PUMP AND VALVE INSERVICE TESTING PROGRAM - COMPONENT TABLES	73DP-9XI01	Revision 3

PROCEDURE INTENT

The purpose of this procedure is to identify the pump and valve tests performed to meet the requirements of 10CFR50.55a, Section XI of the ASME Boiler and Pressure Vessel Code, and Technical Specification 4.0.5.

Effective: 6/5/97

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1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of the Pump and Valve Inservice Testing Program - Component Tables is to identify the pump and valve tests performed to meet the requirements of 10CFR50.55a, Section XI of the ASME Boiler and Pressure Vessel Code, and Technical Specification 4.0.5

1.2 Scope

This program is applicable to PVNGS Units 1, 2, and 3. The pumps and valves within the scope of this program are identified in Appendices D and E respectively.

2.0 RESPONSIBILITIES

Responsibilities for the Pump and Valve Inservice Testing Program are described in 73DP-9XI02.

3.0 PROCEDURE

This procedure documents the testing performed in the PVNGS Pump and Valve Inservice Testing Program.

Where Code requirements were determined to be impractical, specific written relief is documented in Appendix A (Pump Relief Requests) and Appendix B (Valve Relief Requests).

Where testing cannot be performed during plant operation, justification for deferring testing to cold shutdown is documented in Appendix C, Cold Shutdown Justifications.

Pump testing performed under this Program is summarized in Appendix D, IST Pump Program Components.

Valve testing performed under this Program is summarized in Appendix E, IST Valve Program Components.

Program administrative requirements are described in 73DP-9XI02.

4.0 DEFINITIONS AND ABBREVIATIONS

4.1 Definitions - Pump Tables

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

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

ISI Class is the Owner's classification of the pump per IST requirements and per FSAR Table 3.2-1.

P&ID and Coordinates indicates the drawing and grid location where the pump appears.

Procedure Number lists this Surveillance Test procedure number that performs the pump operability test.

Test Parameters indicates the test quantities required per Table IWP-3100-1. These quantities are either measured or calculated (denoted by "M" or "C" in the IST Program). "PRR-1" will denote a specific request for relief concerning that parameter.

Notes are general statements which can be referred to in the IST Testing Program.

4.2 Definitions - Valve Tables

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

Coordinates reference the grid on the P&ID where the valve appears.

ISI Class is the Owner's classification of the valve per IST requirements & FSAR Table 3.2-1.

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

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

Valve Type lists the valve design.

Actuator Type lists the type of valve actuator.

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

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

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

Appendix J Leak Test (AJLT) - Valve will be leak tested in accordance with 10CFR50, Appendix J, Option B requirements.

Leak Test (LT) - Leak test performed for category A valve.

Full Stroke Test (FST) - Valve will be full stroke exercised for operability in the direction necessary to fulfill its safety function.

Partial Stroke Test (PST) - Valve will be partial stroke exercised when full stroke exercising is impractical.

Fail-Safe Test (FT) - All valves with fail-safe actuators will be tested to verify proper fail-safe operation upon loss of actuator power. If operation of the normal control switch causes the valve to fail to its fail-safe position through loss of control power or loss of air, no further testing will be required. However, if fail-safe operation cannot be verified by repositioning of the control switch alone, a specific fail-safe test will be performed.

Valve Position Indicator (VPI) - Automatically actuated valves with remote indication will be verified in accordance with IWV-3300.

Pressure Safety Valve Testing (PSVT) - Relief and safety valve set points will be verified in accordance with IWV-3510 or OM-1 (as applicable).

Throttled Position (TP) - Measurement of position of valve stem will be made to ensure valve moves to correct throttled position per Technical Specification 4.5.2.g.

Test Mode indicates the frequency at which the previously-mentioned tests are performed. The following abbreviations are used: Cold Shutdown(CS), normal Operation (OP), and reactor Refueling (RF). A suffix such as -3 may be added to test modes to indicate specific plant modes in which testing will be performed. For example, CS-3 indicates Mode 3 going into or coming out of a cold shutdown.

