	M-0029-2	F-02	Discharge Pressure	M3			TE-00E	
	Skid								Vibration	M3			TE-00E
	Pump Name U1 Diesel Generator Fuel Oil Transfer												
2-5203	Skid	NC	PD	Motor	N/A	M-0029-2	E-08	Discharge Pressure	M3			TE-00E	
	Skid								Flow Rate	M3			TE-00E
	Skid								Vibration	M3			TE-00E
	Pump Name U2 Diesel Generator Fuel Oil Transfer												

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ATTACHMENT 15

INSERVICE TESTING VALVE TABLE INDEX

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<u>System Number</u>	<u>System Description</u>
02	Nuclear Boiler and Reactor Recirculation
02	Main Steam
02	Reactor Feedwater
03	Control Rod Drive
07	Transversing In-Core Probe
10	Residual Heat Removal
11	Standby Liquid Control
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52	Diesel Generator Fuel Oil Transfer
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88	Process Sampling
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ATTACHMENT 16

INSERVICE TESTING VALVE TABLE

Nuclear Boiler and Reactor Recirculation (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0202-005A-MO	1	B	28	GA	MO	A	O	C	M-0035-2	C-04	PI	Y2			
											SC	CS		CS-02A	
Valve Name RX RECIRC-1A RECIRC PUMP DISCHARGE VALVE															
1-0202-005B-MO	1	B	28	GA	MO	A	O	C	M-0035-2	C-07	PI	Y2			
											SC	CS		CS-02A	
Valve Name RX RECIRC-1B RECIRC PUMP DISCHARGE VALVE															
1-0202-006A-MO	1	B	22	GA	MO	P	C	C	M-0035-2	D-05	PI	Y2			
Valve Name RX RECIRC-1A RECIRC LOOP CROSS-TIE															
1-0202-006B-MO	1	B	22	GA	MO	P	C	C	M-0035-2	D-06	PI	Y2			
Valve Name RX RECIRC-1B RECIRC LOOP CROSS-TIE															
1-0202-009A-MO	1	B	2	GA	MO	A	O	C	M-0035-2	D-05	PI	Y2			
											SC	CS		CS-02A	
Valve Name RX RECIRC-1A RECIRC LOOP CROSSTIE BYPASS															
1-0202-009B-MO	1	B	2	GA	MO	P	C	C	M-0035-2	D-06	PI	Y2			
Valve Name RX RECIRC-1B RECIRC LOOP CROSSTIE BYPASS															
1-0220-019A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5A LOW SIDE EXCESS FLOW CK															
1-0220-019B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5B LOW SIDE EXCESS FLOW CK															
1-0220-020A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5A HI SIDE EXCESS FLOW CK															
1-0220-020B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5B HI SIDE EXCESS FLOW CK															

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Nuclear Boiler and Reactor Recirculation (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0220-021A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	B-01	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6A LOW SIDE EXCESS FLOW CK															
1-0220-021B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	C-10	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6C LOW SIDE EXCESS FLOW CK															
1-0220-022A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	C-02	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6A HIGH SIDE EXCESS FLOW CK															
1-0220-022B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	C-10	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6C HIGH SIDE EXCESS FLOW CK															
1-0220-044-AO	2	A	0.75	GL	AO	A	O	C	M-0035-2	B-08	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RX RECIRC-RX WATER SAMPLE LINE ISOLATION															
1-0220-045-AO	MC	A	0.75	GL	AO	A	O	C	M-0035-2	B-10	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RX RECIRC-RX WATER SAMPLE LINE ISOLATION															
1-0220-046-AO	NC	B	0.75	DIA	AO	P	C	C	M-0035-1	B-06	PI	Y2			
Valve Name RX RECIRC-RPV HEAD HIGH POINT VENT															
1-0220-047-AO	2	B	0.75	DIA	AO	P	C	C	M-0035-1	B-05	PI	Y2			
Valve Name RX RECIRC-RPV HEAD HIGH POINT VENT															

Nuclear Boiler and Reactor Recirculation (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0220-054	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	B-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX PS-261-20 & PI-261-21 EXCESS FLOW CK															
1-0220-067A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34A A EXCESS FLOW CK															
1-0220-067B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34A B EXCESS FLOW CK															
1-0220-067C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34C A EXCESS FLOW CK															
1-0220-067D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34C B EXCESS FLOW CK															
1-0220-067E	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34B A EXCESS FLOW CK															
1-0220-067F	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34B B EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0220-067G	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP, DPIS-261-34D A EXCESS FLOW CK															
1-0220-067H	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP, DPIS-261-34D B EXCESS FLOW CK															
1-0220-089A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SUCTION, PS-261-23A EXCESS FLOW CK															
1-0220-089B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	A-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SUCTION, PS-261-23B EXCESS FLOW CK															
1-0262-2-005A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-02	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 2 PI/PT EXCESS FLOW CK															
1-0262-2-005B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 2 PI/PT EXCESS FLOW CK															
1-0262-2-006A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-02	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 1 PI/PT EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0262-2-006B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 1 PI/PT EXCESS FLOW CK															
1-0263-2-011	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	A-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-61 HIGH SIDE EXCESS FLOW CK															
1-0263-2-013A	2	A/C	1	XFC	SA	A	SYS	C	M-0035-1	C-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-57 HIGH SIDE EXCESS FLOW CK															
1-0263-2-013B	2	A/C	1	XFC	SA	A	SYS	C	M-0035-1	C-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-58 HIGH SIDE EXCESS FLOW CK															
1-0263-2-015A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	D-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-57 LOW SIDE EXCESS FLOW CK															
1-0263-2-015B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	D-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-58 LOW SIDE EXCESS FLOW CK															
1-0263-2-017A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	D-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646A/LT-263-23A LOW SIDE EXCESS FLOW CK															

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Nuclear Boiler and Reactor Recirculation (Page 6)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0263-2-017B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	D-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646B/LT-263-23B LOW SIDE EXCESS FLOW CK															
1-0263-2-019A	2	A/C	1	XFC	SA	A	SYS	C	M-0035-1	D-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646A/PT-647A HIGH SIDE EXCESS FLOW CK															
1-0263-2-019B	2	A/C	1	XFC	SA	A	SYS	C	M-0035-1	D-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646B/PI-647B HIGH SIDE EXCESS FLOW CK															
1-0263-2-020A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	F-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-1,FT-263-63A HIGH SIDE EXCESS FLOW CK															
1-0263-2-020B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	F-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO				TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-6,FT-263-63B HIGH SIDE EXCESS FLOW CK															
1-0263-2-020C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO				TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-11,FT-263-63C HI SIDE EXCESS FLOW CK															
1-0263-2-020D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-16,FT-263-63D HI SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0263-2-023A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-1,FT-263-63A LOW SIDE EXCESS FLOW CK															
1-0263-2-023B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-6,FT-263-63B LOW SIDE EXCESS FLOW CK															
1-0263-2-023C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-11,FT-263-63C LOW SIDE EXCESS FLOW CK															
1-0263-2-023D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-16,FT-263-63D LOW SIDE EXCESS FLOW CK															
1-0263-2-025	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	F-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX CORE PLATE DPT-263-62 LO SIDE EXCESS FLOW CK															
1-0263-2-027	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	G-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX CORE PLATE DPT-263-62 HI SIDE EXCESS FLOW CK															
1-0263-2-031B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-2,FT-263-64B LOW SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0263-2-031C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-3,FT-263-64C LOW SIDE EXCESS FLOW CK															
1-0263-2-031D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-4,FT-263-64D LOW SIDE EXCESS FLOW CK															
1-0263-2-031E	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-5,FT-263-64E LOW SIDE EXCESS FLOW CK															
1-0263-2-031G	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-7,FT-263-64G LOW SIDE EXCESS FLOW CK															
1-0263-2-031H	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-8,FT-263-64H LOW SIDE EXCESS FLOW CK															
1-0263-2-031J	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-9,FT-263-64J LOW SIDE EXCESS FLOW CK															
1-0263-2-031K	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-10,FT-263-64K LOW SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0263-2-031M	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-13,FT-263-64M LOW SIDE EXCESS FLOW CK															
1-0263-2-031N	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-13,FT-263-64N LOW SIDE EXCESS FLOW CK															
1-0263-2-031P	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-14,FT-263-64P LOW SIDE EXCESS FLOW CK															
1-0263-2-031R	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-15,FT-263-64R LOW SIDE EXCESS FLOW CK															
1-0263-2-031T	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-17,FT-263-64T LOW SIDE EXCESS FLOW CK															
1-0263-2-031U	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-18,FT-263-64U LOW SIDE EXCESS FLOW CK															
1-0263-2-031V	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-19,FT-263-64V LOW SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0263-2-031W	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-20,FT-263-64W LOW SIDE EXCESS FLOW CK															
1-0263-2-033	2	A/C	0.5	XFC	SA	A	SYS	C	M-0035-1	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP JET PUMP FT LO SIDE EXCESS FLOW CK															
1-0263-2-042A	2	A/C	1	XFC	SA	A	SYS	C	M-0035-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-73A HIGH SIDE EXCESS FLOW CK															
1-0263-2-042B	2	A/C	1	XFC	SA	A	SYS	C	M-0035-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-73B HIGH SIDE EXCESS FLOW CK															
1-0263-944A	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-02	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	Y2		RJ-00B	
											LT	AJ		RJ-00B	TP-00G
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
1-0263-944B	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-08	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
1-0263-945A	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-02	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0263-945B	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-08	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
1-0263-947A	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-03	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	Y2		RJ-00B	
											LT	AJ		RJ-00B	TP-00G
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
1-0263-947B	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-09	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
1-0263-948A	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-03	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	Y2		RJ-00B	
											LT	AJ		RJ-00B	TP-00G
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
1-0263-948B	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0035-5	C-09	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
2-0202-005A-MO	1	B	28	GA	MO	A	O	C	M-0077-2	C-04	PI	Y2			
											SC	CS		CS-02A	
Valve Name RX RECIRC-2A RECIRC PUMP DISCHARGE VALVE															
2-0202-005B-MO	1	B	28	GA	MO	A	O	C	M-0077-2	C-07	PI	Y2			
											SC	CS		CS-02A	
Valve Name RX RECIRC-2B RECIRC PUMP DISCHARGE VALVE															
2-0202-006A-MO	1	B	22	GA	MO	P	C	C	M-0077-2	D-05	PI	Y2			
Valve Name RX RECIRC-2A RECIRC LOOP CROSS-TIE															
2-0202-006B-MO	1	B	22	GA	MO	P	C	C	M-0077-2	D-06	PI	Y2			
Valve Name RX RECIRC-2B RECIRC LOOP CROSS-TIE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0202-009A-MO	1	B	2	GA	MO	A	O	C	M-0077-2	D-05	PI	Y2			
											SC	CS		CS-02A	
Valve Name RX RECIRC-2A RECIRC LOOP CROSSTIE BYPASS															
2-0202-009B-MO	1	B	2	GA	MO	P	C	C	M-0077-2	D-06	PI	Y2			
Valve Name RX RECIRC-2B RECIRC LOOP CROSSTIE BYPASS															
2-0220-019A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5A LOW SIDE EXCESS FLOW CK															
2-0220-019B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5B LOW SIDE EXCESS FLOW CK															
2-0220-020A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5A HI SIDE EXCESS FLOW CK															
2-0220-020B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,DPT-261-5B HI SIDE EXCESS FLOW CK															
2-0220-021A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	B-02	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6A LOW SIDE EXCESS FLOW CK															
2-0220-021B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	C-10	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6C LOW SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0220-022A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	C-02	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6A HI SIDE EXCESS FLOW CK															
2-0220-022B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	C-10	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP,FT-261-6C HI SIDE EXCESS FLOW CK															
2-0220-044-AO	2	A	0.75	GL	AO	A	O	C	M-0077-2	B-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RX RECIRC-RX WATER SAMPLE LINE ISOLATION															
2-0220-045-AO	MC	A	0.75	GL	AO	A	O	C	M-0077-2	A-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RX RECIRC-RX WATER SAMPLE LINE ISOLATION															
2-0220-046-AO	NC	B	0.75	DIA	AO	P	C	C	M-0077-1	B-06	PI	Y2			
Valve Name RX RECIRC-RPV HEAD HIGH POINT VENT															
2-0220-047-AO	2	B	0.75	DIA	AO	P	C	C	M-0077-1	B-05	PI	Y2			
Valve Name RX RECIRC-RPV HEAD HIGH POINT VENT															
2-0220-054	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	B-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX PS-261-20 & PI-261-21 EXCESS FLOW CK															
2-0220-067A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34A A EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0220-067B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34A B EXCESS FLOW CK															
2-0220-067C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34C A EXCESS FLOW CK															
2-0220-067D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-04	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34C B EXCESS FLOW CK															
2-0220-067E	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34B A EXCESS FLOW CK															
2-0220-067F	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34B B EXCESS FLOW CK															
2-0220-067G	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34D A EXCESS FLOW CK															
2-0220-067H	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP,DPIS-261-34D B EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0220-089A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SUCTION, PS-261-23A EXCESS FLOW CK															
2-0220-089B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	A-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SUCTION, PS-261-23B EXCESS FLOW CK															
2-0262-2-005A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-02	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 2 PI/PT EXCESS FLOW CK															
2-0262-2-005B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 2 PI/PT EXCESS FLOW CK															
2-0262-2-006A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 1 PI/PT EXCESS FLOW CK															
2-0262-2-006B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC PUMP SEAL CAVITY 1 PI/PT EXCESS FLOW CK															
2-0263-2-011	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	B-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-61 HIGH SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0263-2-013A	2	A/C	1	XFC	SA	A	SYS	C	M-0077-1	D-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-57 HIGH SIDE EXCESS FLOW CK															
2-0263-2-013B	2	A/C	1	XFC	SA	A	SYS	C	M-0077-1	D-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-58 HIGH SIDE EXCESS FLOW CK															
2-0263-2-015A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	D-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-57 LOW SIDE EXCESS FLOW CK															
2-0263-2-015B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	D-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-58 LOW SIDE EXCESS FLOW CK															
2-0263-2-017A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	D-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646A/LT-263-23A LOW SIDE EXCESS FLOW CK															
2-0263-2-017B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	D-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646B/LT-263-23B LOW SIDE EXCESS FLOW CK															
2-0263-2-019A	2	A/C	1	XFC	SA	A	SYS	C	M-0077-1	D-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646A/PT-647A HIGH SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0263-2-019B	2	A/C	1	XFC	SA	A	SYS	C	M-0077-1	D-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-646B/PT-647B HIGH SIDE EXCESS FLOW CK															
2-0263-2-020A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	F-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-1,FT-263-63A HIGH SIDE EXCESS FLOW CK															
2-0263-2-020B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	F-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-6,FT-263-63B HIGH SIDE EXCESS FLOW CK															
2-0263-2-020C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-11,FT-263-63C HI SIDE EXCESS FLOW CK															
2-0263-2-020D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-16,FT-263-63D HI SIDE EXCESS FLOW CK															
2-0263-2-023A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	F-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-1,FT-263-63A LOW SIDE EXCESS FLOW CK															
2-0263-2-023B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-6,FT-263-63B LOW SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0263-2-023C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	F-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-11,FT-263-63C LOW SIDE EXCESS FLOW CK															
2-0263-2-023D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-16,FT-263-63D LOW SIDE EXCESS FLOW CK															
2-0263-2-025	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	G-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX CORE PLATE DPT-263-62 LO SIDE EXCESS FLOW CK															
2-0263-2-027	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	G-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX CORE PLATE DPT-263-62 HI SIDE EXCESS FLOW CK															
2-0263-2-031B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-2,FT-263-64B LOW SIDE EXCESS FLOW CK															
2-0263-2-031C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-3,FT-263-64C LOW SIDE EXCESS FLOW CK															
2-0263-2-031D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-4,FT-263-64D LOW SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0263-2-031E	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-5,FT-263-64E LOW SIDE EXCESS FLOW CK															
2-0263-2-031G	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-7,FT-263-64G LOW SIDE EXCESS FLOW CK															
2-0263-2-031H	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-8,FT-263-64H LOW SIDE EXCESS FLOW CK															
2-0263-2-031J	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-9,FT-263-64J LOW SIDE EXCESS FLOW CK															
2-0263-2-031K	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-10,FT-263-64K LOW SIDE EXCESS FLOW CK															
2-0263-2-031M	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-13,FT-263-64M LOW SIDE EXCESS FLOW CK															
2-0263-2-031N	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-13,FT-263-64N LOW SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0263-2-031P	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-14,FT-263-64P LOW SIDE EXCESS FLOW CK															
2-0263-2-031R	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-15,FT-263-64R LOW SIDE EXCESS FLOW CK															
2-0263-2-031T	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-17,FT-263-64T LOW SIDE EXCESS FLOW CK															
2-0263-2-031U	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-18,FT-263-64U LOW SIDE EXCESS FLOW CK															
2-0263-2-031V	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-19,FT-263-64V LOW SIDE EXCESS FLOW CK															
2-0263-2-031W	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name JET PUMP-20,FT-263-64W LOW SIDE EXCESS FLOW CK															
2-0263-2-033	2	A/C	0.5	XFC	SA	A	SYS	C	M-0077-1	G-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RECIRC LOOP JET PUMP FT LO SIDE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0263-2-042A	2	A/C	1	XFC	SA	A	SYS	C	M-0077-1	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-73A HIGH SIDE EXCESS FLOW CK															
2-0263-2-042B	2	A/C	1	XFC	SA	A	SYS	C	M-0077-1	E-07	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name RX LT-1-263-73B HIGH SIDE EXCESS FLOW CK															
2-0263-944A	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-01	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
2-0263-944B	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-08	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	Y2		RJ-00B	
											LT	AJ		RJ-00B	TP-00G
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
2-0263-945A	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-01	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
2-0263-945B	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-08	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
2-0263-947A	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-03	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	Y2		RJ-00B	
											LT	AJ		RJ-00B	TP-00G
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0263-947B	2	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-09	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	Y2		RJ-00B	
											LT	AJ		RJ-00B	TP-00G
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
2-0263-948A	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-03	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	AJ		RJ-00B	TP-00G
											LT	Y2		RJ-00B	
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															
2-0263-948B	NC	A/C	0.375	CK	SA	A	SYS	O/C	M-0077-5	C-09	CC	RR		RJ-00B	TP-00B
											CO	M3			TP-00B
											LT	Y2		RJ-00B	
											LT	AJ		RJ-00B	TP-00G
Valve Name RX VESSEL LEVEL INDICATION FORCE FILL CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0301-122	NS	C	1.5	CK	SA	A	SYS	O/C	M-0041-2	G-02	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name CRD-MASTER SCRAM DUMP CHECK VALVE															
1-0302-019A-SO	NC	B	1	3W	SO	A	D	E	M-0041-2	F-01	SE	CS		CS-03B	TP-03A
Valve Name CRD-MASTER SCRAM PILOT VALVE															
1-0302-019B-SO	NC	B	1	3W	SO	A	D	E	M-0041-2	G-01	SE	CS		CS-03B	TP-03A
Valve Name CRD-MASTER SCRAM PILOT VALVE															
1-0302-020A-SO	NC	B	0.5	3W	SO	A	E	D	M-0041-2	G-04	FD	CS		CS-03B	TP-00C
											SD	CS		CS-03B	TP-03A
Valve Name CRD-SDV VENT & DRAIN PILOT VALVE															
1-0302-020B-SO	NC	B	0.5	3W	SO	A	E	D	M-0041-2	G-05	FD	CS		CS-03B	TP-00C
											SD	CS		CS-03B	TP-03A
Valve Name CRD-SDV VENT & DRAIN PILOT VALVE															
1-0302-021A-AO	2	B	1	DIA	AO	A	O	C	M-0041-3	B-10	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
1-0302-021B-AO	NC	B	1	DIA	AO	A	O	C	M-0041-3	B-09	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
1-0302-021C-AO	2	B	1	DIA	AO	A	O	C	M-0041-3	B-01	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
1-0302-021D-AO	NC	B	1	DIA	AO	A	O	C	M-0041-3	B-02	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
1-0302-022A-AO	2	B	2	DIA	AO	A	O	C	M-0041-3	F-09	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0302-022B-AO	NC	B	2	DIA	AO	A	O	C	M-0041-3	F-10	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															
1-0302-022C-AO	2	B	2	DIA	AO	A	O	C	M-0041-3	G-02	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															
1-0302-022D-AO	NC	B	2	DIA	AO	A	O	C	M-0041-3	G-01	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															
1-0302-025A-SO	NC	B	1	3W	SO	A	D	E	M-0041-2	E-01	SE	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
1-0302-025B-SO	NC	B	1	3W	SO	A	D	E	M-0041-2	E-02	SE	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
1-0302-026	NS	C	1.5	CK	SA	A	SYS	O/C	M-0041-2	E-01	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name CRD-ALTERNATE ROD INJECT SCRAM CHECK VLV															
1-0302-181A-SO	NC	B	1	GA	SO	A	C	O	M-0041-2	G-02	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
1-0302-181B-SO	NC	B	1	GA	SO	A	C	O	M-0041-2	G-02	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
1-0302-182A-SO	NC	B	1	GA	SO	A	C	O	M-0041-2	G-06	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
1-0302-182B-SO	NC	B	1	GA	SO	A	C	O	M-0041-2	F-06	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
1-0305-114	2	C	0.75	CK	SA	A	SYS	O	M-0041-1	F-02/-09	CC				TP-00B, TP-00E
											CO	RR			TP-00B, TP-00E
Valve Name CRD-SCRAM DISCHARGE HEADER CHK (TYP 177)															
1-0305-115	2	C	0.5	CK	SA	A	SYS	C	M-0041-1	E-03/-06	CC	CS		CS-03A	TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name CRD-ACCUM CHARGING WATER HDR CK(TYP 177)															