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

Cold Shutdown Justification references the CSJ contained in Appendix C that applies to the particular valve.

Remarks lists clarification remarks.

4.3 Other Definitions

Relief Request - A formal documentation of variance from the rules and requirements of ASME Section XI; where ASME Section XI requirements are determined to be impractical, a request for relief is written for the provisions of 10CFR50.55a(g)(6)(i), and incorporated into the PVNGS Inservice Testing Program.

Cold Shutdown Justification - A formal documentation of variance from the test frequency specified by ASME Section XI; where a component cannot be tested at the interval specified by ASME Section XI, a Cold Shutdown Justification is written per the provisions of ASME Section XI and incorporated into the PVNGS Inservice Testing Program.

Augmented Component - A component not within the required scope of the IST Program, but placed in the IST Program voluntarily. This may be done in recognition of its importance to safety, or to take advantage of the IST process as a convenient framework for testing. Augmented components should be tested in accordance with applicable codes as much as practical. Augmented components do not require NRC approval to deviate from the Code in cases where code compliance is impractical.

4.4 Abbreviations

ASME - American Society of Mechanical Engineers

ASME Section XI/Section XI - Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition, Winter 1981 Addenda

FSAR - Final Safety Analysis Report

PRB - Plant Review Board

PVNGS - Palo Verde Nuclear Generating Station

P&ID - Piping and Instrumentation Diagram

CESSAR - Combustion Engineering Standard Safety Analysis Report

ANG - Angle

BTF - Butterfly

CK - Check

DIA - Diaphragm

GA - Gate

GL - Globe

PSV - Pressure Safety Valve

AO - Air Operator

HY - Hydraulic

MAN - Manual

MO - Motor Operator

SA - Self Actuated

SOL - Solenoid

O - Open

C - Closed

O/C - Open/Closed

AJLT - Appendix J Leak Test

FST - Full Stroke Test

PST - Partial Stroke Test

LT - Leak Test

FT - Fail Test

VPI - Verify Position Indication; Valve Position Indication

PSVT - Pressure Safety Valve Test

TP - Throttled Position

OP - Normal Operation

CS - Cold Shutdown

RF - Reactor Refueling

RF-3 - Refueling - Mode 3 Performance

CS-3 - Cold Shutdown - Mode 3 Performance

PRR - Pump Relief Request

VRR - Valve Relief Request

CSJ - Cold Shutdown Justification

ISI/IST - Inservice Inspection/Inservice Testing

5.0 REFERENCES

5.1 Implementing References

73DP-9XI02, Pump and Valve Inservice Testing Program - Administrative Requirements

Surveillance test procedures as listed in Appendices D and E.

5.2 Developmental References

73PR-xXI01, Pump and Valve Inservice Testing Program, Unit x, Rev. 2

73DP-9XI02, Pump and Valve Inservice Testing Program - Administrative Requirements, Rev. 0

93DP-0LC04, Component Lists Removed From Technical Specifications, Rev. 2

CRDR 960497 (Addition of PC components to the IST Program)

RCTS 042266.01 (NRC commitment to include PC components in appropriate monitoring programs)

CRDR 940370 (SGA-UV134, 134A, 138, 138A leak rate testing)

CRDR 970322 (addition of NCE-PSV614 and NCE-PSV615 to the IST Program as Augmented components)

Note: Other developmental references for the IST Program are listed in 73DP-9XI02.

APPENDIX A - PUMP RELIEF REQUESTS

PUMP RELIEF REQUEST NO. 1

SYSTEM:	Auxiliary Feedwater System (AF)
COMPONENT:	AFN-P01, AFA-P01, AFB-P01
P&ID COORDINATE:	13-M-AFP-001 @ H8, D8, B8
CLASS:	3
FUNCTION	AFN-P01, AFA-P01, and AFB-P01 are the non-essential Auxiliary Feedwater Pump, the steam driven Aux Feedwater Pump and motor driven Aux Feedwater Pump, respectively, and supply make-up water to the Steam Generator during start-up/shutdown conditions and subsequent to receipt of an AFAS (Aux Feed Actuation Signal). Note: AFN-P01 does not receive an AFAS, and is included in the IST program as augmented testing due to Technical Specifications.
TEST REQUIREMENT:	IWP-3100 requires that either the pump differential pressure or flow rate be set and the other pump criteria (differential pressure or flow rate) be measured.
BASIS FOR RELIEF:	Pump degradation may be observed by changes in pump head and/or flowrate. Due to the pump tests being performed at the miniflow recirculation point on the pump curve, changes in pump head are more indicative of degradation. Pump flowrate is not varied for these tests but rather is constant as a result of the fixed resistance of the miniflow line and therefore does not need to be measured.
ALTERNATE TESTING:	AFA-P01 and AFB-P01 will be tested at miniflow conditions during plant operations, but flowrate will not be measured; AFN-P01 will not be full-flow tested. AFN-P01 will be tested at constant recirculation conditions, on a quarterly basis during plant operations, but flow will not be measured. As an augmented inspection to provide additional information regarding pump performance, full flow testing of AFA-P01 and AFB-P01 will be performed at Cold Shutdown; all Code-Required Parameters will be measured.

PUMP RELIEF REQUEST NO. 2

SYSTEM:	Chemical and Volume Control
COMPONENTS:	CHA-P01, CHB-P01, CHE-P01
P&ID COORDINATES:	13-M-CHP-002 @ B3, D3, and G3
CLASS:	2
FUNCTION:	CHA-P01, CHB-P01, and CHE-P01 are the three charging pumps. The charging pumps provide makeup to the reactor coolant system for chemistry and volume control. In addition they provide auxiliary spray to the pressurizer during the final stages of shutdown.
TEST REQUIREMENTS:	The inlet pressure and differential pressure shall be measured or observed and recorded.
BASIS FOR RELIEF:	These pumps are of positive displacement design and as such are designed to deliver constant capacity irrespective of inlet pressure or differential pressure across the pump. The parameters important to monitoring pump degradation are discharge pressure and flow rate. Measuring inlet pressure and differential pressure provides no meaningful information.
ALTERNATE TESTING:	No alternate testing for these parameters is meaningful. However, discharge pressure will be set and recorded and flow rate will be measured and recorded per Section XI. Flow Rate will be trended.

PUMP RELIEF REQUEST NO. 3

SYSTEM:	Diesel Generator Fuel Oil Transfer System
COMPONENTS:	DFA-P01 and DFB-P01
P&ID & COORDINATES:	13-M-DFP-001 @ B-6 and B-2
CLASS:	3
FUNCTION:	To provide fuel oil to the standby diesel generators.
TEST REQUIREMENTS	Measure displacement vibration amplitude of pump.
BASIS FOR RELIEF:	These pumps are submersible centrifugal pumps located at the bottom of the Diesel Fuel Oil Storage Tanks under greater than 10 feet of diesel fuel. Access to these pumps is not possible without completely draining the fuel tank. The discharge piping and electrical cable are connected to the pump at the top of the tank. Any vibration readings taken at the flange where the piping is connected would be meaningless due to the dampening effect of the fuel oil and the tank itself.
ALTERNATE TESTING	None, however, all other parameters required by the Section XI code will be measured and pump performance will be evaluated.