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Control Rod Drive (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0305-117-SO	NC	B	0.5	3W	SO	A	E	D	M-0041-1	E-03/-0E	FD	RR			TP-00C
											SD	RR			TP-00E
Valve Name CRD-SCRAM PILOT SOLENOID VALVE (TYP 177)															
1-0305-118-SO	NC	B	0.5	3W	SO	A	E	D	M-0041-1	E-03/-0E	FD	RR			TP-00C
											SD	RR			TP-00E
Valve Name CRD-SCRAM PILOT SOLENOID VALVE (TYP 177)															
1-0305-120-FCV	2	B	0.5	GA	SO	A	C	C	M-0041-1	D-03/-07	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRCTIONAL FLO CNTRL-W/DRAW(TYP 177)															
1-0305-121-SO	2	B	0.5	GA	SO	A	C	C	M-0041-1	D-03/-0E	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRCTIONAL CNTRL VLV-INSERT(TYP 177)															
1-0305-122-SO	2	B	0.5	GA	SO	A	C	C	M-0041-1	D-03/-0E	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRCTIONAL CNTRL VLV-W/DRAW(TYP 177)															
1-0305-123-FCV	2	B	0.5	GA	SO	A	C	C	M-0041-1	D-03/-0E	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRCTIONAL FLO CNTRL-INSERT(TYP 177)															
1-0305-126-CV	2	B	1	DIA	AO	A	C	O	M-0041-1	E-04/-07	FO	RR			TP-00C
											SO	RR			TP-00E
Valve Name CRD-SCRAM INLET VALVE (TYP 177)															
1-0305-127-CV	2	B	0.75	DIA	AO	A	C	O	M-0041-1	E-02/-0E	FO	RR			TP-00C
											SO	RR			TP-00E
Valve Name CRD-SCRAM OUTLET VALVE (TYP 177)															
1-0305-137	2	C	0.5	CK	SA	A	SYS	C	M-0041-1	D-03/-0E	CC	RR			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name CRD DRIVE WATER CHECK VALVE															
1-0305-138	2	C	0.5	CK	SA	A	SYS	C	M-0041-1	D-04/-07	CC	M3			TP-00B, TP-00E
											CO	OP			TP-00B, TP-00E
Valve Name CRD-COOLING WATER CHECK VALVE (TYP 177)															
2-0301-122	NS	C	1.5	CK	SA	A	SYS	O/C	M-0083-2	G-02	CC	RR			TP-00B
											CO	RR			TP-00B
Valve Name CRD-MASTER SCRAM DUMP CHECK VALVE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0302-019A-SO	NC	B	1	3W	SO	A	D	E	M-0083-2	F-01	SE	CS		CS-03B	TP-03A
Valve Name CRD-MASTER SCRAM PILOT VALVE															
2-0302-019B-SO	NC	B	1	3W	SO	A	D	E	M-0083-2	G-01	SE	CS		CS-03B	TP-03A
Valve Name CRD-MASTER SCRAM PILOT VALVE															
2-0302-020A-SO	NC	B	0.5	3W	SO	A	E	D	M-0083-2	G-04	FD	CS		CS-03B	TP-00C
Valve Name CRD-SDV VENT & DRAIN PILOT VALVE															
2-0302-020B-SO	NC	B	0.5	3W	SO	A	E	D	M-0083-2	G-04	FD	CS		CS-03B	TP-00C
Valve Name CRD-SDV VENT & DRAIN PILOT VALVE															
2-0302-021A-AO	2	B	1	DIA	AO	A	O	C	M-0083-3	B-10	FC	M3			TP-00C
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
2-0302-021B-AO	NC	B	1	DIA	AO	A	O	C	M-0083-3	B-09	FC	M3			TP-00C
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
2-0302-021C-AO	2	B	1	DIA	AO	A	O	C	M-0083-3	B-01	FC	M3			TP-00C
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
2-0302-021D-AO	NC	B	1	DIA	AO	A	O	C	M-0083-3	B-02	FC	M3			TP-00C
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) VENT															
2-0302-022A-AO	2	B	2	DIA	AO	A	O	C	M-0083-3	F-09	FC	M3			TP-00C
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															
2-0302-022B-AO	NC	B	2	DIA	AO	A	O	C	M-0083-3	F-10	FC	M3			TP-00C
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0302-022C-AO	2	B	2	DIA	AO	A	O	C	M-0083-3	G-02	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															
2-0302-022D-AO	NC	B	2	DIA	AO	A	O	C	M-0083-3	G-01	FC	M3			TP-00C
											PI	Y2			
											SC	M3			TP-00H
Valve Name CRD-SCRAM DISCHARGE VOLUME (SDV) DRAIN															
2-0302-025A-SO	NC	B	1	3W	SO	A	D	E	M-0083-2	E-02	SE	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
2-0302-025B-SO	NC	B	1	3W	SO	A	D	E	M-0083-2	E-01	SE	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
2-0302-026	NS	C	1.5	CK	SA	A	SYS	O/C	M-0083-2	E-01	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name CRD-ALTERNATE ROD INJECT SCRAM CHECK VLV															
2-0302-181A-SO	NC	B	1	GA	SO	A	C	O	M-0083-2	G-02	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
2-0302-181B-SO	NC	B	1	GA	SO	A	C	O	M-0083-2	G-02	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
2-0302-182A-SO	NC	B	1	GA	SO	A	C	O	M-0083-2	F-06	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
2-0302-182B-SO	NC	B	1	GA	SO	A	C	O	M-0083-2	G-06	SO	CS		CS-03B	TP-03A
Valve Name CRD-ALTERNATE ROD INJECT SCRAM SOLENOID															
2-0305-114	2	C	0.75	CK	SA	A	SYS	O	M-0083-1	F-02/08	CC				TP-00B, TP-00E
											CO	RR			TP-00B, TP-00E
Valve Name CRD-SCRAM DISCHARGE HEADER CHK (TYP 177)															
2-0305-115	2	C	0.5	CK	SA	A	SYS	C	M-0083-1	E-03/08	CC	CS		CS-03A	TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name CRD-ACCUM CHARGING WATER HDR CK(TYP 177)															
2-0305-117-SO	NC	B	0.5	3W	SO	A	E	D	M-0083-1	E-03/08	FD	RR			TP-00C
											SD	RR			TP-00E
Valve Name CRD-SCRAM PILOT SOLENOID VALVE (TYP 177)															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0305-118-SO	NC	B	0.5	3W	SO	A	E	D	M-0083-1	E-03/-0E	FD	RR			TP-00C
											SD	RR			TP-00E
Valve Name CRD-SCRAM PILOT SOLENOID VALVE (TYP 177)															
2-0305-120-FCV	2	B	0.5	GA	SO	A	C	C	M-0083-1	D-03/-07	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRECTIONAL FLO CNTRL W/DRAW(TYP 177)															
2-0305-121-SO	2	B	0.5	GA	SO	A	C	C	M-0083-1	D-03/-0E	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRECTIONAL CNTRL VLV-INSERT(TYP 177)															
2-0305-122-SO	2	B	0.5	GA	SO	A	C	C	M-0083-1	D-03/-0E	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRECTIONAL CNTRL VLV-W/DRAW(TYP 177)															
2-0305-123-FCV	2	B	0.5	GA	SO	A	C	C	M-0083-1	D-03/-07	FC	M3			TP-00C
											SC	M3			TP-00E
Valve Name CRD-DIRECTIONAL FLO CNTRL-INSERT(TYP 177)															
2-0305-126-CV	2	B	1	DIA	AO	A	C	O	M-0083-1	E-04/-07	FO	RR			TP-00C
											SO	RR			TP-00E
Valve Name CRD-SCRAM INLET VALVE (TYP 177)															
2-0305-127-CV	2	B	0.75	DIA	AO	A	C	O	M-0083-1	E-02/-0E	FO	RR			TP-00C
											SO	RR			TP-00E
Valve Name CRD-SCRAM OUTLET VALVE (TYP 177)															
2-0305-137	2	C	0.5	CK	SA	A	SYS	C	M-0083-1	D-03/-0E	CC	RR			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name CRD DRIVE WATER CHECK VALVE															
2-0305-138	2	C	0.5	CK	SA	A	SYS	C	M-0083-1	D-04/-07	CC	M3			TP-00B, TP-00E
											CO	OP			TP-00B, TP-00E
Valve Name CRD-COOLING WATER CHECK VALVE (TYP 177)															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0737-001B-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-1	C-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-001C-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-1	C-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-001D-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-1	C-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-001E-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-1	C-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-001F-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-1	C-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-002B	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-1	C-04	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-002C	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-1	B-04	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-002D	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-1	C-04	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-002E	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-1	C-04	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
1-0737-002F	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-1	C-04	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0743	MC	A/C	0.375	CK	SA	A	SYS	C	M-0584-1	C-05	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name TIP-NITROGEN PURGE CHK, PCIV															
2-0737-001B-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-2	C-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-001C-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-2	C-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-001D-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-2	C-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-001E-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-2	C-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-001F-SO	MC	A	0.375	BAL	SO	A	C	C	M-0584-2	C-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-002B	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-2	C-07	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-002C	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-2	C-06	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-002D	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-2	C-07	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0737-002E	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-2	B-07	DT	SA			
Valve Name TIP-PRIMARY CONTAINMENT ISOLATION VALVE															
2-0737-002F	MC	A/D	0.375	SHR	EXP	A	OKL	C	M-0584-2	B-07	DT	SA			
Valve Name TIP PRIMARY CONTAINMENT ISOLATION VALVE															
2-0743	MC	A/C	0.375	CK	SA	A	SYS	C	M-0584-2	C-06	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name TIP-NITROGEN PURGE CHK, PCIV															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-002A	3	C	12	CK	SA	A	SYS	O/C	M-0037	D-01	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-A PUMP DISCHARGE CHECK VALVE															
1-1001-002B	3	C	12	CK	SA	A	SYS	O/C	M-0037	F-01	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-B PUMP DISCHARGE CHECK VALVE															
1-1001-002C	3	C	12	CK	SA	A	SYS	O/C	M-0037	D-10	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-C PUMP DISCHARGE CHECK VALVE															
1-1001-002D	3	C	12	CK	SA	A	SYS	O/C	M-0037	F-10	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-D PUMP DISCHARGE CHECK VALVE															
1-1001-004A-MO	3	B	16	GA	MO	P	SYS	O/C	M-0037	A-01	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
1-1001-004B-MO	3	B	16	GA	MO	P	SYS	O/C	M-0037	A-10	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															
1-1001-005A-MO	3	B	12	GL	MO	A	C	O	M-0037	B-03	PI	Y2			
											SO	M3			
Valve Name RHRSW-A LOOP RHRSW FLOW CONTROL VALVE															
1-1001-005B-MO	3	B	12	GL	MO	A	C	O	M-0037	B-08	PI	Y2			
											SO	M3			
Valve Name RHRSW-B LOOP RHRSW FLOW CONTROL VALVE															
1-1001-007A-MO	2	B	14	GA	MO	A	O	O/C	M-0039-2	C-05	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-A PUMP TORUS SUCTION LINE ISOLATION															
1-1001-007B-MO	2	B	14	GA	MO	A	O	O/C	M-0039-2	F-05	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-B PUMP TORUS SUCTION LINE ISOLATION															
1-1001-007C-MO	2	B	14	GA	MO	A	O	O/C	M-0039-2	C-06	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-C PUMP TORUS SUCTION LINE ISOLATION															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-007D-MO	2	B	14	GA	MO	A	O	O/C	M-0039-2	F-06	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-D PUMP TORUS SUCTION LINE ISOLATION															
1-1001-016A-MO	2	B	18	GL	MO	A	O	O/C	M-0039-2	B-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP HT EXCHANGER BYPASS LINE ISOL															
1-1001-016B-MO	2	B	18	GL	MO	A	O	O/C	M-0039-2	B-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP HT EXCHANGER BYPASS LINE ISOL															
1-1001-018A-MO	2	B	3	GA	MO	A	O	O/C	M-0039-1	D-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP MINIMUM FLOW RECIRC LINE ISOL															
1-1001-018B-MO	2	B	3	GA	MO	A	O	O/C	M-0039-1	D-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP MINIMUM FLOW RECIRC LINE ISOL															
1-1001-019A-MO	2	B	18	GA	MO	P	O	O	M-0039-1	F-02	PI	Y2			
Valve Name RHR-A LOOP CROSS TIE LINE ISOLATION															
1-1001-019B-MO	2	B	18	GA	MO	P	O	O	M-0039-1	F-08	PI	Y2			
Valve Name RHR-B LOOP CROSS TIE LINE ISOLATION															
1-1001-020-MO	2	B	3	GA	MO	A	C	C	M-0039-1	F-08	PI	Y2			
											SC	M3			
Valve Name RHR-TRANSFER LINE TO RADWASTE ISOLATION															
1-1001-021-MO	NC	B	3	GA	MO	A	C	C	M-0039-1	F-07	PI	Y2			
											SC	M3			
Valve Name RHR-TRANSFER LINE TO RADWASTE ISOLATION															
1-1001-022A-RV	2	C	1	RV	SA	A	C	O	M-0039-1	B-02	RT	Y10			
Valve Name RHR-A LOOP RELIEF VALVE															
1-1001-022B-RV	2	C	1	RV	SA	A	C	O	M-0039-1	B-08	RT	Y10			
Valve Name RHR-B LOOP RELIEF VALVE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-023A-MO	2	B	10	GA	MO	A	C	O/C	M-0039-1	B-04	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP OUTBOARD DW SPRAY ISOLATION															
1-1001-023B-MO	2	B	10	GA	MO	A	C	O/C	M-0039-1	B-07	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP OUTBOARD DW SPRAY ISOLATION															
1-1001-026A-MO	2	A	10	GA	MO	A	C	O/C	M-0039-1	B-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP INBOARD DW SPRAY ISOLATION															
1-1001-026B-MO	2	A	10	GA	MO	A	C	O/C	M-0039-1	B-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP INBOARD DW SPRAY ISOLATION															
1-1001-028A-MO	2	B	16	GL	MO	A	O	O/C	M-0039-1	C-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP OUTBOARD RX VESSEL INJECTION															
1-1001-028B-MO	2	B	16	GL	MO	A	O	O/C	M-0039-1	C-07	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP OUTBOARD RX VESSEL INJECTION															
1-1001-029A-MO	1	A	16	GA	MO	A	C	O/C	M-0039-1	C-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP INBOARD RX VESSEL INJECTION															
1-1001-029B-MO	1	A	16	GA	MO	A	C	O/C	M-0039-1	C-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP INBOARD RX VESSEL INJECTION															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-033A	1	B	16	GA	M	P	LO	O	M-0039-1	C-05	PI	Y2			
Valve Name RHR-A LOOP RX VESSEL INJECT MANUAL ISOL															
1-1001-033B	1	B	16	GA	M	P	LO	O	M-0039-1	C-06	PI	Y2			
Valve Name RHR-B LOOP RX VESSEL INJECT MANUAL ISOL															
1-1001-034A-MO	2	B	16	GA	MO	A	C	O/C	M-0039-1	B-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP TORUS COOLING & SPRAY ISOL															
1-1001-034B-MO	2	B	16	GA	MO	A	C	O/C	M-0039-1	C-07	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP TORUS COOLING & SPRAY ISOL															
1-1001-036A-MO	2	A	14	GL	MO	A	C	O/C	M-0039-1	C-03	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP TORUS COOLING ISOLATION															
1-1001-036B-MO	2	A	14	GL	MO	A	C	O/C	M-0039-1	C-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP TORUS COOLING ISOLATION															
1-1001-037A-MO	2	A	6	GL	MO	A	C	O/C	M-0039-1	C-03	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP TORUS SPRAY ISOLATION															
1-1001-037B-MO	2	A	6	GL	MO	A	C	O/C	M-0039-1	C-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP TORUS SPRAY ISOLATION															
1-1001-043A-MO	2	B	14	GA	MO	P	C	C	M-0039-2	C-04	PI	Y2			
Valve Name RHR-A PUMP SHUTDOWN COOLING SUCTION ISOL															
1-1001-043B-MO	2	B	14	GA	MO	P	C	C	M-0039-2	E-04	PI	Y2			
Valve Name RHR-B PUMP SHUTDOWN COOLING SUCTION ISOL															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-043C-MO	2	B	14	GA	MO	P	C	C	M-0039-2	C-07	PI	Y2			
Valve Name RHR-C PUMP SHUTDOWN COOLING SUCTION ISOL															
1-1001-043D-MO	2	B	14	GA	MO	P	C	C	M-0039-2	E-07	PI	Y2			
Valve Name RHR-D PUMP SHUTDOWN COOLING SUCTION ISOL															
1-1001-047-MO	1	A	20	GA	MO	A	C	C	M-0039-1	E-05	LT	AJ			TP-00G
Valve Name RHR-OUTBOARD SHUTDOWN COOLING ISOLATION															
1-1001-050-MO	1	A	20	GA	MO	A	C	C	M-0039-1	D-05	LT	AJ			TP-00G
Valve Name RHR-INBOARD SHUTDOWN COOLING ISOLATION															
1-1001-059-RV	2	C	1	RV	SA	P	C	C	M-0039-1	B-09	RT	Y10			
Valve Name RHR-HEAD SPRAY LINE RELIEF VALVE															
1-1001-067A	2	C	12	CK	SA	A	SYS	O/C	M-0039-2	C-03	CC	M3			TP-00B
Valve Name RHR-A PUMP DISCHARGE CHECK VALVE															
1-1001-067B	2	C	12	CK	SA	A	SYS	O/C	M-0039-2	E-02	CC	M3			TP-00B
Valve Name RHR-B PUMP DISCHARGE CHECK VALVE															
1-1001-067C	2	C	12	CK	SA	A	SYS	O/C	M-0039-2	C-08	CC	M3			TP-00B
Valve Name RHR-C PUMP DISCHARGE CHECK VALVE															
1-1001-067D	2	C	12	CK	SA	A	SYS	O/C	M-0039-2	E-08	CC	M3			TP-00B
Valve Name RHR-D PUMP DISCHARGE CHECK VALVE															
1-1001-068A	1	A/C	16	CK	AO	A	SYS	O/C	M-0039-1	C-04	CC	RR		RJ-00B	TP-00B
Valve Name RHR-A LOOP RX VESSEL INJECTION CHECK															
1-1001-068B	1	A/C	16	CK	AO	A	SYS	O/C	M-0039-1	C-06	CC	RR		RJ-00B	TP-00B
Valve Name RHR-B LOOP RX VESSEL INJECTION CHECK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-125A-RV	2	C	1	RV	SA	A	C	O	M-0039-2	C-05	RT	Y10			
Valve Name RHR-A PUMP SUCTION RELIEF VALVE															
1-1001-125B-RV	2	C	1	RV	SA	A	C	O	M-0039-2	F-05	RT	Y10			
Valve Name RHR-B PUMP SUCTION RELIEF VALVE															
1-1001-125C-RV	2	C	1	RV	SA	A	C	O	M-0039-2	C-06	RT	Y10			
Valve Name RHR-C PUMP SUCTION RELIEF VALVE															
1-1001-125D-RV	2	C	1	RV	SA	A	C	O	M-0039-2	F-06	RT	Y10			
Valve Name RHR-D PUMP SUCTION RELIEF VALVE															
1-1001-131	2	C	3	CK	SA	A	SYS	C	M-0039-1	F-03	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-132	NS	C	3	SCK	SA	A	SYS	C	M-0039-1	F-03	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-136A	2	C	3	CK	SA	A	SYS	C	M-0039-1	C-02	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-136B	2	C	3	CK	SA	A	SYS	C	M-0039-1	C-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-137A	NS	C	3	SCK	SA	A	SYS	C	M-0039-1	C-02	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-137B	NS	C	3	SCK	SA	A	SYS	C	M-0039-1	C-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-139	2	C	3	CK	SA	A	SYS	C	M-0039-1	A-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-140	NS	C	3	SCK	SA	A	SYS	C	M-0039-1	A-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
1-1001-142A	2	C	2	CK	SA	A	SYS	O/C	M-0039-2	C-03	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-A PUMP MINIMUM FLOW RECIRC LINE CHK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-142B	2	C	2	CK	SA	A	SYS	O/C	M-0039-2	E-03	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-B PUMP MINIMUM FLOW RECIRC LINE CHK															
1-1001-142C	2	C	2	CK	SA	A	SYS	O/C	M-0039-2	C-07	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-C PUMP MINIMUM FLOW RECIRC LINE CHK															
1-1001-142D	2	C	2	CK	SA	A	SYS	O/C	M-0039-2	E-08	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-D PUMP MINIMUM FLOW RECIRC LINE CHK															
1-1001-143A	NS	C	6	CK	SA	A	SYS	O	M-0039-3	F-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RHR SYSTEM DRAIN ISOLATION CHECK VALVE TRAIN A															
1-1001-143B	NS	C	6	CK	SA	A	SYS	O	M-0039-3	F-06	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RHR SYSTEM DRAIN ISOLATION CHECK VALVE TRAIN B															
1-1001-165A-RV	3	C	4	RV	SA	A	C	O	M-0037	A-02	RT	Y10			
Valve Name RHRSW-A HT EXCHANGER THERMAL RELIEF VLV															
1-1001-165B-RV	3	C	4	RV	SA	A	C	O	M-0037	A-09	RT	Y10			
Valve Name RHRSW-B HT EXCHANGER THERMAL RELIEF VLV															
1-1001-166A-RV	2	C	1	RV	SA	A	C	O	M-0039-2	B-02	RT	Y10			
Valve Name RHR-A HT EXCHANGER THERMAL RELIEF VALVE															
1-1001-166B-RV	2	C	1	RV	SA	A	C	O	M-0039-2	B-09	RT	Y10			
Valve Name RHR-B HT EXCHANGER THERMAL RELIEF VALVE															
1-1001-185	2	C	1	CK	SA	A	SYS	C	M-0039-1	A-08	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHR-ESS KEEP FILL SUPPLY LINE ISOLATION															
1-1001-185A-MO	3	B	12	GA	MO	P	SYS	O/C	M-0037	A-03	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
1-1001-185B-MO	3	B	12	GA	MO	P	SYS	O/C	M-0037	A-08	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1001-186A-MO	3	B	12	GA	MO	P	SYS	O/C	M-0037	A-03	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
1-1001-186B-MO	3	B	12	GA	MO	P	SYS	O/C	M-0037	A-08	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															
1-1001-187A-MO	3	B	12	GA	MO	P	SYS	O/C	M-0037	B-02	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
1-1001-187B-MO	3	B	12	GA	MO	P	SYS	O/C	M-0037	B-09	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															
1-1099-092A-AO	2	B	1	DIA	AO	A	C	C	M-0039-2	B-01	FC	M3			TP-00C, TP-00E
											PI	Y2			TP-00E
											SC	M3			TP-00E
Valve Name RHR-A LOOP SAMPLING SELECT VALVE															
1-1099-092B-AO	2	B	1	DIA	AO	A	C	C	M-0039-2	B-10	FC	M3			TP-00C, TP-00E
											PI	Y2			TP-00E
											SC	M3			TP-00E
Valve Name RHR-B LOOP SAMPLING SELECT VALVE															
1-1099-166	2	A	6	GA	M	P	C	C	M-0039-1	A-04	LT	AJ			TP-00G
Valve Name RHR-FIRE PROTECTION SYSTEM SUPPLY ISOL															
2-1001-002A	3	C	12	CK	SA	A	SYS	O/C	M-0079	D-01	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-A PUMP DISCHARGE CHECK VALVE															
2-1001-002B	3	C	12	CK	SA	A	SYS	O/C	M-0079	F-01	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-B PUMP DISCHARGE CHECK VALVE															
2-1001-002C	3	C	12	CK	SA	A	SYS	O/C	M-0079	D-10	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-C PUMP DISCHARGE CHECK VALVE															
2-1001-002D	3	C	12	CK	SA	A	SYS	O/C	M-0079	F-10	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHRSW-D PUMP DISCHARGE CHECK VALVE															
2-1001-004A-MO	3	B	16	GA	MO	P	SYS	O/C	M-0079	A-01	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
2-1001-004B-MO	3	B	16	GA	MO	P	SYS	O/C	M-0079	A-10	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-005A-MO	3	B	12	GL	MO	A	C	O	M-0079	B-03	PI	Y2			
											SO	M3			
Valve Name RHR-SW-A LOOP RHR-SW FLOW CONTROL VALVE															
2-1001-005B-MO	3	B	12	GL	MO	A	C	O	M-0079	B-08	PI	Y2			
											SO	M3			
Valve Name RHR-SW-B LOOP RHR-SW FLOW CONTROL VALVE															
2-1001-007A-MO	2	B	14	GA	MO	A	O	O/C	M-0081-2	C-05	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-A PUMP TORUS SUCTION LINE ISOLATION															
2-1001-007B-MO	2	B	14	GA	MO	A	O	O/C	M-0081-2	F-05	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-B PUMP TORUS SUCTION LINE ISOLATION															
2-1001-007C-MO	2	B	14	GA	MO	A	O	O/C	M-0081-2	C-06	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-C PUMP TORUS SUCTION LINE ISOLATION															
2-1001-007D-MO	2	B	14	GA	MO	A	O	O/C	M-0081-2	F-06	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name RHR-D PUMP TORUS SUCTION LINE ISOLATION															
2-1001-016A-MO	2	B	18	GL	MO	A	O	O/C	M-0081-2	A-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP HT EXCHANGER BYPASS LINE ISOL															
2-1001-016B-MO	2	B	18	GL	MO	A	O	O/C	M-0081-2	A-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP HT EXCHANGER BYPASS LINE ISOL															
2-1001-018A-MO	2	B	3	GA	MO	A	O	O/C	M-0081-1	D-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP MINIMUM FLOW RECIRC LINE ISOL															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-018B-MO	2	B	3	GA	MO	A	O	O/C	M-0081-1	D-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP MINIMUM FLOW RECIRC LINE ISOL															
2-1001-019A-MO	2	B	18	GA	MO	P	O	O	M-0081-1	F-02	PI	Y2			
Valve Name RHR-A LOOP CROSS TIE LINE ISOLATION															
2-1001-019B-MO	2	B	18	GA	MO	P	O	O	M-0081-1	F-09	PI	Y2			
Valve Name RHR-B LOOP CROSS TIE LINE ISOLATION															
2-1001-020-MO	2	B	3	GA	MO	A	C	C	M-0081-1	F-03	PI	Y2			
											SC	M3			
Valve Name RHR-TRANSFER LINE TO RADWASTE ISOLATION															
2-1001-021-MO	NC	B	3	GA	MO	A	C	C	M-0081-1	F-03	PI	Y2			
											SC	M3			
Valve Name RHR-TRANSFER LINE TO RADWASTE ISOLATION															
2-1001-022A-RV	2	C	1	RV	SA	A	C	O	M-0081-1	B-02	RT	Y10			
Valve Name RHR-A LOOP RELIEF VALVE															
2-1001-022B-RV	2	C	1	RV	SA	A	C	O	M-0081-1	B-08	RT	Y10			
Valve Name RHR-B LOOP RELIEF VALVE															
2-1001-023A-MO	2	B	10	GA	MO	A	C	O/C	M-0081-1	B-04	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP OUTBOARD DW SPRAY ISOLATION															
2-1001-023B-MO	2	B	10	GA	MO	A	C	O/C	M-0081-1	B-07	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP OUTBOARD DW SPRAY ISOLATION															
2-1001-026A-MO	2	A	10	GA	MO	A	C	O/C	M-0081-1	B-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP INBOARD DW SPRAY ISOLATION															
2-1001-026B-MO	2	A	10	GA	MO	A	C	O/C	M-0081-1	B-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP INBOARD DW SPRAY ISOLATION															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-028A-MO	2	B	16	GL	MO	A	O	O/C	M-0081-1	C-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP OUTBOARD RX VESSEL INJECTION															
2-1001-028B-MO	2	B	16	GL	MO	A	O	O/C	M-0081-1	C-07	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP OUTBOARD RX VESSEL INJECTION															
2-1001-029A-MO	1	A	16	GA	MO	A	C	O/C	M-0081-1	C-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP INBOARD RX VESSEL INJECTION															
2-1001-029B-MO	1	A	16	GA	MO	A	C	O/C	M-0081-1	C-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP RX INBOARD VESSEL INJECTION															
2-1001-033A	1	B	16	GA	M	P	LO	O	M-0081-1	C-05	PI	Y2			
Valve Name RHR-A LOOP RX VESSEL INJECT MANUAL ISOL															
2-1001-033B	1	B	16	GA	M	P	LO	O	M-0081-1	C-06	PI	Y2			
Valve Name RHR-B LOOP RX VESSEL INJECT MANUAL ISOL															
2-1001-034A-MO	2	B	16	GA	MO	A	C	O/C	M-0081-1	B-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP TORUS COOLING & SPRAY ISOL															
2-1001-034B-MO	2	B	16	GA	MO	A	C	O/C	M-0081-1	C-07	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP TORUS COOLING & SPRAY ISOL															
2-1001-036A-MO	2	A	14	GL	MO	A	C	O/C	M-0081-1	C-03	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-A LOOP TORUS COOLING ISOLATION															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-036B-MO	2	A	14	GL	MO	A	C	O/C	M-0081-1	D-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-B LOOP TORUS COOLING ISOLATION															
2-1001-037A-MO	2	A	6	GL	MO	A	C	O/C	M-0081-1	C-03	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-TORUS SPRAY ISOLATION															
2-1001-037B-MO	2	A	6	GL	MO	A	C	O/C	M-0081-1	C-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name RHR-TORUS SPRAY ISOLATION															
2-1001-043A-MO	2	B	14	GA	MO	P	C	C	M-0081-2	C-04	PI	Y2			
Valve Name RHR-A PUMP SHUTDOWN COOLING SUCTION ISOL															
2-1001-043B-MO	2	B	14	GA	MO	P	C	C	M-0081-2	E-04	PI	Y2			
Valve Name RHR-B PUMP SHUTDOWN COOLING SUCTION ISOL															
2-1001-043C-MO	2	B	14	GA	MO	P	C	C	M-0081-2	C-07	PI	Y2			
Valve Name RHR-C PUMP SHUTDOWN COOLING SUCTION ISOL															
2-1001-043D-MO	2	B	14	GA	MO	P	C	C	M-0081-2	E-07	PI	Y2			
Valve Name RHR-D PUMP SHUTDOWN COOLING SUCTION ISOL															
2-1001-047-MO	1	A	20	GA	MO	A	C	C	M-0081-1	E-05	LT	AJ			TP-00G
											LT	AJ			TP-00G
											PI	Y2			
											SC	CS		CS-10A	
Valve Name RHR-OUTBOARD SHUTDOWN COOLING ISOLATION															
2-1001-050-MO	1	A	20	GA	MO	A	C	C	M-0081-1	D-05	LT	AJ			TP-00G
											LT	AJ			TP-00G
											PI	Y2			
											SC	CS		CS-10A	
Valve Name RHR-INBOARD SHUTDOWN COOLING ISOLATION															
2-1001-059-RV	2	C	1	RV	SA	P	C	C	M-0081-1	A-08	RT	Y10			
Valve Name RHR-HEAD SPRAY LINE RELIEF VALVE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-067A	2	C	12	CK	SA	A	SYS	O/C	M-0081-2	C-03	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHR-A PUMP DISCHARGE CHECK VALVE															
2-1001-067B	2	C	12	CK	SA	A	SYS	O/C	M-0081-2	E-03	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHR-B PUMP DISCHARGE CHECK VALVE															
2-1001-067C	2	C	12	CK	SA	A	SYS	O/C	M-0081-2	C-08	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHR-C PUMP DISCHARGE CHECK VALVE															
2-1001-067D	2	C	12	CK	SA	A	SYS	O/C	M-0081-2	E-08	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHR-D PUMP DISCHARGE CHECK VALVE															
2-1001-068A	1	A/C	16	CK	AO	A	SYS	O/C	M-0081-1	C-04	CC	RR		RJ-00B	TP-00B
											CO	CS		CS-00A	TP-00B
											LT	Y2			
											PI	Y2			
Valve Name RHR-A LOOP RX VESSEL INJECTION CHECK															
2-1001-068B	1	A/C	16	CK	AO	A	SYS	O/C	M-0081-1	C-06	CC	RR		RJ-00B	TP-00B
											CO	CS		CS-00A	TP-00B
											LT	Y2			
											PI	Y2			
Valve Name RHR-B LOOP RX VESSEL INJECTION CHECK															
2-1001-125A-RV	2	C	1	RV	SA	A	C	O	M-0081-2	C-05	RT	Y10			
Valve Name RHR-A PUMP SUCTION RELIEF VALVE															
2-1001-125B-RV	2	C	1	RV	SA	A	C	O	M-0081-2	F-05	RT	Y10			
Valve Name RHR-B PUMP SUCTION RELIEF VALVE															
2-1001-125C-RV	2	C	1	RV	SA	A	C	O	M-0081-2	C-06	RT	Y10			
Valve Name RHR-C PUMP SUCTION RELIEF VALVE															
2-1001-125D-RV	2	C	1	RV	SA	A	C	O	M-0081-2	F-06	RT	Y10			
Valve Name RHR-D PUMP SUCTION RELIEF VALVE															
2-1001-131	2	C	3	CK	SA	A	SYS	C	M-0081-1	F-07	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
2-1001-132	NS	C	3	SCK	SA	A	SYS	C	M-0081-1	G-07	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-136A	2	C	3	CK	SA	A	SYS	C	M-0081-1	C-02	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
2-1001-136B	2	C	3	CK	SA	A	SYS	C	M-0081-1	C-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
2-1001-137A	NS	C	3	SCK	SA	A	SYS	C	M-0081-1	C-02	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
2-1001-137B	NS	C	3	SCK	SA	A	SYS	C	M-0081-1	C-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
2-1001-139	2	C	3	CK	SA	A	SYS	C	M-0081-1	A-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
2-1001-140	NS	C	3	SCK	SA	A	SYS	C	M-0081-1	A-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name RHR-CONDENSATE MAKEUP TRANSFER LINE ISOL															
2-1001-142A	2	C	2	CK	SA	A	SYS	O/C	M-0081-2	C-03	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-A PUMP MINIMUM FLOW RECIRC LINE CHK															
2-1001-142B	2	C	2	CK	SA	A	SYS	O/C	M-0081-2	E-03	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-B PUMP MINIMUM FLOW RECIRC LINE CHK															
2-1001-142C	2	C	2	CK	SA	A	SYS	O/C	M-0081-2	C-07	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-C PUMP MINIMUM FLOW RECIRC LINE CHK															
2-1001-142D	2	C	2	CK	SA	A	SYS	O/C	M-0081-2	E-08	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name RHR-D PUMP MINIMUM FLOW RECIRC LINE CHK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1001-143A	NS	C	6	CK	SA	A	SYS	O	M-0081-3	F-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RHR SYSTEM DRAIN ISOLATION CHECK VALVE TRAIN A															
2-1001-143B	NS	C	6	CK	SA	A	SYS	O	M-0081-3	F-06	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RHR SYSTEM DRAIN ISOLATION CHECK VALVE TRAIN B															
2-1001-165A-RV	3	C	4	RV	SA	A	C	O	M-0079	A-02	RT	Y10			
Valve Name RHR-A HT EXCHANGER THERMAL RELIEF VALVE															
2-1001-165B-RV	3	C	4	RV	SA	A	C	O	M-0079	A-09	RT	Y10			
Valve Name RHR-B HT EXCHANGER THERMAL RELIEF VALVE															
2-1001-166A-RV	2	C	1	RV	SA	A	C	O	M-0081-2	B-02	RT	Y10			
Valve Name RHR-A HT EXCHANGER THERMAL RELIEF VALVE															
2-1001-166B-RV	2	C	1	RV	SA	A	C	O	M-0081-2	B-09	RT	Y10			
Valve Name RHR-B HT EXCHANGER THERMAL RELIEF VALVE															
2-1001-185	2	C	1	CK	SA	A	SYS	C	M-0081-1	B-09	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RHR-RHR KEEP FILL SUPPLY CHECK															
2-1001-185A-MO	3	B	12	GA	MO	P	SYS	O/C	M-0079	A-03	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
2-1001-185B-MO	3	B	12	GA	MO	P	SYS	O/C	M-0079	A-08	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															
2-1001-186A-MO	3	B	12	GA	MO	P	SYS	O/C	M-0079	A-03	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
2-1001-186B-MO	3	B	12	GA	MO	P	SYS	O/C	M-0079	A-08	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															
2-1001-187A-MO	3	B	12	GA	MO	P	SYS	O/C	M-0079	B-02	PI	Y2			
Valve Name RHRSW-A LOOP RHR HT EXCHNGR FLUSH CONTRL															
2-1001-187B-MO	3	B	12	GA	MO	P	SYS	O/C	M-0079	B-09	PI	Y2			
Valve Name RHRSW-B LOOP RHR HT EXCHNGR FLUSH CONTRL															
2-1099-092A-AO	2	B	1	DIA	AO	A	C	C	M-0081-2	B-01	FC	M3			TP-00C, TP-00E
											PI	Y2			TP-00E
											SC	M3			TP-00E
Valve Name RHR-A LOOP SAMPLING SELECT VALVE															