PUMP RELIEF REQUEST NO. 5

SYSTEM:	Safety Injection System (SI)
COMPONENT:	SIA-P01, SIB-P01
P&ID COORDINATES:	13-M-SIP-001 @ B-11, G-11
CLASS:	2
FUNCTION:	SIA-P01 and SIB-P01 are Low Pressure Safety Injection Pumps (LPSI). They function to inject borated water into the core post accident (Emergency Core Cooling) and also serve function as shutdown cooling pumps.
TEST REQUIREMENT:	ASME Section XI, IWP-4120 requires that each instrument used shall be three times the reference value or less.
BASIS FOR RELIEF:	The discharge pressure of the LPSI pump ranges from 220 to 240 psig under minimum recirculation flow. Under conditions of shutdown cooling, the discharge pressure under full flow conditions ranges from 300 psig to 480 psi. The discharge Pressure Indicators for the LPSI pumps (SIA-PI-306 and SIB-PI-307) range from 0 - 750 psig. Loop accuracy is nominally 1.14%, compared to Code requirement of 2.0% per IWP- 4110-1. It is necessary for the pressure indicator to provide information for both ASME XI and normal plant operation. Indicator range is 3.4 times discharge pressure vice 3.0 times value as per Code. Installation of temporary discharge pressure gauge is impractical due to ALARA considerations i.e. LPSI discharge piping is 2R/hr. Based on increased accuracy, ALARA considerations and Code intent to use installed instrumentation, PI-306 and 307 should be used. Additionally, IWA-5263 utilizes pressure gauges with a range of 4.0 times the pressure value.
ALTERNATE TESTING:	None, testing to be performed as scheduled.

PUMP RELIEF REQUEST NO. 6

SYSTEM:	Safety Injection System (SI)
COMPONENTS:	SIA-P01, SIB-P01 SIA-P02, SIB-P02 SIA-P03, SIB-P03
P&ID COORDINATES:	13-M-SIP-001 @ B-11, G-11, A-11, E-11, C-11, H-11
CLASS:	2
FUNCTION:	SIA-P01 and SIB-P01 are Low Pressure Safety Injection Pumps and also serve as Shutdown Cooling Pumps. SIA-P02 and SIB-P02 are High Pressure Safety Injection Pumps. SIA-P03 and SIB-P03 are Containment Spray Pumps. These pumps provide Emergency Core Cooling functions (P01 and P02), residual heat removal function (P01) containment heat removal functions (P03).
TEST REQUIREMENT:	IWP-3100 requires that either pump differential pressure or flow rate be set and the other pump criteria (differential pressure or flow rate) be measured.
BASIS FOR RELIEF:	Pump degradation may be observed by changes in pump head and/or flowrate. Due to the pump tests being performed at the miniflow recirculation point on the pump curve, changes in pump head are more indicative of degradation. Pump flowrate is not varied for these tests but rather is constant as a result of the fixed resistance of the miniflow line and therefore does not need to be measured.
ALTERNATE TESTING:	Pumps will be tested quarterly at minimum recirculation conditions, but flow rate will not be measured. As an augmented inspection to provide additional information regarding pump performance, full flow testing of P02 and P03 will be performed on a refueling basis, and full flow testing of P01 will be performed on a cold shutdown basis; all code parameters will be measured during full flow testing.

PUMP RELIEF REQUEST NO. 7

SYSTEM:	Safety Related
COMPONENT:	All pumps listed in the program.
CLASS:	2 & 3
FUNCTION:	To provide pumped liquid to safety related systems.
TEST REQUIREMENTS:	To measure bearing temperature.
BASIS FOR RELIEF:	Industry data has shown that bearing temperature changes due to degrading bearings only occurs after major degradation has occurred at the pump. Prior to this, the vibration measurement would provide the necessary information to warn the operator of an impending malfunction. Therefore, this parameter will not be measured, since its information is after the fact.
ALTERNATE TESTING:	None.