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Residual Heat Removal (Page 16)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1099-092B-AO	2	B	1	DIA	AO	A	C	C	M-0081-2	B-10	FC	M3			TP-00C, TP-00E
											PI	Y2			TP-00E
											SC	M3			TP-00E
Valve Name RHR-B LOOP SAMPLING SELECT VALVE															
2-1099-166	2	A	6	GA	M	P	C	C	M-0081-1	A-04	LT	AJ			TP-00G
Valve Name RHR-FIRE PROTECTION SYSTEM SUPPLY ISOL															
2-1099-167-RV	2	A/C	0.75	RV	SA	A	C	O	M-0081-1	D-05	LT	AJ			TP-00G
											RT	Y10			
Valve Name RHR-SHUTDOWN COOLING PCI VOLUME RELIEF															

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Standby Liquid Control (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1101-001	2	B	1.5	GL	M	P	LO	O	M-0040	D-01	PI	Y2			
Valve Name SBLC-INJECTION LINE MANUAL ISOLATION															
1-1101-015	2	A/C	1.5	CK	SA	A	SYS	O/C	M-0040	D-01	CC	RR			TP-00B
											CO	RR			TP-00B
											LT	AJ			TP-00G
Valve Name SBLC-INBOARD INJECTION LINE CHECK VALVE															
1-1101-016	2	A/C	1.5	CK	SA	A	SYS	O/C	M-0040	D-02	CC	RR			TP-00B
											CO	RR			TP-00B
											LT	AJ			TP-00G
Valve Name SBLC-OUTBOARD INJECTION LINE CHECK VALVE															
1-1101-043A	2	B	1.5	CK	SA	A	C	O/C	M-0040	D-04	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SBLC-A PUMP DISCHARGE CHECK VALVE															
1-1101-043B	2	B	1.5	CK	SA	A	C	O/C	M-0040	E-04	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SBLC-B PUMP DISCHARGE CHECK VALVE															
1-1105A-RV	2	C	1	RV	SA	A	C	O	M-0040	C-05	RT	Y10			
Valve Name SBLC-A PUMP DISCHARGE RELIEF VALVE															
1-1105B-RV	2	C	1	RV	SA	A	C	O	M-0040	E-05	RT	Y10			
Valve Name SBLC-B PUMP DISCHARGE RELIEF VALVE															
1-1106A	2	D	1.5	SHR	EXP	A	CKL	O	M-0040	E-03	DT	SA			
Valve Name SBLC-A EXPLOSIVE ACTUATED (SQUIB) VALVE															
1-1106B	2	D	1.5	SHR	EXP	A	CKL	O	M-0040	F-03	DT	SA			
Valve Name SBLC-B EXPLOSIVE ACTUATED (SQUIB) VALVE															
2-1101-001	2	B	1.5	GL	M	P	LO	O	M-0082	D-10	PI	Y2			
Valve Name SBLC-INJECTION LINE MANUAL ISOLATION															
2-1101-015	2	A/C	1.5	CK	SA	A	SYS	O/C	M-0082	D-10	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name SBLC-INBOARD INJECTION LINE CHECK VALVE															

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Standby Liquid Control (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1101-016	2	A/C	1.5	CK	SA	A	SYS	O/C	M-0082	D-09	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name SBLC-OUTBOARD INJECTION LINE CHECK VALVE															
2-1101-043A	2	B	1.5	CK	SA	A	C	O/C	M-0082	D-07	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SBLC-A PUMP DISCHARGE CHECK VALVE															
2-1101-043B	2	B	1.5	CK	SA	A	C	O/C	M-0082	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SBLC-B PUMP DISCHARGE CHECK VALVE															
2-1105A-RV	2	C	1	RV	SA	A	C	O	M-0082	D-06	RT	Y10			
Valve Name SBLC-A PUMP DISCHARGE RELIEF VALVE															
2-1105B-RV	2	C	1	RV	SA	A	C	O	M-0082	E-06	RT	Y10			
Valve Name SBLC-B PUMP DISCHARGE RELIEF VALVE															
2-1106A	2	D	1.5	SHR	EXP	A	CKL	O	M-0082	F-08	DT	SA			
Valve Name SBLC-A EXPLOSIVE ACTUATED (SQUIB) VALVE															
2-1106B	2	D	1.5	SHR	EXP	A	CKL	O	M-0082	F-08	DT	SA			
Valve Name SBLC-B EXPLOSIVE ACTUATED (SQUIB) VALVE															

Reactor Water Cleanup (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1201-002-MO	1	A	6	GA	MO	A	O	C	M-0047-1	C-05	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RWCU-INBOARD PRIMARY CONT ISOLATION VLV															
1-1201-005-MO	1	A	6	GA	MO	A	O	C	M-0047-1	C-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RWCU-OUTBOARD PRIMARY CONT ISOLATION VLV															
1-1201-080-MO	NS	B	4	GL	MO	A	O	C	M-0047-1	B-09	PI	Y2			
											SC	M3			
Valve Name RWCU RETURN ISOLATION VALVE															
1-1299-087-RV	2	A/C	0.75	RV	SA	A	C	O	M-0047-1	C-06	LT	AJ			TP-00G
											RT	Y10			
Valve Name RWCU-PCI VOLUME RELIEF															
2-1201-002-MO	1	A	6	GA	MO	A	O	C	M-0088-1	C-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RWCU-INBOARD PRIMARY CONT ISOLATION VLV															
2-1201-005-MO	1	A	6	GA	MO	A	O	C	M-0088-1	C-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RWCU-OUTBOARD PRIMARY CONT ISOLATION VLV															
2-1201-080-MO	NS	B	4	GL	MO	A	O	C	M-0088-1	B-09	PI	Y2			
											SC	M3			
Valve Name RWCU RETURN ISOLATION VALVE															
2-1299-087-RV	2	A/C	0.75	RV	SA	A	C	O	M-0088-1	C-06	LT	AJ			TP-00G
											RT	Y10			
Valve Name RWCU-PCI VOLUME RELIEF															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1301-009-RPD	NS	D	8	RPD	SA	A	C	O	M-0050-1	B-07	DT	Y5			
Valve Name RCIC-TURBINE EXHAUST LINE RUPTURE DISC															
1-1301-010-RPD	NS	D	8	RPD	SA	A	C	O	M-0050-1	B-07	DT	Y5			
Valve Name RCIC-TURBINE EXHAUST LINE RUPTURE DISC															
1-1301-012-AO	NS	N/A	1	GL	AO	A	C	C	M-0050-1	F-08	FC	M3			TP-00C
PI Y2															
SC M3															
Valve Name RCIC VLV FROM CONDENSATE PMP TO REACTOR BLDG DRAIN															
1-1301-013-AO	NS	N/A	1	GL	AO	A	C	C	M-0050-1	G-08	FC	M3			TP-00C
PI Y2															
SC M3															
Valve Name RCIC VLV FROM CONDENSATE PMP TO REACTOR BLDG DRAIN															
1-1301-015A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0050-1	B-01	CC	RR		RJ-00A	TP-00B, TP-00I
CO OP TP-00B, TP-00I															
LT Y10															
Valve Name RCIC-STEAM SUPPLY LINE EXCESS FLOW CK															
1-1301-015B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0050-1	B-01	CC	RR		RJ-00A	TP-00B, TP-00I
CO OP TP-00B, TP-00I															
LT Y10															
Valve Name RCIC-STEAM SUPPLY LINE EXCESS FLOW CK															
1-1301-016-MO	2	A	3	GA	MO	A	O	O/C	M-0050-1	C-02	LT	AJ			TP-00G
PI Y2															
SC M3															
Valve Name RCIC-TURB STEAM SUPPLY ISOLATION - PCIV															
1-1301-017-MO	2	A	3	GA	MO	A	O	O/C	M-0050-1	C-03	LT	AJ			TP-00G
PI Y2															
SC M3															
Valve Name RCIC-TURB STEAM SUPPLY ISOLATION - PCIV															
1-1301-022-MO	NS	B	6	GA	MO	A	O	O/C	M-0050-1	B-02	PI	Y2			
SC M3 TP-00A															
SO M3 TP-00A															
Valve Name RCIC-SUCTION SUPPLY LINE FROM CCST ISOL															
1-1301-023	NS	C	6	CK	SA	A	SYS	O/C	M-0050-1	B-03	CC	M3			TP-00B
CO M3 TP-00B															
Valve Name RCIC-SUCTION SUPPLY LINE FROM CCST CHK															

Reactor Core Isolation Cooling (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1301-025-MO	2	B	6	GA	MO	A	C	O/C	M-0050-1	G-03	PI	Y2			TP-00F
											SC	M3			TP-00A, TP-00F
											SO	M3			TP-00A, TP-00F
Valve Name RCIC-SUCTION SUPPLY LINE FROM TORUS ISOL															
1-1301-026-MO	NS	B	6	GA	MO	A	C	O/C	M-0050-1	D-04	PI	Y2			
											SC	M3			TP-00A
											SO	M3			TP-00A
Valve Name RCIC-SUCTION SUPPLY LINE FROM TORUS ISOL															
1-1301-027	NS	C	6	CK	SA	A	SYS	O/C	M-0050-1	G-03	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-SUCTION SUPPLY LINE FROM TORUS CHK															
1-1301-031-RV	NS	C	1	RV	SA	A	SYS	O	M-0050-1	A-04	RT	Y10			
Valve Name RCIC-SUCTION SUPPLY LINE RELIEF VLV															
1-1301-032-AO	NS	B	1	GL	AO	A	C	O	M-0050-1	B-10	FO	M3			TP-00C
											PI	Y2			
											SO	M3			
Valve Name RCIC-STEAM LINE DRAIN POT TRAP BYPASS															
1-1301-034-AO	NS	B	1	GL	AO	A	O	C	M-0050-1	C-09	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name RCIC-STM LINE DRN POT DISCH TO MAIN COND															
1-1301-035-AO	NS	B	1	GL	AO	A	O	C	M-0050-1	C-09	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name RCIC-STM LINE DRN POT DISCH TO MAIN COND															
1-1301-040	MC	A/C	2	CK	SA	A	SYS	C	M-0050-1	E-03	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC VACUUM PUMP DISCHARGE LINE TO TORUS CK VALVE															

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Reactor Core Isolation Cooling (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1301-041	MC	A/C	8	CK	SA	A	SYS	O/C	M-0050-1	E-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC-TURBINE EXHAUST LINE TO TORUS-PCIV															
1-1301-042-RV	NS	C	1.5	RV	SA	A	SYS	O	M-0050-1	E-06	RT	Y10			
Valve Name RCIC-LUBE OIL/BAROM COND CLNG RELIEF VLV															
1-1301-047	2	C	2	CK	SA	A	SYS	O/C	M-0050-1	D-07	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-MINIMUM FLOW TO TORUS CHECK VALVE															
1-1301-048-MO	NS	B	4	GA	MO	A	O	O	M-0050-1	D-04	PI	Y2			
											SO	M3			TP-00A
Valve Name RCIC-INJECTION LINE TO FEEDWATER ISOL															
1-1301-049-MO	NS	B	4	GA	MO	A	C	O	M-0050-1	D-03	PI	Y2			
											SO	M3			TP-00A
Valve Name RCIC-INJECTION LINE TO FEEDWATER ISOL															
1-1301-050	NS	C	4	CK	SA	A	SYS	O	M-0050-1	D-02	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name RCIC-INJECTION LINE TO FEEDWATER CHK VLV															
1-1301-053-MO	NS	B	4	GL	MO	A	C	C	M-0050-1	D-03	PI	Y2			
											SC	M3			TP-00A
Valve Name RCIC-FULL FLOW TEST RETURN LINE TO CCST															
1-1301-055	2	A/C	2	SCK	SA	A	SYS	C	M-0050-1	E-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC-TURBINE DISCHARGE ISOL VALVE, PCIV															
1-1301-060-MO	NS	B	2	GL	MO	A	C	O/C	M-0050-1	D-06	PI	Y2			
											SC	M3			TP-00A
											SO	M3			TP-00A
Valve Name RCIC-MINIMUM FLOW RECIRC LINE ISOLATION															

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Reactor Core Isolation Cooling (Page 4)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1301-061-MO	NS	B	3	GL	MO	A	C	O/C	M-0050-1	A-09	PI	Y2			
											SC	M3			TP-00A
											SO	M3			TP-00A
Valve Name RCIC-STEAM SUPPLY BLOCKING VALVE															
1-1301-062-MO	NS	B	2	GL	MO	A	C	O	M-0050-1	D-06	PI	Y2			
											SO	M3			TP-00A
Valve Name RCIC-LUBE OIL/BARO CONDENSER COOLING ISOL															
1-1301-063	NS	C	2	CK	SA	A	SYS	C	M-0050-1	F-08	CCF	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-BAROMETRIC CONDENSER RETURN CHK VLV															
1-1301-064	2	A/C	8	SCK	SA	A	SYS	O/C	M-0050-1	E-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC-TURBINE DISCHARGE ISOL VALVE, PCIV															
1-1399-102	NC	C	2	CK	SA	A	SYS	O/C	M-0050-1	F-02	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-EXHAUST LINE VACUUM BREAKER															
1-1399-103	NC	C	2	CK	SA	A	SYS	O/C	M-0050-1	F-02	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-EXHAUST LINE VACUUM BREAKER															
1-1399-151-RV	NS	C	1.25	RV	SA	A	C	O	M-0050-1	D-09	RT	Y10			
Valve Name RCIC-BAROMETRIC CONDENSER RELIEF VALVE															
2-1301-009-RPD	NS	D	8	RPD	SA	A	C	O	M-0089-1	B-07	DT	Y5			
Valve Name RCIC-TURBINE EXHAUST LINE RUPTURE DISC															
2-1301-010-RPD	NS	D	8	RPD	SA	A	C	O	M-0089-1	B-07	DT	Y5			
Valve Name RCIC-TURBINE EXHAUST LINE RUPTURE DISC															
2-1301-012-AO	NS	N/A	1	GL	AO	A	C	C	M-0089-1	F-08	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name RCIC VLV FROM CONDENSATE PMP TO REACTOR BLDG DRAIN															

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Reactor Core Isolation Cooling (Page 5)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1301-013-AO	NS	N/A	1	GL	AO	A	C	C	M-0089-1	G-08	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name RCIC VLV FROM CONDENSATE PMP TO REACTOR BLDG DRAIN															
2-1301-015A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0089-1	B-01	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			
Valve Name RCIC-STEAM SUPPLY LINE EXCESS FLOW CK															
2-1301-015B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0089-1	B-01	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			
Valve Name RCIC-STEAM SUPPLY LINE EXCESS FLOW CK															
2-1301-016-MO	2	A	3	GA	MO	A	O	O/C	M-0089-1	C-01	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RCIC-TURB STEAM SUPPLY ISOLATION - PCIV															
2-1301-017-MO	2	A	3	GA	MO	A	O	O/C	M-0089-1	C-02	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name RCIC-TURB STEAM SUPPLY ISOLATION - PCIV															
2-1301-022-MO	NS	B	6	GA	MO	A	O	O/C	M-0089-1	B-03	PI	Y2			
											SC	M3			TP-00A
											SO	M3			TP-00A
Valve Name RCIC-SUCTION SUPPLY LINE FROM CCST ISOL															
2-1301-023	NS	C	6	CK	SA	A	SYS	O/C	M-0089-1	B-03	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name RCIC-SUCTION SUPPLY LINE FROM CCST CHK															
2-1301-025-MO	2	B	6	GA	MO	A	C	O/C	M-0089-1	G-03	PI	Y2			TP-00F
											SC	M3			TP-00A, TP-00F
											SO	M3			TP-00A, TP-00F
Valve Name RCIC-SUCTION SUPPLY LINE FROM TORUS ISOL															

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Reactor Core Isolation Cooling (Page 6)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1301-026-MO	NS	B	6	GA	MO	A	C	O/C	M-0089-1	D-04	PI	Y2			
											SC	M3			TP-00A
											SO	M3			TP-00A
Valve Name RCIC-SUCTION SUPPLY LINE FROM TORUS ISOL															
2-1301-027	NS	C	6	CK	SA	A	SYS	O/C	M-0089-1	G-03	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-SUCTION SUPPLY LINE FROM TORUS CHK															
2-1301-031-RV	NS	C	1	RV	SA	A	SYS	O	M-0089-1	A-04	RT	Y10			
Valve Name RCIC-SUCTION SUPPLY LINE RELIEF VLV															
2-1301-032-AO	NS	B	1	GL	AO	A	C	O	M-0089-1	B-10	FO	M3			TP-00C
											PI	Y2			
											SO	M3			
Valve Name RCIC-STEAM LINE DRAIN POT TRAP BYPASS															
2-1301-034-AO	NS	B	1	GL	AO	A	O	C	M-0089-1	C-09	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name RCIC-STM LINE DRN POT DISCH TO MAIN COND															
2-1301-035-AO	NS	B	1	GL	AO	A	O	C	M-0089-1	C-09	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name RCIC-STM LINE DRN POT DISCH TO CONDENSER															
2-1301-040	MC	A/C	2	CK	SA	A	SYS	C	M-0089-1	E-03	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC VACUUM PUMP DISCHARGE LINE TO TORUS CK VALVE															
2-1301-041	MC	A/C	8	CK	SA	A	SYS	O/C	M-0089-1	E-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC-TURBINE EXHAUST LINE TO TORUS-PCIV															
2-1301-042-RV	NS	C	1.5	RV	SA	A	SYS	O	M-0089-1	E-06	RT	Y10			
Valve Name RCIC-LUBE OIL/BAROM COND CLNG RELIEF VLV															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1301-047	2	C	2	CK	SA	A	SYS	O/C	M-0089-1	F-06	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-MINIMUM FLOW TO TORUS CHECK VALVE															
2-1301-048-MO	NS	B	4	GA	MO	A	O	O	M-0089-1	D-04	PI	Y2			
											SO	M3			TP-00A
Valve Name RCIC-INJECTION LINE TO FEEDWATER ISOL															
2-1301-049-MO	NS	B	4	GA	MO	A	C	O	M-0089-1	D-03	PI	Y2			
											SO	M3			TP-00A
Valve Name RCIC-INJECTION LINE TO FEEDWATER ISOL															
2-1301-050	NS	C	4	CK	SA	A	SYS	O	M-0089-1	D-02	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name RCIC-INJECTION LINE TO FEEDWATER CHK VLV															
2-1301-053-MO	NS	B	4	GL	MO	A	C	C	M-0089-1	D-03	PI	Y2			
											SC	M3			TP-00A
Valve Name RCIC-FULL FLOW TEST RETURN LINE TO CCST															
2-1301-055	2	A/C	2	SCK	SA	A	SYS	C	M-0089-1	E-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC-TURBINE DISCHARGE ISOL VALVE, PCIV															
2-1301-060-MO	NS	B	2	GL	MO	A	C	O/C	M-0089-1	D-05	PI	Y2			
											SC	M3			TP-00A
											SO	M3			TP-00A
Valve Name RCIC-MINIMUM FLOW RECIRC LINE ISOLATION															
2-1301-061-MO	NS	B	3	GL	MO	A	C	O/C	M-0089-1	A-09	PI	Y2			
											SC	M3			TP-00A
											SO	M3			TP-00A
Valve Name RCIC-STEAM SUPPLY BLOCKING VALVE															
2-1301-062-MO	NS	B	2	GL	MO	A	C	O	M-0089-1	D-05	PI	Y2			
											SO	M3			TP-00A
Valve Name RCIC-LUBE OIL/BARO CONDENSER COOLING ISOL															

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Reactor Core Isolation Cooling (Page 8)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1301-063	NS	C	2	CK	SA	A	SYS	C	M-0089-1	F-08	CCF	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-BAROMETRIC CONDENSER RETURN CHK VLV															
2-1301-064	2	A/C	8	SCK	SA	A	SYS	O/C	M-0089-1	E-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name RCIC-TURBINE DISCHARGE ISOL VALVE, PCIV															
2-1399-102	NC	C	2	CK	SA	A	SYS	O/C	M-0089-1	F-01	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-EXHAUST LINE VACUUM BREAKER															
2-1399-103	NC	C	2	CK	SA	A	SYS	O/C	M-0089-1	F-01	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name RCIC-EXHAUST LINE VACUUM BREAKER															
2-1399-151-RV	NS	C	1.25	RV	SA	A	C	O	M-0089-1	D-09	RT	Y10			
Valve Name RCIC-BAROMETRIC CONDENSER RELIEF VALVE															

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Core Spray (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1402-003A-MO	2	B	18	GA	MO	A	O	O/C	M-0036	G-06	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name CORE SPRAY-TORUS SUCTION LINE ISOLATION															
1-1402-003B-MO	2	B	18	GA	MO	A	O	O/C	M-0036	F-04	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name CORE SPRAY-TORUS SUCTION LINE ISOLATION															
1-1402-004A-MO	2	B	8	GL	MO	A	C	C	M-0036	A-08	PI	Y2			
											SC	M3			
Valve Name CORE SPRAY-TEST RETURN TO TORUS															
1-1402-004B-MO	2	B	8	GL	MO	A	C	C	M-0036	B-07	PI	Y2			
											SC	M3			
Valve Name CORE SPRAY-TEST RETURN TO TORUS															
1-1402-006A	1	B	10	GA	M	P	LO	O	M-0036	D-03	PI	Y2			
Valve Name CORE SPRAY-INJECTION LINE MANUAL ISOL															
1-1402-006B	1	B	10	GA	M	P	LO	O	M-0036	D-04	PI	Y2			
Valve Name CORE SPRAY-INJECTION LINE MANUAL ISOL															
1-1402-008A	2	C	12	SCK	SA	A	SYS	O/C	M-0036	D-09	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-PUMP DISCHARGE CHECK VALVE															
1-1402-008B	2	C	12	SCK	SA	A	SYS	O/C	M-0036	E-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-PUMP DISCHARGE CHECK VALVE															
1-1402-009A	1	A/C	10	CK	SA	A	SYS	O/C	M-0036	D-02	CC	RR		RJ-00B	TP-00B
											CO	CS		CS-00A	TP-00B
											LT	Y2			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION CHK															
1-1402-009B	1	A/C	10	CK	SA	A	SYS	O/C	M-0036	D-04	CC	RR		RJ-00B	TP-00B
											CO	CS		CS-00A	TP-00B
											LT	Y2			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION CHK															
1-1402-013A	2	C	1.5	SCK	SA	A	SYS	O	M-0036	D-09	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE CHK															

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Core Spray (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1402-013B	2	C	1.5	SCK	SA	A	SYS	O	M-0036	E-06	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE CHK															
1-1402-024A-MO	2	A	10	GA	MO	A	O	O/C	M-0036	B-02	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-INJECTION LINE ISOLATION VLV															
1-1402-024B-MO	2	A	10	GA	MO	A	O	O/C	M-0036	B-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-INJECTION LINE ISOLATION VLV															
1-1402-025A-MO	1	A	10	GA	MO	A	C	O/C	M-0036	C-02	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION VLV															
1-1402-025B-MO	1	A	10	GA	MO	A	C	O/C	M-0036	C-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION VLV															
1-1402-028A-RV	2	C	2	RV	SA	A	C	O	M-0036	B-08	RT	Y10			
Valve Name CORE SPRAY-DISCHARGE LINE RELIEF VALVE															
1-1402-028B-RV	2	C	2	RV	SA	A	C	O	M-0036	C-06	RT	Y10			
Valve Name CORE SPRAY-DISCHARGE LINE RELIEF VALVE															
1-1402-031A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0036	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name CS PUMP,DPIS-1-1459A LOW SIDE EXCESS FLOW CK															
1-1402-031B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0036	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name CS PUMP,DPIS-1-1459B LOW SIDE EXCESS FLOW CK															

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Core Spray (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1402-038A-MO	2	B	1.5	GA	MO	A	C	O/C	M-0036	C-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE ISOL															
1-1402-038B-MO	2	B	1.5	GA	MO	A	C	O/C	M-0036	E-07	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE ISOL															
1-1402-064A	2	C	0.75	CK	SA	A	SYS	C	M-0036	D-09	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															
1-1402-064B	2	C	0.75	CK	SA	A	SYS	C	M-0036	C-05	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															
1-1402-065A	2	C	0.75	SCK	SA	A	SYS	C	M-0036	D-10	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															
1-1402-065B	2	C	0.75	SCK	SA	A	SYS	C	M-0036	C-05	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															
1-1402-071	2	C	1.5	CK	SA	A	SYS	C	M-0036	D-07	CCR	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name CORE SPRAY-COND MAKEUP XFER LINE ISOL															
2-1402-003A-MO	2	B	18	GA	MO	A	O	O/C	M-0078	G-06	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name CORE SPRAY-TORUS SUCTION LINE ISOLATION															
2-1402-003B-MO	2	B	18	GA	MO	A	O	O/C	M-0078	F-04	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name CORE SPRAY-TORUS SUCTION LINE ISOLATION															
2-1402-004A-MO	2	B	8	GL	MO	A	C	C	M-0078	B-08	PI	Y2			
											SC	M3			
Valve Name CORE SPRAY-TEST RETURN TO TORUS															

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Core Spray (Page 4)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1402-004B-MO	2	B	8	GL	MO	A	C	C	M-0078	B-07	PI	Y2			
											SC	M3			
Valve Name CORE SPRAY-TEST RETURN TO TORUS															
2-1402-006A	1	B	10	GA	M	P	LO	O	M-0078	D-02	PI	Y2			
Valve Name CORE SPRAY-INJECTION LINE MANUAL ISOL															
2-1402-006B	1	B	10	GA	M	P	LO	O	M-0078	D-03	PI	Y2			
Valve Name CORE SPRAY-INJECTION LINE MANUAL ISOL															
2-1402-008A	2	C	12	SCK	SA	A	SYS	O/C	M-0078	E-09	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-PUMP DISCHARGE CHECK VALVE															
2-1402-008B	2	C	12	SCK	SA	A	SYS	O/C	M-0078	E-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-PUMP DISCHARGE CHECK VALVE															
2-1402-009A	1	A/C	10	CK	SA	A	SYS	O/C	M-0078	D-02	CC	RR		RJ-00B	TP-00B
											CO	CS		CS-00A	TP-00B
											LT	Y2			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION CHK															
2-1402-009B	1	A/C	10	CK	SA	A	SYS	O/C	M-0078	D-04	CC	RR		RJ-00B	TP-00B
											CO	CS		CS-00A	TP-00B
											LT	Y2			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION CHK															
2-1402-013A	2	C	1.5	SCK	SA	A	SYS	O	M-0078	E-10	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE CHK															
2-1402-013B	2	C	1.5	SCK	SA	A	SYS	O	M-0078	E-06	CCR	CM			TP-00B, CTP-001
											COR	CM			TP-00B, CTP-001
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE CHK															
2-1402-024A-MO	2	A	10	GA	MO	A	O	O/C	M-0078	B-02	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-INJECTION LINE ISOLATION VLV															

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Core Spray (Page 5)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1402-024B-MO	2	A	10	GA	MO	A	O	O/C	M-0078	B-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-INJECTION LINE ISOLATION VLV															
2-1402-025A-MO	1	A	10	GA	MO	A	C	O/C	M-0078	D-02	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION VLV															
2-1402-025B-MO	1	A	10	GA	MO	A	C	O/C	M-0078	C-04	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-REACTOR VESSEL INJECTION VLV															
2-1402-028A-RV	2	C	2	RV	SA	A	C	O	M-0078	B-09	RT	Y10			
Valve Name CORE SPRAY-DISCHARGE OVERPRESSURE PROT															
2-1402-028B-RV	2	C	2	RV	SA	A	C	O	M-0078	C-06	RT	Y10			
Valve Name CORE SPRAY-DISCHARGE OVERPRESSURE PROT															
2-1402-031A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0078	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name CS PUMP,DPIS-1-1459A LOW SIDE EXCESS FLOW CK															
2-1402-031B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0078	E-03	CC	RR		RJ-00A	TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name CS PUMP,DPIS-1-1459B LOW SIDE EXCESS FLOW CK															
2-1402-038A-MO	2	B	1.5	GA	MO	A	C	O/C	M-0078	C-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE ISOL															
2-1402-038B-MO	2	B	1.5	GA	MO	A	C	O/C	M-0078	E-06	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name CORE SPRAY-MINIMUM FLOW RECIRC LINE ISOL															
2-1402-064A	2	C	0.75	CK	SA	A	SYS	C	M-0078	D-10	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															

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Core Spray (Page 6)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1402-064B	2	C	0.75	CK	SA	A	SYS	C	M-0078	C-05	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															
2-1402-065A	2	C	0.75	SCK	SA	A	SYS	C	M-0078	D-10	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															
2-1402-065B	2	C	0.75	SCK	SA	A	SYS	C	M-0078	C-05	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CORE SPRAY-ECCS KEEP FILL SUPPLY CHK VLV															
2-1402-070	2	C	1.5	CK	SA	A	SYS	C	M-0078	E-07	CCR	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name CORE SPRAY-COND MAKEUP XFER LINE ISOL															

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Pressure Suppression (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1601-020A-AO	MC	A	20	BTF	AO	A	C	O/C	M-0034-1	C-09	FO	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR															
1-1601-020B-AO	MC	A	20	BTF	AO	A	C	O/C	M-0034-1	D-09	FO	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR															
1-1601-021-AO	MC	A	18	BTF	AO	A	C	C	M-0034-1	B-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											Valve Name PRESS SUPP-DRYWELL INERT & PURGE				
1-1601-022-AO	MC	A	18	BTF	AO	A	C	C	M-0034-1	B-08	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											Valve Name PRESS SUPP-DRYWELL INERT & PURGE				
1-1601-023-AO	MC	A	18	BTF	AO	A	C	C	M-0034-1	B-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											Valve Name PRESS SUPP-DRYWELL VENT				
1-1601-024-AO	MC	A	18	BTF	AO	A	C	C	M-0034-1	B-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											Valve Name PRESS SUPP-DW/TORUS VENT TO RX BLDG				
1-1601-031A	MC	A/C	20	CK	SA	A	SYS	O/C	M-0034-1	C-10	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
											Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR				

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1601-031B	MC	A/C	20	CK	SA	A	SYS	O/C	M-0034-1	D-10	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
											Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR				
1-1601-032A	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-032B	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-032C	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-032D	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-032E	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-032F	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1601-033A	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-033B	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-033C	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-033D	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-033E	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-033F	MC	A/C	18	CK	SA	A	SYS	O/C	M-0034-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
1-1601-055-AO	MC	A	4	GA	AO	A	O	C	M-0034-1	A-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MAKE-UP/PUMPBACK SUCTION															

Pressure Suppression (Page 4)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1601-056-AO	MC	A	18	BTF	AO	A	O	C	M-0034-1	C-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-CONTAINMENT INERT/PUMPBK SUCT															
1-1601-057-MO	MC	A	1	GL	MO	A	O	C	M-0034-1	B-09	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MAKE-UP/PUMPBK DISCH															
1-1601-058-AO	MC	A	1	GL	AO	A	C	C	M-0034-1	C-08	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MU/PUMPBK ISOL FROM TORUS															
1-1601-059-AO	MC	A	1	GL	AO	A	O	C	M-0034-1	C-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MAKE-UP/PUMPBK DISCH															
1-1601-060-AO	MC	A	18	BTF	AO	A	C	C	M-0034-1	E-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-TORUS VENT															
1-1601-061-AO	MC	A	2	GL	AO	A	C	C	M-0034-1	F-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-TORUS VENT BYPASS & SBTG SUCT															
1-1601-062-AO	MC	A	2	GL	AO	A	C	C	M-0034-1	A-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-DW VENT BYPASS & SBTG SUCTION															

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Pressure Suppression (Page 5)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-1601-063-AO	MC	A	6	BTF	AO	A	C	C	M-0034-1	A-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PRESS SUPP-SBGT CONNECT TO PRIMARY CONT															
1-8799-214-RV	MC	A/C	1.5	RV	SA	A	C	O/C	M-0034-1	B-08	LT	AJ			TP-00G
											RT	Y10			
Valve Name PRESS SUPP-N2 MAKE-UP RELIEF VALVE															
2-1601-020A-AO	MC	A	20	BTF	AO	A	C	O/C	M-0076-1	C-09	FO	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR															
2-1601-020B-AO	MC	A	20	BTF	AO	A	C	O/C	M-0076-1	D-09	FO	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR															
2-1601-021-AO	MC	A	18	BTF	AO	A	C	C	M-0076-1	C-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-DRYWELL INERT & PURGE															
2-1601-022-AO	MC	A	18	BTF	AO	A	C	C	M-0076-1	C-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-DRYWELL INERT & PURGE															
2-1601-023-AO	MC	A	18	BTF	AO	A	C	C	M-0076-1	B-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-DRYWELL VENT															

Pressure Suppression (Page 6)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1601-024-AO	MC	A	18	BTF	AO	A	C	C	M-0076-1	A-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-DW/TORUS VENT TO RX BLDG															
2-1601-031A	MC	A/C	20	CK	SA	A	SYS	O/C	M-0076-1	C-10	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR															
2-1601-031B	MC	A/C	20	CK	SA	A	SYS	O/C	M-0076-1	D-10	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name PRESS SUPP-PRIMARY/SECNDARY CONT VAC BKR															
2-1601-032A	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-032B	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-032C	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-032D	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															

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Pressure Suppression (Page 7)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1601-032E	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-02	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-032F	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-03	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-033A	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-033B	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-033C	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-033D	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-033E	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1601-033F	MC	A/C	18	CK	SA	A	SYS	O/C	M-0076-1	E-07	CC	M3			TP-00B
											CO	M3			TP-00B
											LT	RR			TP-16A
											PI	Y2			
Valve Name PRESS SUPP-DW/TORUS VACUUM BREAKER															
2-1601-055-AO	MC	A	4	GA	AO	A	O	C	M-0076-1	A-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MAKE-UP/PUMPBACK SUCTION															
2-1601-056-AO	MC	A	18	BTF	AO	A	O	C	M-0076-1	C-08	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-CONTAINMENT INERT/PUMPBK SUCT															
2-1601-057-MO	MC	A	1	GL	MO	A	O	C	M-0076-1	B-08	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MAKE-UP/PUMPBACK DISCH															
2-1601-058-AO	MC	A	1	GL	AO	A	C	C	M-0076-1	C-08	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MU/PUMPBK ISOL FROM TORUS															
2-1601-059-AO	MC	A	1	GL	AO	A	O	C	M-0076-1	C-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-N2 MAKEUP/PUMPBK DISCH															
2-1601-060-AO	MC	A	18	BTF	AO	A	C	C	M-0076-1	E-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-TORUS VENT															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-1601-061-AO	MC	A	2	GL	AO	A	C	C	M-0076-1	F-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-TORUS VENT BYPASS & SBTG SUCT															
2-1601-062-AO	MC	A	2	GL	AO	A	C	C	M-0076-1	A-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name PRESS SUPP-DW VENT BYPASS & SBTG SUCTION															
2-1601-063-AO	MC	A	6	BTF	AO	A	C	C	M-0076-1	A-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PRESS SUPP-SBTG CONNECT TO PRIMARY CONT															
2-8799-214-RV	MC	A/C	1.5	RV	SA	A	C	O/C	M-0076-1	B-08	LT	AJ			TP-00G
											RT	Y10			
Valve Name PRESS SUPP-N2 MAKE-UP RELIEF VALVE															



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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2001-003-AO	MC	A	3	PLG	AO	A	C	C	M-0043	F-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL FLOOR DRAIN-PCIV															
1-2001-004-AO	MC	A	3	PLG	AO	A	C	C	M-0043	F-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL FLOOR DRAIN-PCIV															
1-2001-015-AO	MC	A	3	GA	AO	A	C	C	M-0043	E-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL EQUIPMENT DRAIN-PCIV															
1-2001-016-AO	MC	A	3	GA	AO	A	C	C	M-0043	E-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL EQUIPMENT DRAIN-PCIV															
1-2099-907-RV	NC	C	0.75	RV	SA	A	C	O	M-0043	F-06	RT	Y10			
Valve Name REACTOR BLDG EQUIPMENT DRAINS RELIEF VALVE															
1-2099-908-RV	NC	C	0.75	RV	SA	A	C	O	M-0043	E-04	RT	Y10			
Valve Name REACTOR BLDG EQUIPMENT DRAINS RELIEF VALVE															
2-2001-003-AO	MC	A	3	PLG	AO	A	C	C	M-0085	F-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL FLOOR DRAIN-PCIV															
2-2001-004-AO	MC	A	3	PLG	AO	A	C	C	M-0085	F-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL FLOOR DRAIN-PCIV															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2001-015-AO	MC	A	3	GA	AO	A	C	C	M-0085	E-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL EQUIPMENT DRAIN-PCIV															
2-2001-016-AO	MC	A	3	GA	AO	A	C	C	M-0085	E-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name DRYWELL EQUIPMENT DRAIN-PCIV															



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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2301-003-MO	2	B	10	GA	MO	A	C	O	M-0046-2	A-06	PI	Y2			
											SO	M3			
Valve Name HPCI-STEAM SUPPLY/BLOCKING VALVE															
1-2301-004-MO	1	A	10	GA	MO	A	O	O/C	M-0046-2	E-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name HPCI-INBOARD STEAM SUPPLY FROM RPV-PCIV															
1-2301-005-MO	1	A	10	GA	MO	A	O	O/C	M-0046-2	C-09	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name HPCI-OUTBOARD STEAM SUPPLY FROM RPV-PCIV															
1-2301-006-MO	NC	B	16	GA	MO	A	O	O/C	M-0046-1	G-01	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-SUCTION SUPPLY LINE FROM CCST ISOL															
1-2301-007	2	C	14	CK	SA	A	SYS	O	M-0046-1	E-09	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-INJECTION LINE TO FEEDWATER CHK VLV															
1-2301-008-MO	2	B	14	GA	MO	A	C	O/C	M-0046-1	E-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-INJECTION LINE TO FEEDWATER ISOL															
1-2301-009-MO	2	B	14	GA	MO	A	O	O	M-0046-1	E-07	PI	Y2			
											SO	M3			
Valve Name HPCI-INJECTION LINE TO FEEDWATER ISOL															
1-2301-010-MO	2	B	12	GL	MO	A	C	C	M-0046-1	F-07	PI	Y2			
											SC	M3			
Valve Name HPCI-FULL FLOW TEST RETURN TO CCST															
1-2301-014-MO	2	B	4	GL	MO	A	C	C	M-0046-1	C-07	PI	Y2			
											SC	M3			
Valve Name HPCI-MINIMUM FLOW RECIRC LINE ISOLATION															
1-2301-020	2	C	16	CK	SA	A	SYS	O/C	M-0046-1	F-01	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name HPCI-SUCTION SUPPLY LINE FROM CCST CHK															

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High Pressure Coolant Injection (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2301-023-RV	2	C	1.5	RV	SA	A	C	O	M-0046-1	A-02	RT	Y10			
Valve Name HPCI-BOOSTER PUMP SUCT LINE RELIEF VLV															
1-2301-026	2	A/C	0.5	XFC	SA	A	SYS	C	M-0046-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	M3			TP-00B, TP-00I
											LT	Y10			
Valve Name HPCI-STM SUPPLY DP/P HI SIDE EXCESS FLOW CK															
1-2301-027	2	A/C	0.5	XFC	SA	A	SYS	C	M-0046-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	M3			TP-00B, TP-00I
											LT	Y10			
Valve Name HPCI-STM SUPPLY DP/P LO SIDE EXCESS FLOW CK															
1-2301-028-AO	2	B	1	GL	AO	A	C	O	M-0046-2	D-07	FO	M3			TP-00C
											PI	Y2			
											SO	M3			
Valve Name HPCI-SUPPLY STM TRAP TO STM EXH DRN POT															
1-2301-029-AO	2	B	1	GL	AO	A	O	C	M-0046-2	D-07	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name HPCI-STM LINE DRN POT TO MAIN CONDENSER															
1-2301-032-SO	2	B	1	GL	SO	A	C	O	M-0046-2	D-02	SO	M3	RV-23A		TP-00E
Valve Name HPCI-EXH LINE DRN POT/GLND SEAL COND SOL															
1-2301-034	2	A/C	2	CK	SA	A	SYS	O/C	M-0046-2	E-04	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name HPCI-EXH LINE DRN POT DISCH TO TORUS CHK															
1-2301-035-MO	2	B	16	GA	MO	A	C	O/C	M-0046-1	F-01	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-SUCTION SUPPLY LINE FROM TORUS ISOL															
1-2301-036-MO	2	B	16	GA	MO	A	C	O/C	M-0046-1	F-03	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name HPCI-SUCTION SUPPLY LINE FROM TORUS ISOL															

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High Pressure Coolant Injection (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2301-039	2	C	16	CK	SA	A	SYS	O/C	M-0046-1	F-02	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-SUCTION SUPPLY LINE FROM TORUS CHK															
1-2301-040	2	C	4	CK	SA	A	SYS	O	M-0046-1	C-08	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-MINIMUM FLOW RECIRC LINE CHK VLV															
1-2301-045	2	C	24	CK	SA	A	SYS	O/C	M-0046-2	C-04	CC	RR			TP-00B
											CO	M3			TP-00B
Valve Name HPCI-TURBINE EXHAUST TO TORUS CHK VLV															
1-2301-048-MO	2	B	4	GA	MO	A	O	O	M-0046-1	B-04	PI	Y2			
											SO	M3			
Valve Name HPCI-LUBE OIL/GLAND SEAL CLG WTR RETURN															
1-2301-049-MO	2	B	4	GA	MO	A	C	C	M-0046-1	F-06	PI	Y2			
											SC	M3			
Valve Name HPCI-LUBE OIL/GLAND SEAL CLG WTR RETURN															
1-2301-050	2	C	4	CK	SA	A	SYS	O	M-0046-1	D-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-LUBE OIL CLR/GS COND TO BSTR PMP CK															
1-2301-051	2	C	4	CK	SA	A	SYS	C	M-0046-1	D-05	CCF	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-GLAND SEAL/LUBE OIL COOLING PUMP CK															
1-2301-053-RV	2	C	4	RV	SA	A	C	O	M-0046-1	C-03	RT	Y10			
Valve Name HPCI GLAND SEAL/LUBE OIL LINE RELIEF VLV															
1-2301-064-AO	2	B	1	GL	AO	A	O	C	M-0046-2	B-05	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name HPCI-STOP VALVE ABOVE SEAT DRAIN DISCH															
1-2301-068-RPD	2	D	16	RPD	SA	A	C	O	M-0046-2	A-04	DT	Y5			
Valve Name HPCI-TURB EXHAUST LINE RUPTURE DIAPHRAGM															
1-2301-069-RPD	NS	D	16	RPD	SA	A	C	O	M-0046-2	A-04	DT	Y5			
Valve Name HPCI-TURB EXHAUST LINE RUPTURE DIAPHRAGM															

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High Pressure Coolant Injection (Page 4)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2301-071	2	A/C	2	SCK	SA	A	SYS	O/C	M-0046-2	E-04	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name HPCI-EXH LINE DRN POT DISCH TO TORUS SCK															
1-2301-074	2	C	12	SCK	SA	A	SYS	O/C	M-0046-2	D-04	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST TO TORUS STOP CHECK															
1-2301-075	2	C	4	CK	SA	A	SYS	O	M-0046-1	E-03	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-CCST TO GLAND SEAL/LUBE OIL CLR CHK															
1-2301-076	2	C	2	CK	SA	A	SYS	O/C	M-0046-1	E-03	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name HPCI-GLAND SEAL CONDENSATE PMP DISCH CHK															
1-2317-HO	2	B	10	PPT	HO	A	C	O/C	M-0046-2	A-05	FC	M3			TP-00C, TP-00E
											PI	Y2			TP-00E
											SC	M3			TP-00E
											SO	M3			TP-00E
Valve Name HPCI-TURBINE STOP VALVE															
1-2399-040-MO	MC	A	4	GA	MO	A	O	O/C	M-0046-2	E-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-TURB EXH VAC BREAKER LINE ISOL-PCIV															
1-2399-041-MO	2	A	4	GA	MO	A	O	O/C	M-0046-2	D-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-TURB EXH VAC BREAKER LINE ISOL-PCIV															
1-2399-064	MC	C	4	CK	SA	A	SYS	O/C	M-0046-2	E-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST LINE VACUUM BREAKER															

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High Pressure Coolant Injection (Page 5)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2399-065	MC	C	4	CK	SA	A	SYS	O/C	M-0046-2	E-06	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST LINE VACUUM BREAKER															
1-2399-066	2	C	4	CK	SA	A	SYS	O/C	M-0046-2	E-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST LINE VACUUM BREAKER															
1-2399-067	2	C	4	CK	SA	A	SYS	O/C	M-0046-2	E-06	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST LINE VACUUM BREAKER															
1-2399-075	2	C	0.75	CK	SA	A	SYS	C	M-0046-1	B-01	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name HPCI-KEEP FILL CHECK VALVE															
2-2301-003-MO	2	B	10	GA	MO	A	C	O	M-0087-2	A-06	PI	Y2			
											SO	M3			
Valve Name HPCI-STEAM SUPPLY/BLOCKING VALVE															
2-2301-004-MO	1	A	10	GA	MO	A	O	O/C	M-0087-2	E-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name HPCI-INBOARD STEAM SUPPLY FROM RPV-PCIV															
2-2301-005-MO	1	A	10	GA	MO	A	O	O/C	M-0087-2	C-09	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name HPCI-OUTBOARD STEAM SUPPLY FROM RPV-PCIV															
2-2301-006-MO	NC	B	16	GA	MO	A	O	O/C	M-0087-1	G-01	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-SUCTION SUPPLY LINE FROM CCST ISOL															
2-2301-007	2	C	14	CK	SA	A	SYS	O	M-0087-1	E-09	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-INJECTION LINE TO FEEDWATER CHK VLV															

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High Pressure Coolant Injection (Page 6)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2301-008-MO	2	B	14	GA	MO	A	C	O/C	M-0087-1	E-08	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-INJECTION LINE TO FEEDWATER ISOL															
2-2301-009-MO	2	B	14	GA	MO	A	O	O	M-0087-1	E-07	PI	Y2			
											SO	M3			
Valve Name HPCI-INJECTION LINE TO FEEDWATER ISOL															
2-2301-010-MO	2	B	12	GL	MO	A	C	C	M-0087-1	F-07	PI	Y2			
											SC	M3			
Valve Name HPCI-FULL FLOW TEST RETURN TO CCST															
2-2301-014-MO	2	B	4	GL	MO	A	C	C	M-0087-1	C-07	PI	Y2			
											SC	M3			
Valve Name HPCI-MINIMUM FLOW RECIRC LINE ISOLATION															
2-2301-020	2	C	16	CK	SA	A	SYS	O/C	M-0087-1	F-01	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name HPCI-SUCTION SUPPLY LINE FROM CCST CHK															
2-2301-023-RV	2	C	1.5	RV	SA	A	C	O	M-0087-1	A-03	RT	Y10			
Valve Name HPCI-BOOSTER PUMP SUCT LINE RELIEF VLV															
2-2301-026	2	A/C	0.5	XFC	SA	A	SYS	C	M-0087-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	M3			TP-00B, TP-00I
											LT	Y10			
Valve Name HPCI-STM SUPPLY DP/P HI SIDE EXCESS FLOW CK															
2-2301-027	2	A/C	0.5	XFC	SA	A	SYS	C	M-0087-2	F-09	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	M3			TP-00B, TP-00I
											LT	Y10			
Valve Name HPCI-STM SUPPLY DP/P LO SIDE EXCESS FLOW CK															
2-2301-028-AO	2	B	1	GL	AO	A	C	O	M-0087-2	C-07	FO	M3			TP-00C
											PI	Y2			
											SO	M3			
Valve Name HPCI-SUPPLY STM TRAP TO STM EXH DRN POT															
2-2301-029-AO	2	B	1	GL	AO	A	O	C	M-0087-2	C-07	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name HPCI-STM LINE DRN POT TO MAIN CONDENSER															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2301-032-SO	2	B	1	GL	SO	A	C	O	M-0087-2	D-02	SO	M3	RV-23A		TP-00E
Valve Name HPCI-EXH LINE DRN POT/GLND SEAL COND SOL															
2-2301-034	2	A/C	2	CK	SA	A	SYS	O/C	M-0087-2	E-04	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name HPCI-EXH LINE DRN POT DISCH TO TORUS CHK															
2-2301-035-MO	2	B	16	GA	MO	A	C	O/C	M-0087-1	F-02	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-SUCTION SUPPLY LINE FROM TORUS ISOL															
2-2301-036-MO	2	B	16	GA	MO	A	C	O/C	M-0087-1	F-03	PI	Y2			TP-00F
											SC	M3			TP-00F
											SO	M3			TP-00F
Valve Name HPCI-SUCTION SUPPLY LINE FROM TORUS ISOL															
2-2301-039	2	C	16	CK	SA	A	SYS	O/C	M-0087-1	F-02	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-SUCTION SUPPLY LINE FROM TORUS CHK															
2-2301-040	2	C	4	CK	SA	A	SYS	O	M-0087-1	C-08	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-MINIMUM FLOW RECIRC LINE CHK VLV															
2-2301-045	2	C	24	CK	SA	A	SYS	O/C	M-0087-2	C-04	CC	RR			TP-00B
											CO	M3			TP-00B
Valve Name HPCI-TURBINE EXHAUST TO TORUS CHK VLV															
2-2301-048-MO	2	B	4	GA	MO	A	O	O	M-0087-1	B-04	PI	Y2			
											SO	M3			
Valve Name HPCI-LUBE OIL/GLAND SEAL CLG WTR RETURN															
2-2301-049-MO	2	B	4	GA	MO	A	C	C	M-0087-1	F-06	PI	Y2			
											SC	M3			
Valve Name HPCI-LUBE OIL/GLAND SEAL CLG WTR RETURN															
2-2301-050	2	C	4	CK	SA	A	SYS	O	M-0087-1	D-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-LUBE OIL CLR/GS COND TO BSTR PMP CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2301-051	2	C	4	CK	SA	A	SYS	C	M-0087-1	D-05	CCF	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-GLAND SEAL/LUBE OIL COOLING PUMP CK															
2-2301-053-RV	2	C	4	RV	SA	A	C	O	M-0087-1	D-03	RT	Y10			
Valve Name HPCI-GLAND SEAL/LUBE OIL LINE RELIEF VLV															
2-2301-064-AO	2	B	1	GL	AO	A	O	C	M-0087-2	B-05	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name HPCI-STOP VALVE ABOVE SEAT DRAIN DISCH															
2-2301-068-RPD	2	D	16	RPD	SA	A	C	O	M-0087-2	A-04	DT	Y5			
Valve Name HPCI-TURB EXHAUST LINE RUPTURE DIAPHRAGM															
2-2301-069-RPD	NS	D	16	RPD	SA	A	C	O	M-0087-2	A-04	DT	Y5			
Valve Name HPCI-TURB EXHAUST LINE RUPTURE DIAPHRAGM															
2-2301-071	2	A/C	2	SCK	SA	A	SYS	O/C	M-0087-2	E-04	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name HPCI-EXH LINE DRN POT DISCH TO TORUS SCK															
2-2301-074	2	C	12	SCK	SA	A	SYS	O/C	M-0087-2	D-04	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST TO TORUS STOP CHECK															
2-2301-075	2	C	4	CK	SA	A	SYS	O	M-0087-1	E-03	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-CCST TO GLAND SEAL/LUBE OIL CLR CHK															
2-2301-076	2	C	2	CK	SA	A	SYS	O/C	M-0087-1	E-03	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name HPCI-GLAND SEAL CONDENSATE PMP DISCH CHK															
2-2317-HO	2	B	10	PPT	HO	A	C	O/C	M-0087-2	A-05	FC	M3			TP-00C, TP-00E
											PI	Y2			TP-00E
											SC	M3			TP-00E
											SO	M3			TP-00E
Valve Name HPCI-TURBINE STOP VALVE															

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High Pressure Coolant Injection (Page 9)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2399-040-MO	MC	A	4	GA	MO	A	O	O/C	M-0087-2	E-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-TURB EXH VAC BREAKER LINE ISOL-PCIV															
2-2399-041-MO	2	A	4	GA	MO	A	O	O/C	M-0087-2	D-06	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
											SO	M3			
Valve Name HPCI-TURB EXH VAC BREAKER LINE ISOL-PCIV															
2-2399-064	MC	C	4	CK	SA	A	SYS	O/C	M-0087-2	E-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST VACUUM BREAKER															
2-2399-065	MC	C	4	CK	SA	A	SYS	O/C	M-0087-2	E-06	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST VACUUM BREAKER															
2-2399-066	2	C	4	CK	SA	A	SYS	O/C	M-0087-2	E-05	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI-TURBINE EXHAUST VACUUM BREAKER															
2-2399-067	2	C	4	CK	SA	A	SYS	O/C	M-0087-2	E-06	CCD	CM			TP-00B, CTP-001
											COD	CM			TP-00B, CTP-001
Valve Name HPCI TURBINE EXHAUST VACUUM BREAKER															
2-2399-075	2	C	0.75	CK	SA	A	SYS	C	M-0087-1	C-01	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name HPCI-KEEP FILL CHECK VALVE															

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Containment Atmosphere Monitoring (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2498-008A	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-1	C-02	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-HYDROGEN ANALYZER CALIBRATION GAS CHECK VLV															
1-2498-008B	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-1	C-07	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-HYDROGEN ANALYZER CALIBRATION GAS CHECK VLV															
1-2498-009A-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-1	B-03	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
1-2498-009B-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-1	B-08	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
1-2498-011A	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-1	C-03	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															
1-2498-011B	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-1	C-08	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															

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Containment Atmosphere Monitoring (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2498-014A	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-1	C-03	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-OXYGEN ANALYZER CALIBRATION GAS CHECK VLV															
1-2498-014B	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-1	C-08	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-OXYGEN ANALYZER CALIBRATION GAS CHECK VLV															
1-2498-015A-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-1	B-04	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
1-2498-015B-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-1	B-09	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
1-2498-017A	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-1	C-04	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															
1-2498-017B	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-1	C-09	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															

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Containment Atmosphere Monitoring (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2499-001A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	D-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															
1-2499-001B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	D-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															
1-2499-002A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	D-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															
1-2499-002B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	D-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															
1-2499-003A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	B-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															
1-2499-003B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	B-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															

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Containment Atmosphere Monitoring (Page 4)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-2499-004A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	B-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															
1-2499-004B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-1	B-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															
1-2499-022A	MC	A/C	0.5	CK	SA	A	SYS	O/C	M-0641-1	C-07	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name CAM-ATMOSPHERE SAMPLE RETURN CHECK VALVE															
1-2499-022B	MC	A/C	0.5	CK	SA	A	SYS	O/C	M-0641-1	C-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name CAM-ATMOSPHERE SAMPLE RETURN CHECK VALVE															
2-2498-008A	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-2	C-02	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-HYDROGEN ANALYZER CALIBRATION GAS CHECK VLV															

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Containment Atmosphere Monitoring (Page 5)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2498-008B	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-2	C-07	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-HYDROGEN ANALYZER CALIBRATION GAS CHECK VLV															
2-2498-009A-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-2	B-03	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
2-2498-009B-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-2	B-08	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
2-2498-011A	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-2	C-03	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															
2-2498-011B	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-2	C-08	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															
2-2498-014A	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-2	C-03	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-OXYGEN ANALYZER CALIBRATION GAS CHECK VLV															

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Containment Atmosphere Monitoring (Page 6)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2498-014B	NC	A/C	0.5	CK	SA	A	SYS	C	CID-0641-2	C-08	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-OXYGEN ANALYZER CALIBRATION GAS CHECK VLV															
2-2498-015A-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-2	B-04	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
2-2498-015B-SO	NC	B	0.5	GA	SO	A	C	O	CID-0641-2	B-09	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name CAM-REAGENT GAS SUPPLY VALVE															
2-2498-017A	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-2	C-04	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															
2-2498-017B	NC	A/C	0.5	CK	SA	A	SYS	O/C	CID-0641-2	C-09	CCF	CM			TP-00B, TP-00E, CTP-001
											COF	CM			TP-00B, TP-00E, CTP-001
											LTJ	CM			TP-00E, TP-00B, CTP-001
Valve Name CAM-REAGENT GAS SUPPLY CHECK VALVE															
2-2499-001A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	D-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															

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Containment Atmosphere Monitoring (Page 7)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2499-001B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	D-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															
2-2499-002A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	D-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															
2-2499-002B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	D-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-DRYWELL SAMPLE PATH SELECTION VALVE															
2-2499-003A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	B-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															
2-2499-003B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	B-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															
2-2499-004A-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	B-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															

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Containment Atmosphere Monitoring (Page 8)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-2499-004B-SO	MC	A	0.5	GA	SO	A	C	O/C	M-0641-2	B-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
											SO	M3			TP-00H
Valve Name CAM-TORUS SAMPLE PATH SELECTION VALVE															
2-2499-022A	MC	A/C	0.5	CK	SA	A	SYS	O/C	M-0641-2	C-07	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name CAM-ATMOSPHERE SAMPLE RETURN CHECK VALVE															
2-2499-022B	MC	A/C	0.5	CK	SA	A	SYS	O/C	M-0641-2	C-02	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name CAM-ATMOSPHERE SAMPLE RETURN CHECK VALVE															

Safe Shutdown Makeup (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-2901-004	NS	C	4	CK	SA	A	SYS	O	M-0070	D-06	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name SAFE SHUTDOWN MAKEUP PUMP DISCH CHK VLV															
0-2901-005	NS	C	4	CK	SA	A	SYS	O	M-0070	E-03	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name SSMP-FULL FLOW TEST LINE CHECK VALVE															
0-2901-007-MO	NS	B	4	GL	MO	A	C	O/C	M-0070	E-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SSMP-FULL FLOW TEST LINE TO CCST ISOL															
1-2901-008-MO	NS	B	4	GL	MO	A	C	O	M-0070	E-02	PI	Y2			
											SO	M3			
Valve Name SSMP-INJECTION LINE ISOLATION VALVE															
1-2901-010	2	C	4	CK	SA	A	SYS	O/C	M-0070	E-03	CC	RR		RJ-32A	TP-00B
											CO	CS		CS-00A	TP-00B
Valve Name SSMP-INJECTION LINE CHECK VALVE															
2-2901-008-MO	NS	B	4	GL	MO	A	C	O	M-0070	D-02	PI	Y2			
											SO	M3			
Valve Name SSMP-INJECTION LINE ISOLATION VALVE															
2-2901-010	2	C	4	CK	SA	A	SYS	O/C	M-0070	D-02	CC	RR		RJ-32A	TP-00B
											CO	CS		CS-00A	TP-00B
Valve Name SSMP-INJECTION LINE CHECK VALVE															

Main Steam (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0203-001A-AO	1	A	20	GL	AO	A	O	C	M-0013-1	B-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 1A INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
1-0203-001AD	NC	A/C	1	CK	SA	A	SYS	C	M-0013-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 1A MSIV ACCUMULATOR CHECK VALVE															
1-0203-001B-AO	1	A	20	GL	AO	A	O	C	M-0013-1	C-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 1B INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
1-0203-001BD	NC	A/C	1	CK	SA	A	SYS	C	M-0013-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 1B MSIV ACCUMULATOR CHECK VALVE															
1-0203-001C-AO	1	A	20	GL	AO	A	O	C	M-0013-1	E-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 1C INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
1-0203-001CD	NC	A/C	1	CK	SA	A	SYS	C	M-0013-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 1C MSIV ACCUMULATOR CHECK VALVE															
1-0203-001D-AO	1	A	20	GL	AO	A	O	C	M-0013-1	F-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 1D INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0203-001DD	NC	A/C	1	CK	SA	A	SYS	C	M-0013-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 1D MSIV ACCUMULATOR CHECK VALVE															
1-0203-002A-AO	1	A	20	GL	AO	A	O	C	M-0013-2	A-01	FC	CS		CS-30A	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 2A OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
1-0203-002AC	NC	A/C	1	CK	SA	A	SYS	C	M-0013-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 2A MSIV ACCUMULATOR CHECK VALVE															
1-0203-002B-AO	1	A	20	GL	AO	A	O	C	M-0013-2	B-01	FC	CS		CS-30A	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 2B OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
1-0203-002BC	NC	A/C	1	CK	SA	A	SYS	C	M-0013-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 2B MSIV ACCUMULATOR CHECK VALVE															
1-0203-002C-AO	1	A	20	GL	AO	A	O	C	M-0013-2	D-01	FC	CS		CS-30A	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 2C OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
1-0203-002CC	NC	A/C	1	CK	SA	A	SYS	C	M-0013-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 2C MSIV ACCUMULATOR CHECK VALVE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0203-002D-AO	1	A	20	GL	AO	A	O	C	M-0013-2	F-01	FC	CS		CS-30A	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 2D OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
1-0203-002DC	NC	A/C	1	CK	SA	A	SYS	C	M-0013-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 2D MSIV ACCUMULATOR CHECK VALVE															
1-0203-003AD	NC	A/C	0.5	CK	SA	A	SYS	C	M-0013-1	A-05	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name MS-3A SFTY/RLF VLV(TARGET ROCK)ACCUM CHK															
1-0203-003A-RV	1	C	6.625	RV	DF	A	C	O/C	M-0013-1	A-03	PI	Y2			
											RT	Y5	RV-30B, RV-30D		
Valve Name MS-3A SAFETY/RELIEF VLV (TARGET ROCK)															
1-0203-003B-RV	1	C	6	RV	SO	A	C	O/C	M-0013-1	C-03	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3B ELECTROMATIC RELIEF VALVE															
1-0203-003C-RV	1	C	6	RV	SO	A	C	O/C	M-0013-1	D-02	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3C ELECTROMATIC RELIEF VALVE															
1-0203-003D-RV	1	C	6	RV	SO	A	C	O/C	M-0013-1	F-02	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3D ELECTROMATIC RELIEF VALVE															
1-0203-003E-RV	1	C	6	RV	SO	A	C	O/C	M-0013-1	C-02	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3E ELECTROMATIC RELIEF VALVE															
1-0203-004A-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	A-01	RT	Y5	RV-30B		
Valve Name MS-4A SAFETY VALVE															
1-0203-004B-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	C-05	RT	Y5	RV-30B		
Valve Name MS-4B SAFETY VALVE															
1-0203-004C-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	D-04	RT	Y5	RV-30B		
Valve Name MS-4C SAFETY VALVE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0203-004D-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	F-04	RT	Y5	RV-30B		
Valve Name MS-4D SAFETY VALVE															
1-0203-004E-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	A-01	RT	Y5	RV-30B		
Valve Name MS-4E SAFETY VALVE															
1-0203-004F-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	C-05	RT	Y5	RV-30B		
Valve Name MS-4F SAFETY VALVE															
1-0203-004G-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	D-04	RT	Y5	RV-30B		
Valve Name MS-4G SAFETY VALVE															
1-0203-004H-RV	1	C	6	RV	SA	A	C	O/C	M-0013-1	F-05	RT	Y5	RV-30B		
Valve Name MS-4H SAFETY VALVE															
1-0220-001-MO	2	A	3	GA	MO	A	C	C	M-0013-1	D-07	LT	AJ			TP-00G
Valve Name MS-INBRD MAIN STEAM LINE DRAIN ISOL VLV															
1-0220-002-MO	2	A	3	GA	MO	A	C	C	M-0013-2	C-01	LT	AJ			TP-00G
Valve Name MS-OUTBRD MAIN STEAM LINE DRAIN ISOL VLV															
1-0220-017A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	B-08	CC	RR		RJ-00A	TP-00B, TP-00I
Valve Name 1A MAIN STM INST LINE EXCESS FLOW CK															
1-0220-017B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	C-08	CC	RR		RJ-00A	TP-00B, TP-00I
Valve Name 1B MAIN STM INST LINE EXCESS FLOW CK															
1-0220-017C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	E-08	CC	RR		RJ-00A	TP-00B, TP-00I
Valve Name 1C MAIN STM INST LINE EXCESS FLOW CK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0220-017D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	F-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1D MAIN STM INST LINE EXCESS FLOW CK															
1-0220-018A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	B-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1A MAIN STM INST LINE EXCESS FLOW CK															
1-0220-018B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	D-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1B MAIN STM INST LINE EXCESS FLOW CK															
1-0220-018C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	E-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1C MAIN STM INST LINE EXCESS FLOW CK															
1-0220-018D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0013-1	G-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1D MAIN STM INST LINE EXCESS FLOW CK															
1-0220-081A	NC	C	1	CK	SA	A	SYS	C	M-0013-1	A-04	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-081B	NC	C	1	CK	SA	A	SYS	C	M-0013-1	C-05	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-081C	NC	C	1	CK	SA	A	SYS	C	M-0013-1	E-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-081D	NC	C	1	CK	SA	A	SYS	C	M-0013-1	F-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0220-081E	NC	C	1	CK	SA	A	SYS	C	M-0013-1	C-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-105A	NC	C	8	CK	SA	A	SYS	O/C	M-0013-1	B-04	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-105B	NC	C	8	CK	SA	A	SYS	O/C	M-0013-1	C-05	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-105C	NC	C	8	CK	SA	A	SYS	O/C	M-0013-1	D-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-105D	NC	C	8	CK	SA	A	SYS	O/C	M-0013-1	F-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
1-0220-105E	NC	C	8	CK	SA	A	SYS	O/C	M-0013-1	C-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKERS															
2-0203-001A-AO	1	A	20	GL	AO	A	O	C	M-0060-1	B-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 1A INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
2-0203-001AD	NC	A/C	1	CK	SA	A	SYS	C	M-0060-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 1A MSIV ACCUMULATOR CHECK VALVE															
2-0203-001B-AO	1	A	20	GL	AO	A	O	C	M-0060-1	C-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 1B INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0203-001BD	NC	A/C	1	CK	SA	A	SYS	C	M-0060-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			
											LT	Y2			
											Valve Name 1B MSIV ACCUMULATOR CHECK VALVE				
2-0203-001C-AO	1	A	20	GL	AO	A	O	C	M-0060-1	E-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			
											PC	M3		CS-30B	TP-00G
											PI	Y2			
											SC	CS	RV-30C		
Valve Name 1C INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
2-0203-001CD	NC	A/C	1	CK	SA	A	SYS	C	M-0060-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			
											LT	Y2			
											Valve Name 1C MSIV ACCUMULATOR CHECK VALVE				
2-0203-001D-AO	1	A	20	GL	AO	A	O	C	M-0060-1	F-07	FC	RR		RJ-30B	TP-00C
											LT	AJ			
											PC	M3		CS-30B	TP-00G
											PI	Y2			
											SC	CS	RV-30C		
Valve Name 1C INBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
2-0203-001DD	NC	A/C	1	CK	SA	A	SYS	C	M-0060-1	A-10	CC	RR		RJ-47A	TP-00B
											CO	OP			
											LT	Y2			
											Valve Name 1D MSIV ACCUMULATOR CHECK VALVE				
2-0203-002A-AO	1	A	20	GL	AO	A	O	C	M-0060-2	A-01	FC	CS		CS-30A	TP-00C
											LT	AJ			
											PC	M3		CS-30B	TP-00G
											PI	Y2			
											SC	CS	RV-30C		
Valve Name 2A OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
2-0203-002AC	NC	A/C	1	CK	SA	A	SYS	C	M-0060-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			
											LT	Y2			
											Valve Name 2A MSIV ACCUMULATOR CHECK VALVE				

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0203-002B-AO	1	A	20	GL	AO	A	O	C	M-0060-2	B-01	FC	CS		CS-30A	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 2B OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
2-0203-002BC	NC	A/C	1	CK	SA	A	SYS	C	M-0060-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 2B MSIV ACCUMULATOR CHECK VALVE															
2-0203-002C-AO	1	A	20	GL	AO	A	O	C	M-0060-2	D-01	FC	CS		CS-30A	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 2C OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
2-0203-002CC	NC	A/C	1	CK	SA	A	SYS	C	M-0060-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 2C MSIV ACCUMULATOR CHECK VALVE															
2-0203-002D-AO	1	A	20	GL	AO	A	O	C	M-0060-2	E-01	FC	CS		CS-30A	TP-00C
											LT	AJ			TP-00G
											PC	M3		CS-30B	
											PI	Y2			
											SC	CS	RV-30C	CS-30B	
Valve Name 2D OUTBOARD MAIN STEAM ISOLATION VALVE (MSIV)															
2-0203-002DC	NC	A/C	1	CK	SA	A	SYS	C	M-0060-2	F-01	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 2D MSIV ACCUMULATOR CHECK VALVE															
2-0203-003AD	NC	A/C	0.5	CK	SA	A	SYS	C	M-0060-1	A-05	CC	RR		RJ-47A	TP-00B
											CO	OP			TP-00B
											LT	Y2			
Valve Name 1A-3A SFTY/RLF VLV(TARGET ROCK)ACCUM CHK															
2-0203-003A-RV	1	C	6.625	RV	DF	A	C	O/C	M-0060-1	A-02	PI	Y2			
											RT	Y5	RV-30B, RV-30D		
Valve Name MS-3A SAFETY/RELIEF VLV (TARGET ROCK)															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0203-003B-RV	1	C	6	RV	SO	A	C	O/C	M-0060-1	C-04	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3B POWER OPERATED RELIEF VALVE															
2-0203-003C-RV	1	C	6	RV	SO	A	C	O/C	M-0060-1	D-01	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3C POWER OPERATED RELIEF VALVE															
2-0203-003D-RV	1	C	6	RV	SO	A	C	O/C	M-0060-1	F-03	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3D POWER OPERATED RELIEF VALVE															
2-0203-003E-RV	1	C	6	RV	SO	A	C	O/C	M-0060-1	C-01	PI	Y2			
											RT	Y5	RV-30D		
Valve Name MS-3E POWER OPERATED RELIEF VALVE															
2-0203-004A-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	A-01	RT	Y5	RV-30B		
Valve Name MS-4A SAFETY VALVE															
2-0203-004B-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	C-03	RT	Y5	RV-30B		
Valve Name MS-4B SAFETY VALVE															
2-0203-004C-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	D-04	RT	Y5	RV-30B		
Valve Name MS-4C SAFETY VALVE															
2-0203-004D-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	F-01	RT	Y5	RV-30B		
Valve Name MS-4D SAFETY VALVE															
2-0203-004E-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	A-01	RT	Y5	RV-30B		
Valve Name MS-4E SAFETY VALVE															
2-0203-004F-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	C-05	RT	Y5	RV-30B		
Valve Name MS-4F SAFETY VALVE															
2-0203-004G-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	D-04	RT	Y5	RV-30B		
Valve Name MS-4G SAFETY VALVE															
2-0203-004H-RV	1	C	6	RV	SA	A	C	O/C	M-0060-1	F-02	RT	Y5	RV-30B		
Valve Name MS-4H SAFETY VALVE															
2-0220-001-MO	2	A	3	GA	MO	A	C	C	M-0060-1	D-07	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name MS-INBRD MAIN STEAM LINE DRAIN ISOL VLV															
2-0220-002-MO	2	A	3	GA	MO	A	C	C	M-0060-2	C-01	LT	AJ			TP-00G
											PI	Y2			
											SC	M3			
Valve Name MS-OUTBRD MAIN STEAM LINE DRAIN ISOL VLV															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0220-017A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	B-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO				TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1A MAIN STM INST LINE EXCESS FLOW CK															
2-0220-017B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	C-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1B MAIN STM INST LINE EXCESS FLOW CK															
2-0220-017C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	E-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO				TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1C MAIN STM INST LINE EXCESS FLOW CK															
2-0220-017D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	G-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1D MAIN STM INST LINE EXCESS FLOW CK															
2-0220-018A	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	B-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1A MAIN STM INST LINE EXCESS FLOW CK															
2-0220-018B	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	D-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1B MAIN STM INST LINE EXCESS FLOW CK															
2-0220-018C	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	E-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1C MAIN STM INST LINE EXCESS FLOW CK															

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Main Steam (Page 11)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0220-018D	2	A/C	0.5	XFC	SA	A	SYS	C	M-0060-1	G-08	CC	RR		RJ-00A	TP-00B, TP-00I
											CO	OP			TP-00B, TP-00I
											LT	Y10			TP-00I
Valve Name 1D MAIN STM INST LINE EXCESS FLOW CK															
2-0220-081A	NC	C	1	CK	SA	A	SYS	C	M-0060-1	A-04	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-081B	NC	C	1	CK	SA	A	SYS	C	M-0060-1	C-05	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-081C	NC	C	1	CK	SA	A	SYS	C	M-0060-1	E-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-081D	NC	C	1	CK	SA	A	SYS	C	M-0060-1	F-05	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-081E	NC	C	1	CK	SA	A	SYS	C	M-0060-1	C-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-105A	NC	C	8	CK	SA	A	SYS	O/C	M-0060-1	A-04	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-105B	NC	C	8	CK	SA	A	SYS	O/C	M-0060-1	C-05	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-105C	NC	C	8	CK	SA	A	SYS	O/C	M-0060-1	D-03	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-105D	NC	C	8	CK	SA	A	SYS	O/C	M-0060-1	F-05	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															
2-0220-105E	NC	C	8	CK	SA	A	SYS	O/C	M-0060-1	C-02	CC	RR		RJ-30A	TP-00B
											CO	RR		RJ-30A	TP-00B
Valve Name PRESS SUPP-SAFETY VLV DISCH VAC BREAKER															

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Reactor Feedwater (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-0220-058A	1	A/C	18	CK	SA	A	SYS	O/C	M-0015-1	E-03	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name RX FEED-A LOOP INBOARD FEEDWATER CHK VLV															
1-0220-058B	1	A/C	18	CK	SA	A	SYS	O/C	M-0015-1	E-03	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name RX FEED-B LOOP INBOARD FEEDWATER CHK VLV															
1-0220-059A	NS	C	18	CK	SA	A	SYS	C	M-0015-1	E-02	CC	RR		RJ-32A	TP-00B
											CO	OP			TP-00B
Valve Name RX FEED-A LOOP 2ND OUTBOARD FEEDWATER CK VLV															
1-0220-059B	2	C	18	CK	SA	A	SYS	C	M-0015-1	E-01	CC	RR		RJ-32A	TP-00B
											CO	OP			TP-00B
Valve Name RX FEED-B LOOP 2ND OUTBOARD FEEDWATER CK VLV															
1-0220-062A	1	A/C	18	CK	SA	A	SYS	O/C	M-0015-1	E-02	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name RX FEED-A LOOP OUTBOARD FEEDWATER CK VLV															
1-0220-062B	1	A/C	18	CK	SA	A	SYS	O/C	M-0015-1	E-02	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name RX FEED-B LOOP OUTBOARD FEEDWATER CK VLV															
2-0220-058A	1	A/C	18	CK	SA	A	SYS	O/C	M-0062-1	E-03	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name RX FEED-A LOOP INBOARD FEEDWATER CHK VLV															
2-0220-058B	1	A/C	18	CK	SA	A	SYS	O/C	M-0062-1	E-03	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
Valve Name RX FEED-B LOOP INBOARD FEEDWATER CHK VLV															
2-0220-059A	NS	C	18	CK	SA	A	SYS	C	M-0062-1	E-02	CC	RR		RJ-32A	TP-00B
											CO	OP			TP-00B
Valve Name RX FEED-A LOOP 2ND OUTBOARD FEEDWATER CK VLV															
2-0220-059B	2	C	18	CK	SA	A	SYS	C	M-0062-1	E-02	CC	RR		RJ-32A	TP-00B
											CO	OP			TP-00B
Valve Name RX FEED-B LOOP 2ND OUTBOARD FEEDWATER CK VLV															

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Reactor Feedwater (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-0220-062A	1	A/C	18	CK	SA	A	SYS	O/C	M-0062-1	E-02	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
											Valve Name RX FEED-A LOOP OUTBOARD FEEDWATER CK VLV				
2-0220-062B	1	A/C	18	CK	SA	A	SYS	O/C	M-0062-1	E-02	CC	RR		RJ-32A	TP-00B
											CO	M3			TP-00B
											LT	AJ			TP-00G
											Valve Name RX FEED-B LOOP OUTBOARD FEEDWATER CK VLV				

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Reactor Building Closed Cooling Water (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-3702-MO	MC	A	8	GA	MO	A	O	C	M-0033-2	C-09	LT PI SC	AJ Y2 CS			TP-00G CS-37A
Valve Name RBCCW SUPPLY-PRIMARY CONTAINMENT ISOLATION VLV															
1-3703-MO	MC	A	8	GA	MO	A	O	C	M-0033-2	D-09	LT PI SC	AJ Y2 CS			TP-00G CS-37A
Valve Name RBCCW RETURN-PRIMARY CONTAINMENT ISOLATION VLV															
1-3706-MO	MC	A	8	GA	MO	A	O	C	M-0033-2	D-09	LT PI SC	AJ Y2 CS			TP-00G CS-37A
Valve Name RBCCW RETURN-PRIMARY CONTAINMENT ISOLATION VLV															
1-3799-031	MC	A/C	8	CK	SA	A	SYS	C	M-0033-2	C-09	CCF COF LTJ	CM CM CM			TP-00B, CTP-001 TP-00B, CTP-001 TP-00G, TP-00B, CTP-001
Valve Name RBCCW-PRIMARY CONTAINMENT ISOLATION VLV															
2-3702-MO	MC	A	8	GA	MO	A	O	C	M-0075-2	F-07	LT PI SC	AJ Y2 CS			TP-00G CS-37A
Valve Name RBCCW SUPPLY-PRIMARY CONTAINMENT ISOLATION VLV															
2-3703-MO	MC	A	8	GA	MO	A	O	C	M-0075-2	F-06	LT PI SC	AJ Y2 CS			TP-00G CS-37A
Valve Name RBCCW RETURN-PRIMARY CONTAINMENT ISOLATION VLV															
2-3706-MO	MC	A	8	GA	MO	A	O	C	M-0075-2	E-06	LT PI SC	AJ Y2 CS			TP-00G CS-37A
Valve Name RBCCW RETURN-PRIMARY CONTAINMENT ISOLATION VLV															
2-3799-031	MC	A/C	8	CK	SA	A	SYS	C	M-0075-2	E-07	CCF COF LTJ	CM CM CM			TP-00B, CTP-001 TP-00B, CTP-001 TP-00G, TP-00B, CTP-001
Valve Name RBCCW-PRIMARY CONTAINMENT ISOLATION VLV															

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Reactor Building Closed Cooling Water (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-3799-206-RV	MC	A/C	0.75	RV	SA	A	C	O/C	M-0075-2	E-05	LT	AJ			TP-00G
											RT	Y10			
Valve Name RBCCW-PCIV, PCI VOLUME THERMAL OVERPRESSURE RELIEF															
2-3799-207-RV	MC	C	0.75	RV	SA	A	C	O	M-0075-2	D-05	RT	Y10			
Valve Name RBCCW-PCI VOLUME THERMAL OVERPRESSURE RELIEF															

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Diesel Generator Cooling Water (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-3999-085	3	C	8	CK	SA	A	SYS	O/C	M-0022-3	B-08	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name DGCW-PUMP DISCHARGE CHECK VALVE															
0-3999-089	3	B	6	GA	M	A	C	O/C	M-0022-3	D-06	SC	M3			TP-00I
											SO	M3			TP-00I
Valve Name DGCW-UNIT 0 CROSS-TIE TO UNIT 1															
1-3999-086	3	C	8	CK	SA	A	SYS	O/C	M-0022-3	F-08	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name LPSW-DGCW PUMP DISCHARGE CHECK VALVE															
1-3999-088	3	C	6	CK	SA	A	SYS	O/C	M-0022-3	D-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name LPSW-DGCW DISCHARGE CROSS-TIE CHK VLV															
1-3999-560	3	C	2.5	CK	SA	A	SYS	C	M-0022-1	D-08	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name LPSW-SERV WTR TO HPCI RM CLR CHECK VLV															
1-3999-561	3	C	4	CK	SA	A	SYS	O	M-0022-5	D-02	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name LPSW-SERV WTR TO VITAL COMPONENTS CK VLV															
1-3999-700	NC	C	2.5	CK	SA	A	SYS	C	M-0022-1	E-08	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name LPSW-SERV WTR TO HPCI RM CLR CHECK VLV															
2-3999-086	3	C	8	CK	SA	A	SYS	O/C	M-0069-3	C-08	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name LPSW-DGCW PUMP DISCHARGE CHECK VALVE															
2-3999-088	3	C	6	CK	SA	A	SYS	O/C	M-0069-3	E-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name LPSW-DGCW DISCHARGE CROSS-TIE CHK VLV															
2-3999-089	3	B	6	GA	M	A	C	O/C	M-0069-3	F-06	SC	M3			TP-00I
											SO	M3			TP-00I
Valve Name LPSW-DGCW DISCHARGE CROSS-TIE ISOL VLV															
2-3999-139	3	C	6	CK	SA	A	SYS	O	M-0069-3	F-05	CC	CM			TP-00B
											CO	CM			TP-00B
Valve Name LPSW-DGCW TRAIN CROSS-TIE CHECK VALVE															

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Diesel Generator Cooling Water (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-3999-560	3	C	2.5	CK	SA	A	SYS	C	M-0069-1	D-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name LPSW-SERV WTR TO HPCI RM CLR CHECK VLV															
2-3999-561	3	C	4	CK	SA	A	SYS	O	M-0069-5	E-03	CCD	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
Valve Name LPSW-SERV WTR TO VITAL COMPONENTS CK VLV															
2-3999-700	NC	C	2.5	CK	SA	A	SYS	C	M-0069-1	D-09	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name LPSW-SERV WTR TO HPCI RM CLR CHECK VLV															

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Fire Protection (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-4199-315-AO	NC	B	1	GA	AO	P	C	C	M-0027-2	F-08	PI	Y2			TP-41A
Valve Name CONTR RM HVAC - AFU FIRE PROTEC SPARGER ISOL VLV															

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Clean Demineralized Water (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-4399-045	MC	A	3	GA	M	P	LC	C	M-0058-4	E-05	LT	AJ			TP-00G
Valve Name CLEAN DEMINERALIZED WATER CONTAINMENT ISOL VLV															
1-4399-046	MC	A/C	3	CK	SA	A	SYS	C	M-0058-4	E-05	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name CLEAN DEMINERALIZED WATER CONTAINMENT ISOL CHK VLV															
2-4399-045	MC	A	3	GA	M	P	LC	C	M-0058-4	C-04	LT	AJ			TP-00G
Valve Name CLEAN DEMINERALIZED WATER CONTAINMENT ISOL VLV															
2-4399-046	MC	A/C	4	CK	SA	A	SYS	C	M-0058-4	C-04	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name CLEAN DEMINERALIZED WATER CONTAINMENT ISOL CHK VLV															

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Diesel Generator Starting Air (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-4699-048	NC	C	1.5	CK	SA	A	SYS	O/C	M-0025-2	C-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SA - DIESEL AIR RECIEVER TANK CHECK VLV															
0-4699-196	NC	C	1.5	CK	SA	A	SYS	O/C	M-0025-2	C-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SA - DIESEL AIR RECIEVER TANK CHECK VLV															
0-4699-226-AO	NC	B	1.5	GA	AO	A	C	O/C	M-0025-2	B-04	SC	M3			TP-00E
											SO	M3			TP-00E
Valve Name SA - DIESEL AIR START RELAY VALVE															
0-4699-306A-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	B-08	RT	Y10			
Valve Name SA - DIESEL AIR RECEIVER TANK SAFETY VLV															
0-4699-306B-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	B-07	RT	Y10			
Valve Name SA - DIESEL AIR RECEIVER TANK SAFETY VLV															
0-4699-306C-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	B-06	RT	Y10			
Valve Name SA - DIESEL AIR RECEIVER TANK SAFETY VLV															
0-4699-306D-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	B-06	RT	Y10			
Valve Name SA - DIESEL AIR RECEIVER TANK SAFETY VLV															
0-4699-307A	NC	C	0.5	CK	SA	A	SYS	C	M-0025-2	A-07	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name SA - DIESEL AIR COMPRESSOR CHECK VALVE															
0-4699-307B	NC	C	0.5	CK	SA	A	SYS	C	M-0025-2	A-06	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name SA - DIESEL AIR COMPRESSOR CHECK VALVE															
0-4699-309	NC	C	0.375	CK	SA	A	SYS	O/C	M-0025-2	B-04	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name SA - DG AIR START RELAY VLV DIAPHRAGM CK															
0-4699-310-SO	NC	B	0.375	3W	SO	A	D	E/D	M-0025-2	C-04	SD	M3			TP-00E
											SE	M3			TP-00E
Valve Name SA - DIESEL AIR START SOLENOID															
1-4699-123	NC	C	1.5	CK	SA	A	SYS	O/C	M-0025-2	E-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SA-DIESEL AIR RECEIVER TANK CHECK VLV															
1-4699-196	NC	C	1.5	CK	SA	A	SYS	O/C	M-0025-2	E-06	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SA-DIESEL AIR RECEIVER TANK CHECK VLV															

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Diesel Generator Starting Air (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-4699-226-AO	NC	B	1.5	GA	AO	A	C	O/C	M-0025-2	D-04	SC	M3			TP-00E
											SO	M3			TP-00E
Valve Name SA-DIESEL AIR START RELAY VALVE															
1-4699-306A-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	E-08	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															
1-4699-306B-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	E-07	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															
1-4699-306C-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	E-06	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															
1-4699-306D-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0025-2	E-05	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															
1-4699-307A	NC	C	0.5	CK	SA	A	SYS	C	M-0025-2	D-07	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name SA-DIESEL AIR COMPRESSOR CHECK VALVE															
1-4699-307B	NC	C	0.5	CK	SA	A	SYS	C	M-0025-2	D-05	CC	M3			TP-00B
											CO	OP			TP-00B
Valve Name SA-DIESEL AIR COMPRESSOR CHECK VALVE															
1-4699-309	NC	C	0.375	CK	SA	A	SYS	O/C	M-0025-2	E-04	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name SA-DIESEL AIR START RELAY VLV DIAPH CK															
1-4699-310-SO	NC	B	0.375	3W	SO	A	D	E/D	M-0025-2	E-04	SD	M3			TP-00E
											SE	M3			TP-00E
Valve Name SA-DIESEL AIR START SOLENOID															
2-4699-123	NC	C	1.5	CK	SA	A	SYS	O/C	M-0072-2	C-04	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SA-DIESEL AIR RECEIVER TANK CHECK VLV															
2-4699-196	NC	C	1.5	CK	SA	A	SYS	O/C	M-0072-2	C-04	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name SA-DIESEL AIR RECEIVER TANK CHECK VLV															
2-4699-226-AO	NC	B	1.5	GA	AO	A	C	O/C	M-0072-2	D-08	SC	M3			TP-00E
											SO	M3			TP-00E
Valve Name SA-DIESEL AIR START RELAY VALVE															
2-4699-306A-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0072-2	C-02	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-4699-306B-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0072-2	C-03	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															
2-4699-306C-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0072-2	C-04	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															
2-4699-306D-RV	NC	C	0.75	RV	SA	A	C	O/C	M-0072-2	C-05	RT	Y10			
Valve Name SA-DIESEL AIR RECEIVER TANK SAFETY VLV															
2-4699-307A	NC	C	0.5	CK	SA	A	SYS	C	M-0072-2	E-03	CC	M3			TP-00B
											CO	OP			TP-00B
											Valve Name SA-DIESEL AIR COMPRESSOR CHECK VALVE				
2-4699-307B	NC	C	0.5	CK	SA	A	SYS	C	M-0072-2	E-05	CC	M3			TP-00B
											CO	OP			TP-00B
											Valve Name SA-DIESEL AIR COMPRESSOR CHECK VALVE				
2-4699-309	NC	C	0.375	CK	SA	A	SYS	O/C	M-0072-2	D-08	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
											Valve Name SA-DIESEL AIR START RELAY VLV DIAPH CHK				
2-4699-310-SO	NC	B	0.375	3W	SO	A	D	E/D	M-0072-2	C-07	SD	M3			TP-00E
											SE	M3			TP-00E
											Valve Name SA-DIESEL AIR START SOLENOID				

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-4720-PCV	MC	A	1	GA	AO	A	O	C	M-0024-13	D-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name IA-PCIV, AIR SUCT FOR INST AIR FROM DW															
1-4721-PCV	MC	A	1	GA	AO	A	O	C	M-0024-13	D-07	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name IA-PCIV, AIR SUCT FOR INST AIR FROM DW															
1-4799-155	MC	A/C	2	CK	SA	A	SYS	C	M-0024-13	C-04	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO DRYWELL															
1-4799-156	MC	A/C	2	CK	SA	A	SYS	C	M-0024-13	C-06	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO DRYWELL															
1-4799-158	MC	A/C	0.5	CK	SA	A	SYS	C	M-0024-13	E-07	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO TORUS															
1-4799-159	MC	A/C	0.5	CK	SA	A	SYS	C	M-0024-13	E-08	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO TORUS															

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Instrument Air (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-4720-PCV	MC	A	1	GA	AO	A	O	C	M-0071-8	D-05	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name IA-PCIV, AIR SUCT FOR INST AIR FROM DW															
2-4721-PCV	MC	A	1	GA	AO	A	O	C	M-0071-8	D-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name IA-PCIV, AIR SUCT FOR INST AIR FROM DW															
2-4799-155	MC	A/C	2	CK	SA	A	SYS	C	M-0071-8	C-04	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO DRYWELL															
2-4799-156	MC	A/C	2	CK	SA	A	SYS	C	M-0071-8	C-06	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO DRYWELL															
2-4799-158	MC	A/C	0.5	CK	SA	A	SYS	C	M-0071-2	E-07	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO TORUS															
2-4799-159	MC	A/C	0.5	CK	SA	A	SYS	C	M-0071-2	E-08	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name IA-PCIV, INST AIR SUPPLY TO TORUS															

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Instrument Air (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-4799-353	NS	A/C	0.5	CK	SA	A	SYS	C	M-0071-8	C-07	CC	RR		RJ-47B	TP-00B
											CO	RR		RJ-47B	TP-00B
											LT	AJ			TP-00G
Valve Name IA-SRM/IRM PURGE CHK															
2-4799-354	NS	A/C	0.5	CK	SA	A	SYS	C	M-0071-8	C-07	CC	RR		RJ-47B	TP-00B
											CO	RR		RJ-47B	TP-00B
											LT	AJ			TP-00G
Valve Name IA-SRM/IRM PURGE CHK															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-5201-RV	NC	C	1	RV	SA	A	C	O	M-0029-2	D-05	RT	Y10			
Valve Name DG FUEL OIL-XFER PUMP DISCH RELIEF VLV															
0-5206-CK1	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-07	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL- DUPLEX FILTER 10PSI CHK VLV															
0-5206-CK2	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-07	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 10 PSI CHK VLV															
0-5206-CK3	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-07	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 65 PSI CHK VLV															
0-5299-005	NC	C	1.5	CK	SA	A	SYS	O	M-0029-2	D-05	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-XFER PUMP DISCH CHK VLV															
0-5299-042	NC	N/A	0.5	CK	SA	N/A	SYS	O	M-0029-2	D-06	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name ENGINE DRIVEN FUEL PUMP DISCHARGE CHECK VALVE															
0-5299-157	NC	N/A	0.5	CK	SA	N/A	SYS	O/C	M-0029-2	D-06	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG ENGINE DRIVEN FUEL PUMP DISCHARGE CHECK VALVE															
0-5299-158	NC	N/A	0.375	CK	SA	N/A	SYS	O	M-0029-2	D-06	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DIESEL OIL - EXCESS FUEL RETURN VALVE															
1-5201-RV	NC	C	1	RV	SA	A	C	O	M-0029-2	C-05	RT	Y10			
Valve Name DG FUEL OIL-XFER PUMP DISCH RELIEF VALVE															
1-5206-CK1	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-10	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 10 PSI CHK VLV															

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Diesel Generator Fuel Oil Transfer (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-5206-CK2	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-10	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 10 PSI CHK VLV															
1-5206-CK3	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-10	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 65 PSI CHK VLV															
1-5299-005	NC	C	1.5	CK	SA	A	SYS	O	M-0029-2	C-05	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-XFER PUMP DISCH CHK VLV															
1-5299-042	NC	N/A	0.5	CK	SA	N/A	SYS	O	M-0029-2	D-04	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name ENGINE DRIVEN FUEL PUMP DISCHARGE CHECK VALVE															
1-5299-157	NC	N/A	0.5	CK	SA	N/A	SYS	O/C	M-0029-2	D-04	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG ENGINE DRIVEN FUEL PUMP DISCHARGE CHECK VALVE															
1-5299-158	NC	N/A	0.375	CK	SA	N/A	SYS	O	M-0029-2	D-03	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DIESEL OIL - EXCESS FUEL RETURN VALVE															
2-5201-RV	NC	C	1	RV	SA	A	C	O	M-0029-2	C-07	RT	Y10			
Valve Name DG FUEL OIL-XFER PUMP DISCH RELIEF VALVE															
2-5206-CK1	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-10	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 10 PSI CHK VLV															
2-5206-CK2	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-10	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 10 PSI CHK VLV															

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Diesel Generator Fuel Oil Transfer (Page 3)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-5206-CK3	NC	C	0.5	CK	SA	A	SYS	O/C	M-0029-2	D-10	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-DUPLEX FILTER 65 PSI CHK VLV															
2-5299-005	NC	C	1.5	CK	SA	A	SYS	O	M-0029-2	C-08	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG FUEL OIL-XFER PUMP DISCH CHK VLV															
2-5299-042	NC	N/A	0.5	CK	SA	N/A	SYS	O	M-0029-2	D-09	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name ENGINE DRIVEN FUEL PUMP DISCHARGE CHECK VALVE															
2-5299-157	NC	N/A	0.5	CK	SA	N/A	SYS	O/C	M-0029-2	D-09	CC	M3			TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DG ENGINE DRIVEN FUEL PUMP DISCHARGE CHECK VALVE															
2-5299-158	NC	N/A	0.375	CK	SA	N/A	SYS	O	M-0029-2	C-09	CC				TP-00B, TP-00E
											CO	M3			TP-00B, TP-00E
Valve Name DIESEL OIL - EXCESS FUEL RETURN VALVE															

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Control Room Ventilation (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-5741-319A-AO	3	B	2.5	DIA	AO	A	C	O	M-0725-3	E-08	FO	M3			TP-00C, TP-00E
											PI	Y2			
											SO	M3			
Valve Name CR HVAC-RHRSW FLOW CONTROL VALVE															
0-5741-319B-AO	NC	B	3	DIA	AO	A	C	C	M-0725-3	E-09	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name CR HVAC-NSR SERVICE WATER FLOW CONTROL															
0-5741-333-FCV	3	B	2.5	DIA	AO	A	O	O	M-0725-3	E-08	FO	M3			TP-00C
											SO	M3			
Valve Name CR HVAC-SERVICE WATER FLOW CONTROL VALVE															
0-5741-339-SO	3	B	1.5	GA	SO	A	C	O	M-0725-3	E-04	FO	M3			TP-00C, TP-00E
											SO	M3			TP-00E
Valve Name SOV IN REFRIGERATION CONDENSING UNIT															
0-5741-345-RV	NS	C	2	RV	SA	A	C	O	M-0725-3	D-07	RT	Y10			
Valve Name CR HVAC-SERVICE WATER DISCH RELIEF VLV															
0-5799-381	3	B	2.5	GL	M	A	C	O	M-0725-3	E-08	SO	Y2			
Valve Name CR HVAC-FLOW CONTROL VLV MANUAL BYPASS															
1-5799-386	3	C	2.5	CK	SA	A	SYS	O/C	M-0725-3	G-08	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CONTROL ROOM HVAC SUPPLY FROM RHRSW CHK															
2-5799-386	3	C	2.5	CK	SA	A	SYS	O/C	M-0725-3	E-09	CC	M3			TP-00B
											CO	M3			TP-00B
Valve Name CONTROL ROOM HVAC SUPPLY FROM RHRSW CHK															

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Standby Gas Treatment (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
0-7504A-MO	NC	B	4	BTF	MO	A	O	O/C	M-0044	E-04	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SBTG-COOLING AIR INLET															
0-7504B-MO	NC	B	4	BTF	MO	A	O	O/C	M-0044	B-04	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SBTG-COOLING AIR INLET															
0-7505A-MO	NC	B	24	BTF	MO	A	C	O/C	M-0044	F-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SBTG-TRAIN SELECT & INLET ISOL VLV															
0-7505B-MO	NC	B	24	BTF	MO	A	C	O/C	M-0044	C-03	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SBTG-TRAIN SELECT & INLET ISOL VLV															
0-7507A-MO	NC	B	24	BTF	MO	A	C	O/C	M-0044	E-09	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SBTG-TRAIN SELECT & OUTLET ISOL VLV															
0-7507B-MO	NC	B	24	BTF	MO	A	C	O/C	M-0044	B-09	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SBTG-TRAIN SELECT & OUTLET ISOL VLV															
0-7509-MO	NC	B	24	BTF	MO	P	LO	O	M-0044	C-08	PI	Y2			
Valve Name SBTG-TRAIN CROSS-TIE VALVE															
0-7510A-AO	NC	B	16	BTF	AO	A	O	O	M-0044	F-08	FO	M3			TP-00C
											SO	M3			
Valve Name SBTG-TRAIN FLOW CONTROL VALVE															
0-7510B-AO	NC	B	16	BTF	AO	A	O	O	M-0044	C-08	FO	M3			TP-00C
											SO	M3			
Valve Name SBTG-TRAIN FLOW CONTROL VALVE															
1-7503-MO	NC	B	18	BTF	MO	A	O	O/C	M-0044	C-01	PI	Y2			
											SC	M3			
											SO	M3			
Valve Name SBTG-TRAIN INLET ISOLATION VALVE															

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Standby Gas Treatment (Page 2)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-7503-MO	NC	B	18	BTF	MO	A	O	O/C	M-0044	F-01	PI	Y2			
											SC	M3			
											SO	M3			

Valve Name SBT-TRAIN INLET ISOLATION VALVE

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Process Sampling (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-8800-2B	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2C	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2D	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2E	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2F	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2G	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2H	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2I	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2J	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2K	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2L	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2M	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2N	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2O	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2P	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2Q	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2R	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-8800-2S	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2T	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2U	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-2V	MC	A	0.5	GA	M	P	C	C	M-0461-1	C-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3B	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3C	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3D	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3E	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3F	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3G	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3H	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3I	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3J	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3K	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3L	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3M	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3N	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-8800-3O	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3P	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3Q	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3R	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3S	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3T	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3U	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8800-3V	MC	A	0.5	GA	M	P	C	C	M-0461-1	D-02	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8801A-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	D-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8801B-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	C-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8801C-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	B-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8801D-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	B-03	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-TORUS AIR SAMPLE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-8802A-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	D-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8802B-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	C-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8802C-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	B-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
1-8802D-AO	MC	A	0.75	DIA	AO	A	O	C	M-0461-1	B-04	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-TORUS AIR SAMPLE															
1-8803-AO	MC	A	2	GL	AO	A	O	C	M-0461-1	D-06	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-CONTAINMENT AIR SAMPLE RETURN															
1-8804-AO	MC	A	2	GL	AO	A	O	C	M-0461-1	D-05	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-CONTAINMENT AIR SAMPLE RETURN															
2-8800-2B	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2C	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2D	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-8800-2E	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2F	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2G	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2H	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2I	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2J	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2K	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2L	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2M	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2N	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2O	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2P	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2Q	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2R	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2S	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2T	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-2U	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-8800-2V	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3B	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3C	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3D	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3E	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3F	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3G	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3H	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3I	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3J	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3K	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3L	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3M	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3N	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3O	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3P	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3Q	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-8800-3R	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3S	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3T	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3U	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8800-3V	MC	A	0.5	GA	M	P	C	C	M-0463-1	G-07	LT	AJ			TP-00G
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8801A-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	E-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8801B-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	E-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8801C-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	D-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8801D-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	F-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-TORUS AIR SAMPLE															
2-8802A-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	E-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															

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Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
2-8802B-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	E-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8802C-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	D-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-DRYWELL AIR SAMPLE															
2-8802D-AO	MC	A	0.75	DIA	AO	A	O	C	M-0463-1	F-01	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-TORUS AIR SAMPLE															
2-8803-AO	MC	A	2	GL	AO	A	O	C	M-0463-1	C-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-CONTAINMENT AIR SAMPLE RETURN															
2-8804-AO	MC	A	2	GL	AO	A	O	C	M-0463-1	C-02	FC	M3			TP-00C
											LT	AJ			TP-00G
											PI	Y2			
											SC	M3			TP-00H
Valve Name PROCESS SAMPLING-CONTAINMENT AIR SAMPLE RETURN															

High Radiation Sampling (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-8941-101-XCV	NC	B	0.5	DIA	AO	A	C	C	M-1057	C-07	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name SBT/CAS-SAMPLING ISOLATION VALVE															
1-8941-705-XCV	2	B	0.5	DIA	AO	A	C	C	M-1056-1	C-06	FC	M3			TP-00C
											PI	Y2			TP-00C
											SC	M3			
Valve Name CORE SPRAY-SAMPLING SELECT VALVE															
2-8941-101-XCV	NC	B	0.5	DIA	AO	A	C	C	M-1062	C-07	FC	M3			TP-00C
											PI	Y2			
											SC	M3			
Valve Name SBT/CAS-SAMPLING ISOLATION VALVE															
2-8941-705-XCV	2	B	0.5	DIA	AO	A	C	C	M-1061-1	C-07	FC	M3			TP-00C
											PI	Y2			TP-00C
											SC	M3			
Valve Name CORE SPRAY-SAMPLING SELECT VALVE															
2-8941-761-RV	NS	C	1	RV	SA	A	C	O	M-1061-1	A-07	RT	Y10			
Valve Name RX BLDG EQUIP DRNS DW FLR DRN SUMP PP DISCHARGE RV															
2-8941-762-RV	NS	C	1	RV	SA	A	C	O	M-1061-1	A-06	RT	Y10			
Valve Name RX BLDG EQUIP DRNS DW FLR DRN SUMP PP DISCHARGE RV															

Revision Date:

02/28/2005

Quad Cities Station
IST PROGRAM PLAN

Service Air (Page 1)

Valve EPN	Safety Class	Category	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	P&ID	P&ID Coord.	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
1-4699-046	MC	A	1	GL	M	P	LC	C	M-0025-1	F-03	LT	AJ			TP-00G
Valve Name SA-PRIMARY CONTAINMENT ISOLATION VALVE															
1-4699-047	MC	A/C	1	CK	SA	A	SYS	C	M-0025-1	F-03	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name SA-PRIMARY CONTAINMENT ISOLATION VALVE															
2-4699-046	MC	A	1	GL	M	P	LC	C	M-0072-1	E-06	LT	AJ			TP-00G
Valve Name SA-PRIMARY CONTAINMENT ISOLATION VALVE															
2-4699-047	MC	A/C	1	CK	SA	A	SYS	C	M-0072-1	E-05	CCF	CM			TP-00B, CTP-001
											COF	CM			TP-00B, CTP-001
											LTJ	CM			TP-00G, TP-00B, CTP-001
Valve Name SA-PRIMARY CONTAINMENT ISOLATION VALVE															

Revision Date:

02/28/2005

September 11, 2003

SVP-03-096

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

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

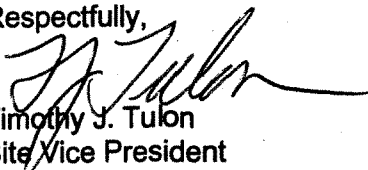
Subject: Submittal of Proposed Relief Requests to the Requirements of 10 CFR
50.55a Concerning the Fourth Ten-Year Interval Inservice Testing
Program

The purpose of this letter is to request approval of proposed relief requests in accordance with 10 CFR 50.55a, "Codes and standards." The attached code relief requests are associated with the fourth ten-year interval Inservice Testing (IST) Program for Quad Cities Nuclear Power Station (QCNPS). The fourth ten-year interval begins on February 19, 2004 and is required by 10 CFR 50.55a(f)(4) to comply with the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, OM Code (1998 Edition through 2000 Addenda).

The QCNPS IST fourth ten-year interval will be in effect from February 19, 2004 to February 18, 2014. Accordingly, we request approval of the enclosed relief requests by February 19, 2004.

Should you have any questions concerning this letter, please contact Mr. Wally Beck at (309) 227-2800.

Respectfully,


Timothy J. Tulon
Site Vice President
Quad Cities Nuclear Power Station

Attachment: Quad Cities Nuclear Power Station Inservice Testing Program
Fourth Ten-Year Interval Proposed Relief Requests

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

ATTACHMENT

Quad Cities Nuclear Power Station

Inservice Testing Program Fourth Ten-Year Interval

Proposed Relief Requests

Pump Relief Request Index

Designator	Description
PR-00A	No Comprehensive Test for Certain Group A Pumps

Valve Relief Request Index

Designator	Description
RV-23A	High Pressure Coolant Injection System Exhaust Line Drain Pot to Gland Seal Condenser Solenoid Valve Cannot be Stroke Timed
RV-30B	Main Steam Safety Valve Set Point Testing, Additional Testing Requirements
RV-30C	Main Steam Isolation Valve Technical Specification Stroke Time Limits in Lieu of ASME OM ISTC Stroke Time Limits.
RV-30D	Main Steam Pressure Relief Valves With Auxiliary Actuating Devices Post Installation Testing

10 CFR 50.55a Request Number PR-00A

**Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)**

Alternative Provides Acceptable Level of Quality and Safety

1. ASME Code Component(s) Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>
1-1002A	Residual Heat Removal	2
1-1002B	Residual Heat Removal	2
1-1002C	Residual Heat Removal	2
1-1002D	Residual Heat Removal	2
2-1002A	Residual Heat Removal	2
2-1002B	Residual Heat Removal	2
2-1002C	Residual Heat Removal	2
2-1002D	Residual Heat Removal	2

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTB-5123 – Comprehensive Test Procedure. Comprehensive tests shall be conducted with the pump operating at a specified reference point.

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), relief is requested from the requirement of ASME OM Code ISTB-5123. The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The subject pumps are all categorized as Group A pumps. These pumps are operated routinely during normal plant operations. Each pump is tested in accordance with its associated Group A procedure. All of these pumps are operated at conditions within +/- 20% of the design flow rate when being tested each quarter. All of the required Code parameters are measured and compared to their respective reference values. During all Group A inservice testing, full spectrum analysis is performed above the required vibration analysis by the Code. Additionally, these pumps are included in the station preventive maintenance program which requires a complete pump inspection to be performed every 2 years.

The intent of the Code required Comprehensive Test is to test the pump at substantial flow (biennially) such that pump degradation may be easily detected

on the portion of the pump curve which is well sloped. Quad Cities tests each of these pumps at substantial flow (+/- 20% of design) each quarter.

5. Proposed Alternative and Basis for Use

As an alternative to performing Comprehensive Pump tests biennially, the subject pumps will be tested each quarter at +/- 20% of the design flow rate. The required inservice test parameters of Table ISTB-3000-1 based on pump type will be measured and compared to their reference values. The Group A pump test acceptance criteria will be applied. Additionally, during each quarterly Group A test, full spectrum analysis will be performed above the Code required vibration measurements.

Continued Preventive Maintenance on each pump will assist in determining overall mechanical and hydraulic pump health.

Based on the preventive maintenance inspection results, full spectrum analysis, and continued quarterly Group A testing at +/- 20% of design pump flow, an accurate assessment of pump health and operational readiness is determined.

This alternative meets the intent of the Code by regularly testing the pump at a flow condition where degradation can easily be detected. Therefore, this alternative provides an acceptable level of quality and safety.

6. Duration of Proposed Alternative

This proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

None

10 CFR 50.55a Request Number RV-23A

Relief Requested In Accordance with 10 CFR 50.55a(f)(5)(iii)

Inservice Testing Impracticability

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-2301-032-SO	HPCI	2	B
2-2301-032-SO	HPCI	2	B

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-5150, Solenoid Valve Stroke Testing

4. Impracticability of Compliance

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (f)(5)(iii), relief is requested from the requirement of ASME OM Code ISTC-5150. The basis of the relief request is that the Code requirement is impractical.

These solenoid valves function as a backup to the exhaust line drain pot steam trap. During normal operation of the HPCI turbine using high quality steam, the drain path from the drain pot to the torus via the steam trap is adequate to remove condensate from the turbine exhaust line. However, during HPCI turbine operation with low pressure and low quality steam (e.g., during certain HPCI surveillance tests), condensate collects in the drain pot faster than it can be drained through the trap. Under these conditions, solenoid valve 1(2)-2301-032 opens automatically to drain to the gland seal condenser upon receipt of a signal from a drain pot level switch when the drain pot level reaches the high-level alarm set point. A high level condition alarms a control room annunciator.

These valves are not equipped with hand switches or position indicators and the valves are totally enclosed, so valve position cannot be verified by direct observation. Therefore, it is impractical to exercise and stroke time these valves in accordance with Code requirements.

Valve actuation may be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing that the high level alarm clears. It is impractical to assign a maximum limiting stroke time to these valves using this test method because the time for the alarm to clear would depend primarily on variables such as the rate of filling

and the level of the drain pot when the filling is secured. The steam line drain pot is not equipped with direct level indication; therefore, the time required for the alarm to clear may vary significantly.

Failure of these valves to perform their safety function would be indicated by a drain pot high level alarm. Additionally, condensate entrapped in the steam would cause significant fluctuations in exhaust steam header pressure.

5. Burden Caused By Compliance

Compliance with the quarterly exercising and stroke timing requirements of the Code would require either system modifications to replace these valves with ones of testable design, or to purchase non-intrusive test equipment and develop new test methods and procedures.

6. Proposed Alternative and Basis for Use

A functional verification test is conducted on the drain pot level limit switches and the associated control room annunciators at least once every 92 days. Valve actuation will be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing a positive draining of the HPCI drain pot as indicated by a level increase in gland seal condenser and the high level alarm clears.

7. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

8. Precedents

This relief request RV-23A was previously approved for Quad Cities Nuclear Power Station Units 1 and 2 for the 3rd 120 month interval. Approval Date – June 16, 1999.

10 CFR 50.55a Request Number RV-30B

**Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(ii)**

**Hardship or Unusual Difficulty without Compensating
Increase in Level of Quality or Safety**

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0203-003A	Main Steam	1	C
1-0203-004A	Main Steam	1	C
1-0203-004B	Main Steam	1	C
1-0203-004C	Main Steam	1	C
1-0203-004D	Main Steam	1	C
1-0203-004E	Main Steam	1	C
1-0203-004F	Main Steam	1	C
1-0203-004G	Main Steam	1	C
1-0203-004H	Main Steam	1	C
2-0203-003A	Main Steam	1	C
2-0203-004A	Main Steam	1	C
2-0203-004B	Main Steam	1	C
2-0203-004C	Main Steam	1	C
2-0203-004D	Main Steam	1	C
2-0203-004E	Main Steam	1	C
2-0203-004F	Main Steam	1	C
2-0203-004G	Main Steam	1	C
2-0203-004H	Main Steam	1	C

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

Appendix I, I-1330(c) – Requirements for Testing Additional Valves

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(ii), relief is requested from the requirement of ASME OM Code, Appendix I, I-1330(c). The basis of the relief request is that the Code requirement presents an undue hardship without a compensating increase in level of quality or safety.

Valve 1(2)-0203-003A is a dual function safety/relief valve manufactured by Target Rock. The remaining valves are simple safety valves. These main steam safety valves are used to terminate an abnormal pressure increase in the reactor

vessel and the reactor coolant pressure boundary (i.e., they provide overpressure protection).

In accordance with Technical Specifications, at least half of the subject valves are tested and rebuilt during each refueling outage. This accelerated maintenance schedule provides a high level of assurance that these safety valves will perform their safety function.

Quad Cities does not have the facilities required to perform set-point tests on large relief and safety valves. These valves are unbolted from their mounting flanges, decontaminated, and shipped to an off-site test facility. Because of the lengthy period required for removal, transportation, testing and re-installation, the removal and testing of additional valves due to sample expansion would delay unit start-up from refueling outages by at least several days. This represents a significant hardship.

The sample expansion requirements of Appendix I would require two additional valves be tested if one valve failed its set-point test. Since the dual function safety/relief valve is tested each outage, and no less than four of the remaining valves are tested during each outage, the valves already being tested represent an increased sample expansion. Therefore, based on the sample expansion requirements already being met for one valve, and the hardship associated with pulling additional valves, no additional valves will be tested if only one valve fails the set-point test.

5. Proposed Alternative and Basis for Use

The dual function safety/relief valve, and at least half of the eight (8) safety valves, will be tested, rebuilt and reset in accordance with Technical Specifications during each reactor refueling outage. If only one of the eight (8) safety valves fails its set-point test, additional safety valves will not be tested. If more than one safety valve fails, the sample expansion criteria of Appendix I, 1330(c) will be implemented for every additional failed valve.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

This relief request RV-30B was previously approved for Quad Cities Nuclear Power Station Units 1 and 2 for the 3rd 120 month interval. Approval Date – May 3, 1994.

10 CFR 50.55a Request Number RV-30C

**Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(i)**

Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-0203-001A-AO	Main Steam	1	A
1-0203-001B-AO	Main Steam	1	A
1-0203-001C-AO	Main Steam	1	A
1-0203-001D-AO	Main Steam	1	A
1-0203-002A-AO	Main Steam	1	A
1-0203-002B-AO	Main Steam	1	A
1-0203-002C-AO	Main Steam	1	A
1-0203-002D-AO	Main Steam	1	A
2-0203-001A-AO	Main Steam	1	A
2-0203-001B-AO	Main Steam	1	A
2-0203-001C-AO	Main Steam	1	A
2-0203-001D-AO	Main Steam	1	A
2-0203-002A-AO	Main Steam	1	A
2-0203-002B-AO	Main Steam	1	A
2-0203-002C-AO	Main Steam	1	A
2-0203-002D-AO	Main Steam	1	A

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-5132(b) – Stroke Time Acceptance Criteria – Valves with reference stroke times of less than or equal to 10 seconds shall exhibit no more than +/- 50 % change in stroke time when compared to the reference value.

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), relief is requested from the requirement of ASME OM Code ISTC-5132(b). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The main steam isolation valves (MSIVs) open to admit reactor steam to the main turbine. They close to provide containment and reactor isolation.

The ISTC Code requirement bases the stroke time acceptance criteria on a fixed reference value taken from a baseline test. However, Technical Specification

3.6.1.3, "Primary Containment Isolation Valves (PCIV's)," establishes an invariable acceptable stroke time range for the MSIVs of ≥ 3 seconds to ≤ 5 seconds. This fixed range is more conservative and consistent than that required by ISTC-5132(b) since the range is not dependent on a baseline value that may vary by as much as ± 1 second.

5. Proposed Alternative and Basis for Use

Technical Specification 3.6.1.3 establishes an acceptable stroke time range for the MSIVs of $3.0 \text{ seconds} \leq T_{\text{MSIV}} \leq 5.0 \text{ seconds}$. Quad Cities will utilize this range for evaluating an acceptable MSIV stroke time in lieu of establishing an acceptance band based on MSIV stroke time reference values. Quad Cities has also established additional limitations on stroke time based on reactor power levels to ensure that the Technical Specification limits are always met. Any MSIV that fails to meet the Technical Specification limits will be considered inoperable and required actions will be in accordance with the Technical Specifications.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

This relief request RV-30C was previously approved for Quad Cities Nuclear Power Station Units 1 and 2 for the 3rd 120 month interval. Approval Date – November 1, 1995.

10 CFR 50.55a Request Number RV-30D

**Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(i)**

Alternate Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<u>Category</u>
1-203-3A	Main Steam	1	B/C
1-203-3B	Main Steam	1	B/C
1-203-3C	Main Steam	1	B/C
1-203-3D	Main Steam	1	B/C
1-203-3E	Main Steam	1	B/C
2-203-3A	Main Steam	1	B/C
2-203-3B	Main Steam	1	B/C
2-203-3C	Main Steam	1	B/C
2-203-3D	Main Steam	1	B/C
2-203-3E	Main Steam	1	B/C

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

Appendix I, I-3410(d) – Class 1 Main Steam Pressure Relief Valves With Auxiliary Actuating Devices – Each valve that has been maintained or refurbished in place, removed for maintenance and testing, or both, and reinstalled shall be remotely actuated at reduced or normal system pressure to verify open and close capability of the valve before resumption of electric power generation. Set-pressure verification is not required.

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), relief is requested from the requirement of ASME OM Code Appendix I, I-3410(d). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

Experience in the industry and at Quad Cities Nuclear Power Station (QCNPS) has indicated that manual actuation of the main steam relief valves during plant operation can lead to valve seat leakage. Currently, QCNPS Unit 1 has four Electromatic Relief Valves (ERVs) designated 1-203-3B, 1-203-3C 1-203-3D 1-203-3E. Currently, QCNPS Unit 2 has four Power Operated Relief Valves designated 2-203-3B, 2-203-3C, 2-203-3D, 2-203-3E. Each unit also has a dual function Target Rock safety/relief valve (S/RV) designated 1-203-3A and 2-203-3A for Unit 1 and Unit 2 respectively. The Target Rock valve can actuate by

either the safety mode or the relief mode. Each ERV, PORV and S/RV consists of a main valve disc and seat and a pilot valve arrangement.

Past history has indicated elevated tailpipe temperatures downstream of some of the subject valves. Based on previous testing and temperature trends, the most likely cause of the high tailpipe temperatures is leakage from the main valve disc and seat, rather than leakage from the pilot valve.

Valve seat leakage from either the main valve disc or pilot valve can result in increased suppression pool temperature, which has little safety significance, as long as suppression pool temperature is maintained within Technical Specification limits. However, leakage from a pilot valve can lead to inadvertent opening of the main valve, and the subsequent inability to re-close the valve.

The purpose of this relief request is to allow the testing of the ERVs, PORVs and S/RVs such that full valve functionality is demonstrated through overlapping tests, without cycling the valve. The use of an overlapping series of tests has been successfully applied at other stations.

Additionally, the Boiling Water Reactor Owners' Group (BWROG) Evaluation of NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves," recommended that the number of safety valve openings be reduced as much as possible and unnecessary challenges should be avoided.

5. Proposed Alternative and Basis for Use

The QCNPS ERVs are solenoid operated with a single stage pilot. Operation of the pilot valve vents the chamber under the main valve, which causes it to open. The PORVs are solenoid operated with a dual stage pilot. They are similar to other multi-stage pilot actuated SRVs in that lifting of the first stage pilot relieves loading from the second stage pilot, allowing it to change position, relieving pressure on the main disc. With this pressure relieved, the solenoid is able lift the main disc with the assistance of inlet pressure. This causes the main disc to move rapidly to its full open position. The S/RVs have two pilots; both pilots operate in the safety mode. In the relief mode, the second-stage disc is stroked by an air plunger.

The proposed alternative testing uses overlapping tests to verify the valves function properly at operating conditions and are capable of being opened when installed in the plant.

This proposed alternate will allow QCNPS to test the manual actuation of the ERVs, PORVs, and S/RVs in two overlapping tests. The first test will be performed at a steam test facility, where each valve will be installed on a steam header in the same orientation as in the plant installation. The test conditions in the test facility will be similar to those in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested, functionally tested to ensure the valve is capable of opening and closing, and leak tested a final time.

The valve will then be shipped to the plant without any disassembly or alteration of the valve components. A receipt inspection will be performed in accordance with the requirements of the EGC Quality Assurance Program upon arrival of the valve at QCNPS. The storage requirements in effect at QCNPS ensure the valves are protected from exposure to the environment, airborne contamination, acceleration forces, and physical damage.

Second Test – PORV

Prior to installation, electrical continuity checks of the limit switches will be performed, and the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and electrically connected. Proper electrical connections will be verified per procedure. Electrical power to the control panel and signals causing application of power to the PORV solenoid will be verified to be present at the control panel per procedure. Electrical continuity and resistance checks from the control panel to the relief valve will be performed. These verifications will provide a complete check of the capability of the valve to open and close.

Second Test – ERV and SRV

Prior to installation, the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and electrically connected. Proper electrical connections will be verified per procedure. Electrical power to the control panel and signals causing application of power to the SRV and ERV solenoids will be verified to be present at the control panel per procedure. In addition, ERV limit switches will be tested. For the relief mode of SRVs, the second test will be performed after installation in the plant by energizing a solenoid that pneumatically actuates a plunger located within the main valve body. Actuation of the plunger allows pressure to be vented from the top of the main valve piston. This allows reactor pressure to lift the main valve piston, which opens the main valve. However, since this test will be performed prior to establishing the reactor pressure needed to overcome main valve closure forces, the main valve will not stroke during the test. This test also does not disturb the safety-mode pilot valve, leakage through which is an issue with temperature detection of leakage after steam is applied to the valve.

For the ERVs, the second test will be performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid, actuator, pilot operating lever, and pilot plunger. However, since this test will be performed prior to establishing the necessary reactor pressure to overcome main valve closure forces, the main valve will not be stroked during the test.

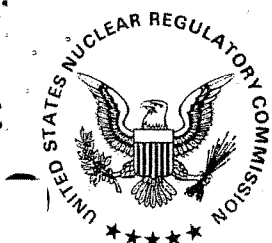
These verifications will provide a complete check of the capability of the valves to open and close. Therefore, the proposed alternative will allow the testing of the ERVs, PORVs and S/RVs such that full functionality is demonstrated through overlapping tests without cycling the valves.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

Similar relief for the PORVs was previously approved for QCNPS Unit 2 for the 3rd 120 month interval by letter dated May 8, 2003. In addition, similar relief for the QCNPS Unit 1 ERVs, and QCNPS Units 1 and 2 S/RVs, was approved for the 3rd 120 month interval by letter dated May 28, 2003.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 20, 2004

Mr. Christopher M. Crane, President
and Chief Nuclear Officer
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 - FOURTH
10-YEAR INSERVICE TESTING PROGRAM RELIEF REQUESTS (TAC NOS.
MC0711 THROUGH MC0720)

Dear Mr. Crane:

By letter dated September 11, 2003, as supplemented by letter dated November 18, 2003, Exelon Generation Company, LLC (the licensee) submitted relief requests for the fourth 10-year inservice testing (IST) program interval for Quad Cities Nuclear Power Station, Units 1 and 2. The Quad Cities fourth 10-year IST interval will be in effect from February 19, 2004, to February 18, 2014.

Based on the information provided in your submittals for Relief Request RV-23A, the staff concludes the proposed alternative provides reasonable assurance that the components are operationally ready. Therefore, the proposed alternative under Relief Request RV-23A is authorized pursuant to Section 50.55a(a)(3)(ii) of Title 10 of the *Code of Federal Regulations* (10 CFR), for the fourth 10-year IST interval.

Based on the information provided in your submittals for Relief Requests RV-30B, RV-30C, and RV-30D, the staff concludes that the proposed alternatives provide an acceptable level of quality and safety. Therefore, the proposed alternatives under Relief Requests RV-30B, RV-30C, and RV-30D are authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the fourth 10-year IST interval.

Our safety evaluation is enclosed.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas V. Pickett for", is written over the typed name.

Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos.: 50-254 and 50-265

Enclosure: Safety Evaluation

cc w/encl: See next page

REC'D FEB 26 2004

Quad Cities Nuclear Power Station Units 1 and 2

CC:

Site Vice President - Quad Cities Nuclear Power Station

Exelon Generation Company, LLC
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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOURTH 10-YEAR INTERVAL INSERVICE TESTING PROGRAM RELIEF REQUESTS

EXELON GENERATION COMPANY, LLC

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

1.0 INTRODUCTION

By letter dated September 11, 2003, Exelon Generation Company, LLC (the licensee), submitted relief requests associated with the fourth 10-year inservice testing (IST) program plan for pumps and valves for the Quad Cities Nuclear Power Station, Units 1 and 2. The licensee proposed several alternatives to the requirements of the American Society of Mechanical Engineers (ASME) Operation and Maintenance of Nuclear Power Plants (OM) Code for its Quad Cities Nuclear Power Station, Units 1 and 2, fourth 10-year interval IST program. In response to staff's request for additional information, the licensee submitted additional information to the NRC in its letter dated November 18, 2003. In its November 18, 2003, letter, the licensee withdrew Relief Request PR-00A. NRC evaluation of the licensee's four remaining relief requests are contained herein.

2.0 REGULATORY EVALUATION

Section 50.55a of Title 10 of the *Code of Federal Regulations* (10 CFR), requires that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed at 120-month (10-year) IST program intervals in accordance with the ASME Code for OM Code and applicable addenda, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. In accordance with 10 CFR 50.55a(f)(4)(ii), licensees are required to comply with the requirements of the latest edition and addenda of the ASME Code incorporated by reference in the regulations 12 months prior to the start of each 120-month IST program interval. In accordance with 10 CFR 50.55a(f)(4)(iv), IST of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met. In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for the facility. Section 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to Code requirements which are acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidance for Inservice Testing at Nuclear Power Plants."

By letter dated September 11, 2003, as supplemented by letter dated November 18, 2003, the licensee proposed several alternatives to the requirements of the ASME OM Code for the Quad Cities Nuclear Power Station, Units 1 and 2, fourth 10-year IST interval. The Quad Cities Nuclear Power Station, Units 1 and 2 fourth 10-year IST interval commences February 19, 2004. The program was developed in accordance with the 1998 Edition, through 2000 Addenda of the ASME OM Code. The NRC's findings with respect to authorizing alternatives and granting or denying the IST program relief requests are given below.

3.0 TECHNICAL EVALUATION

3.1 Valve Relief Request RV-23A

3.1.1 Code Requirements

The licensee requested relief from ISTC-5150 which requires that solenoid-operated valves have their stroke times measured and compared to reference values. Relief was requested for valves 1-2301-032-SO and 2-2301-032-SO.

3.1.2 Licensee's Basis for Requesting Relief

These solenoid valves function as a backup to the high pressure coolant injection (HPCI) exhaust line drain pot steam trap. During normal operation of the HPCI turbine using high quality steam, the drain path from the drain pot to the torus via the steam trap is adequate to remove condensate from the turbine exhaust line. However, during HPCI turbine operation with low pressure and low quality steam, condensate collects in the drain pot faster than it can be drained through the trap. Under these conditions, solenoid valves 1(2)-2301-032 open automatically upon receipt of a drain pot high level signal to drain excess condensate to the gland seal condenser.

These valves are not equipped with hand switches or position indicators and the valves are totally enclosed, so valve position can not be verified by direct observation. Valve actuation may be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing that the high level alarm clears. It would be extremely difficult to assign a maximum limiting stroke time to these valves using this test method because the time for the alarm to clear would depend primarily on variables such as the rate of filling and the level of the drain pot when filling is secured. The steam line drain pot is not equipped with direct level indication, therefore, the time required for the alarm to clear may vary significantly.

3.1.3 Licensee's Proposed Alternative Testing

A functional verification test will be conducted on the drain pot level switches and the associated control room annunciators at least once every 92 days. Valve actuation will be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing a positive draining of the HPCI drain pot as indicated by a level increase in the gland seal condenser and clearing of the high level alarm.

3.1.4 Evaluation

These solenoid valves function as a backup to the HPCI exhaust line drain pot steam trap. During normal operation of the HPCI turbine using high quality steam, the drain path from the drain pot to the torus via the steam trap is adequate to remove condensate from the turbine exhaust line. However, during HPCI turbine operation with low-pressure and low-quality steam, condensate collects in the drain pot faster than it can be drained through the trap. Under these conditions, solenoid valves 1(2)-2301-032 open automatically to drain to the gland seal condenser upon receipt of a signal from a drain pot level switch when the drain pot level reaches the high-level alarm setpoint. The high-level condition sounds an alarm in the control room.

These valves are not equipped with position indication and the valves are totally enclosed, so valve position cannot be verified by direct observation. Therefore, it is not feasible to exercise and stroke time these valves in accordance with the requirements of the ASME OM Code. Compliance with the Code requirements would require major system modifications.

In lieu of the Code-required stroke time test, the licensee proposes a functional verification test. Valve actuation and operability will be indirectly verified by the proposed test, i.e., by removing the HPCI system from service and by filling the drain pot with water until the high level alarm is received. Positive draining of the HPCI drain pot will be indicated by a level increase in the gland seal condenser and by the clearing of the high-level alarm. Furthermore, failure of these valves to perform their safety function would be indicated by a drain pot high-level alarm during operation with low-pressure steam. Additionally, condensate trapped in the steam would be detected by significant fluctuations in the exhaust steam header pressure.

The staff finds that the proposed functional verification test and high-water level alarms in the control room provide reasonable assurance of the operational readiness of the valves, and that compliance with the Code requirements would result in a hardship without a compensating increase in the level of quality and safety.

3.1.5 Conclusion

Based on the above evaluation, the staff concludes that pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee's proposed alternative is authorized on the basis that compliance with the Code requirements would result in a hardship without a compensating increase in the level of quality and safety. The licensee's alternative testing provides reasonable assurance of the valve's operational readiness. This alternative is authorized for the fourth 10-year inservice test interval.

3.2 Valve Relief Request RV-30B

3.2.1 Code Requirements

The licensee requested relief from Appendix I of the ASME OM Code, paragraph I-1330(c) which requires that two additional valves be tested if the as-found set-pressure test exceeds the acceptance criteria. Relief was requested for the following valves:

1-0203-003A, 1-0203-004A, 1-0203-004B, 1-0203-004C, 1-0203-004D, 1-0203-004E, 1-0203-004F, 1-0203-004G, 1-0203-004H, 2-0203-003A, 2-0203-004A, 2-0203-004B, 2-0203-004C, 2-0203-004D, 2-0203-004E, 2-0203-004F, 2-0203-004G, 2-0203-004H

3.2.2 Licensee's Basis for Requesting Relief

Valve 1(2)-0203-003A is a dual function safety/relief valve manufactured by Target Rock. The remaining valves are simple safety valves. These main steam safety valves are used to terminate an abnormal pressure increase in the reactor pressure vessel and the reactor coolant pressure boundary. In accordance with the plant Technical Specifications, at least half of the subject valves are tested and rebuilt during each refueling outage. This accelerated maintenance schedule provides a high level of assurance that these safety valves will perform their safety function.

Quad Cities does not have the facilities required to perform set-pressure tests on large relief and safety valves. These valves are unbolted from their mounting flanges, decontaminated, and shipped to an off-site test facility. Because of the lengthy period required for removal, transportation, testing and re-installation, the removal and testing of additional valves due to sample expansion would delay unit start-up from refueling outages by at least several days.

The sample expansion requirements of Appendix I would require two additional valves be tested if one valve fails its set-pressure test. Since the dual function safety/relief valve is tested each outage, and no less than four of the remaining eight valves are tested during each outage, the valves already being tested represent an increased sample expansion.

3.2.3 Licensee's Proposed Alternative Testing

The dual function safety/relief valve and at least half of the eight safety valves will be tested, rebuilt and reset in accordance with the plant Technical Specifications during each reactor refueling outage. If only one of the eight safety valves fails its set-pressure test, additional valves will not be tested. If more than one safety valve fails, the sample expansion criteria of Appendix I, paragraph 1330(c) will be implemented for each additional failed valve.

3.2.4 Evaluation

Appendix I, paragraph I-1330(c) of the ASME OM Code, requires that Class 1 valves be tested at least once every 5 years and that a minimum of 20 percent of the valves from a valve group be tested within any 24 month period. For valves that fail the set-pressure test, additional valves must be tested on the basis of two additional valves for each valve failure. The licensee proposes to test, rebuild, and retest the safety/relief valve and at least 4 of the 8 safety valves each refueling outage. The minimum number of safety valves that the licensee proposes to test exceeds the number of valves that would be required to be tested per the Code requirements (the Code requires 20 percent of the 8 safety valves or 2 safety valves every 24 months while the licensee proposes to test at least 50 percent of its valves). In fact, the licensee's sample equals the number of valves that would be required to be tested if one valve (in the required sample of 2 valves) failed the test. The licensee proposes that if only one valve fails the test the sample size will not be increased, but if a second valve fails, the size will be expanded as required by Appendix I, paragraph I-1330(c). The licensee's proposal will test the subject valves at an equal or higher rate than that required by the Code.

The staff finds that the proposed alternative testing of the valves provides reasonable assurance of adequate valve operation and readiness because it provides a test method equal or higher than that required by the Code. The staff finds the licensee's proposed alternative provides an acceptable level of quality and safety.

3.2.5 Conclusion

Based on the above evaluation, the staff concludes pursuant to 10 CFR 50.55a(a)(3)(i) that the licensee's proposed alternative is authorized on the basis that the proposed alternative provides an acceptable level of quality and safety. This alternative is authorized for the fourth 10-year inservice test interval.

3.3 Valve Relief Request RV-30C

3.3.1 Code Requirements

The licensee requested relief from ISTC-5132(b) which requires that valves with reference stroke times of less than or equal to 10 seconds exhibit no more than plus or minus 50 percent change in stroke time when compared to the reference value. This relief request applies to the following valves:

1-0203-001A-AO, 1-0203-001B-AO, 1-0203-001C-AO, 1-0203-001D-AO,
1-0203-002A-AO, 1-0203-002B-AO, 1-0203-002C-AO, 1-0203-002D-AO,
2-0203-001A-AO, 2-0203-001B-AO, 2-0203-001C-AO, 2-0203-001D-AO,
2-0203-002A-AO, 2-0203-002B-AO, 2-0203-002C-AO, 2-0203-002D-AO

3.3.2 Licensee's Basis for Requesting Relief

The main steam isolation valves (MSIVs) open to admit reactor steam to the main turbine. They close to provide containment and reactor isolation.

The OM Code requirement bases the stroke time acceptance criteria on a fixed reference value taken from a baseline test. However, Technical Specification 3.6.1.3, "Primary Containment Isolation Valves (PCIV's)," establishes an invariable acceptable stroke time range for the MSIV's of greater than or equal to 3 seconds to less than or equal to 5 seconds. This fixed range is more conservative than that required by ISTC-5132(b) because the range is not dependent on a baseline value that may vary by as much as plus or minus 1 second.

3.3.3 Licensee's Proposed Alternative Testing

The Technical Specification acceptable stroke time range will be utilized for evaluating an acceptable MSIV stroke time in lieu of establishing an acceptance band based on MSIV stroke time reference values. Any MSIV that fails to meet the Technical Specification limits will be considered inoperable and required actions will be in accordance with the plant Technical Specifications.

3.3.4 Evaluation

In lieu of the Code required stroke time acceptance criteria based on a fixed reference value taken from a baseline test, the licensee proposes to use the Technical Specification acceptable stroke time range of greater than or equal to 3 seconds and less than or equal to 5 seconds for the MSIVs.

The Technical Specifications provide the minimum system, subsystem, and component operability requirements for safe operation. The licensee's proposed acceptance criteria is generally more conservative than the Code-required acceptance criterion of plus or minus 50 percent change in stroke time when compared to the reference value. Assuming a nominal reference value of 4 seconds for the MSIVs, the Code acceptance criterion would result in an acceptance band of 2 to 6 seconds, which is outside the Technical Specification acceptance band.

The staff finds that the proposed alternative testing of the MSIVs is generally more conservative than the Code-required testing, provides reasonable assurance of adequate valve operation and readiness, and ensures that the MSIVs meet the operability requirements for safe operation. Therefore, the staff finds that the proposed alternative testing method to that required by ISTC-5132(b) is acceptable, and that the licensee's proposed alternative provides an acceptable level of quality and safety.

3.3.5 Conclusion

Based on the above evaluation, the staff concludes that, pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's proposed alternative is authorized on the basis that the proposed alternative provides an acceptable level of quality and safety. This alternative is authorized for the fourth 10-year inservice test interval.

3.4 Valve Relief Request RV-30D

3.4.1 Code Requirements

The licensee requested relief from Appendix I, paragraph I-3401(d) of the ASME OM Code which requires that valves with auxiliary actuating devices that have been maintained or refurbished in place, removed for maintenance and testing, or both, and reinstalled be remotely actuated at reduced or normal system pressure to verify open and close capability of the valve before resumption of electric power generation. This relief request applies to the following valves:

1-203-3A, 1-203-3B, 1-203-3C, 1-203-3D, 1-203-3E,
2-203-3A, 2-203-3B, 2-203-3C, 2-203-3D, 2-203-3E

3.4.2 Licensee's Basis for Requesting Relief

Experience in the industry and at Quad Cities Nuclear Power Station has indicated that manual actuation of the main steam relief valves during plant operation can lead to valve seat leakage. Currently, Unit 1 has four Electromatic Relief Valves (ERVs) designated 1-203-3B, 1-203-3C, 1-203-3D, and 1-203-3E. Currently, Unit 2 has four power-operated relief valves (PORVs)

designated 2-203-3B, 2-203-3C, 2-203-3D, and 2-203-3E. Each unit also has a dual-function Target-Rock safety/relief valve (S/RV) designated 1-203-3A and 2-203-3A for Unit 1 and Unit 2, respectively. The Target-Rock valve can actuate in either the safety or relief mode. Each ERV, PORV, and S/RV consists of a main valve disc and seat and a pilot valve arrangement.

Past history has indicated elevated tailpipe temperatures downstream of some of the subject valves. Based on previous testing and temperature trends, the most likely cause of the high tailpipe temperatures is leakage from the main valve disc and seat, rather than leakage from the pilot valve.

Valve seat leakage from either the main valve disc or pilot valve can result in increased suppression pool temperature, which has little safety significance, as long as suppression pool temperature is maintained within Technical Specification limits. However, leakage from a pilot valve can lead to inadvertent opening of the main valve and the subsequent inability to re-close the valve.

In this relief request, the licensee proposed an alternative method to test the ERVs, PORVs and S/RVs such that full-valve functionality is demonstrated through overlapping tests, without cycling the valves. The use of an overlapping series of tests has been successfully applied at other stations.

Additionally, the Boiling Water Reactor Owners' Group evaluation of NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.K.3.16, "Reduction of Challenges and Failures of Relief Valves," recommended that the number of safety valve openings be reduced as much as possible to avoid unnecessary challenges to the valve.

3.4.3 Licensee's Proposed Alternative Testing

The valves will be tested using overlapping tests to verify that the valves are functioning properly at operating conditions and are capable of being opened when installed in the plant. The first test will be performed at a steam test facility, where each valve will be installed on a steam header in the same orientation as in the plant installation, including ambient temperature, valve insulation, and steam conditions. The valve will then be leak tested and functionally tested (to ensure the valve is capable of opening and closing), and leak tested a final time. Valve stroke time will be measured and verified to be within design limits. Valve seat tightness will be verified by a cold bar test, and if not free of fog, leakage will be measured and verified to be below design limits. For the PORVs, limit switch actuation may be tested prior to or during functional testing.

The valve will then be shipped to the plant without disassembly or alteration of the valve components. A receipt inspection will be performed in accordance with the requirements of the Quality Assurance Program upon arrival of the valve.

Second Test - PORV

Prior to installation, electrical continuity checks of the limit switches will be performed, and the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and electrically connected. Proper electrical connections will be verified per procedure. Electrical power to the control panel and signals causing

application of power to the PORV solenoid will be verified to be present at the control panel per procedure. Electrical continuity and resistance checks from the control panel to the relief valve will be performed.

Second Test - ERV and SRV

Prior to installation, the valve will again be inspected for foreign material and damage. The valve will be installed, insulated, and electrically connected. Proper electrical connections will be verified per procedure. Electrical power to the control panel and signals causing application of power to the SRV and ERV solenoids will be verified to be present at the control panels per procedure. In addition, ERV limit switches will be tested. For the relief mode of the S/RVs, the second test will be performed after installation in the plant by energizing a solenoid that pneumatically actuates a plunger located within the main valve body.

For the ERVs, the second test will be performed with the pilot valve actuator mounted in its normal position. This will allow testing of the manual actuation electrical circuitry, solenoid, actuator, pilot operating lever, and pilot plunger.

3.4.4 Evaluation

The staff has reviewed the licensee's proposed alternative and finds that the testing of the PORVs, ERVs, and S/RVs verifies the functional capability of the valves. A manual actuation and valve leakage test will be performed at a certified test facility using test conditions similar to those for the installed valves in the plant, including valve orientation, ambient temperature, valve insulation, and steam conditions. Following installation, the licensee's proposed testing includes verifying proper electrical and pneumatic supply connections, actuator performance, and solenoid coil conductivity. Therefore, all of the components necessary to manually actuate the valves will continue to be tested to demonstrate the functional capability of the valves without the need to stroke test the valves on-line. The staff also finds that the current testing requirements could result in seat leakage during power operation. Excessive seat leakage could interfere with detection and monitoring of pilot valve leakage and could result in high suppression pool temperatures. Also, leakage through a PORV or S/RV pilot valve could eventually result in the inadvertent opening of a PORV or the S/RV.

The staff finds that the proposed alternative testing of the PORVs, ERVs, and S/RVs and associated components provides reasonable assurance of the valve's operational readiness. Therefore, the staff finds that the proposed alternative testing method to that required by Appendix I, paragraph I-3401(d), is acceptable, and that the licensee's proposed alternative provides an acceptable level of quality and safety.

3.4.5 Conclusion

Based on the above evaluation, the staff concludes that, pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative is authorized on the basis that the proposed alternative provides an acceptable level of quality and safety. This alternative is authorized for the remainder of the fourth 10-year inservice test interval.

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Date: February 20, 2004