PUMP RELIEF REQUEST NO. 9

System:	Chemical and Volume Control (CH)
Components:	CHA-P01, CHB-P01, CHE-P01
P&ID Coordinates:	13-M-CHP-002 @ B3, D3, G3
Class:	2
Function:	CHA-P01, CHB-P01, and CHE-P01 are the charging pumps which provide makeup to the reactor coolant system for chemistry and volume control. In addition they provide auxiliary spray to the pressurizer during the final stages of shutdown.
Test Requirements:	The full-scale range of each instrument shall be three times the reference value or less per IWP-4120.
Basis for Relief:	Each charging pump is a constant speed, positive displacement pump with a typical flow rate reference value of 43 to 44 gpm. The charging pump flow indicator CHB-FI-212 is located in the common discharge line downstream of the three pumps. The full-scale range of CHB-FI-212 is 150 gpm which exceeds the test requirement stated above. The combined requirements of IWP-4110 (accuracy within 2% of full-scale for flow rate), and IWP-4120 (full-scale range $\leq$ 3 times the reference value) result in a measurement within 6% of the reference value. The loop accuracy of CHB-FI-212 (calculated by taking the square root of the sum of the squares of the reference accuracy of each instrument in the loop) is $\pm$1.32% of full-scale. When combined with the existing range of 3.49 times the reference value, CHB-FI-212 provides an accuracy within 4.7% of the present reference value. Therefore, flow indicator CHB-FI-212 meets the combined requirement for measurement accuracy within 6% of the reference value. This accuracy is sufficient to provide an acceptable level of quality and safety.
NRC Approval:	SER dated 8-11-94 (TAC No. M89032)

PUMP RELIEF REQUEST NO. 10

System:	Spent Fuel Pool Cooling (PC)
Components:	Spent Fuel Pool Cooling Pumps PCA-P01, PCB-P01
P&ID Coordinates:	13-M-PCP-002 @ B15, D15
Class:	3
Function:	The Spent Fuel Pool Cooling Pumps provide cooling water flow to remove decay heat from the spent fuel pool.
Test Requirements:	The accuracy of digital flow rate instruments shall be ±2%over the calibrated range per OM-6 (1988) para. 4.6.1.1 and Table 1.
Basis for Relief:	The PC system does not have provisions for direct flow measurement. The only practical means of measuring flow on this system is to use an ultrasonic (clamp-on type) flowmeter. The nominal accuracy of the ultrasonic flowmeters used at PVNGS is ±3% over the calibrated range. Although this does not meet the Code requirement, 3% accuracy is sufficient to provide an acceptable level of quality and safety.
Alternative Testing:	Measure pump flow rate using an ultrasonic flowmeter calibrated to ± 3% over the calibrated range.
NRC Approval:	None required. The PC pumps are augmented components in the IST Program. They are not within the required scope of the IST Program defined by OM-6 para. 1.1 because they do not perform a required function in shutting down the reactor, maintaining cold shutdown, or mitigating the consequences of an accident analyzed in the UFSAR. Therefore deviations from the Code do not require regulatory approval. Note: OM-6 was chosen as the test code for the PC pumps to simplify the transition to the OM Codes during the second IST interval. Use of OM-6 is approved by Generic Letter 89-04 Supplement 1.

PUMP RELIEF REQUEST NO. 11

System:	Spent Fuel Pool Cooling (PC)
Components:	Spent Fuel Pool Cooling Pumps PCA-P01, PCB-P01
P&ID Coordinates:	13-M-PCP-002 @ B15, D15
Class:	3
Function:	The Spent Fuel Pool Cooling Pumps provide cooling water flow to remove decay heat from the spent fuel pool.
Test Requirements:	Pump vibration measurements shall be taken in the axial direction on each accessible pump thrust bearing housing per OM-6 para. 4.6.4(a).
Basis for Relief:	The PVNGS predictive maintenance program does not yet measure the axial vibration of the PC pumps. An engineering evaluation is in progressto determine the best location for monitoring this parameter. This evaluation is expected to be completed in the first half of 1997. Once the location is determined and marked, measurement of axial vibration will be added to the IST Program. This approach provides an acceptable level of quality and safety because it voluntarily institutes axial vibration monitoring earlier than would be required under the normal IST Program. The current code of record (ASME Section XI, 1980 Edition / Winter 1981 Addenda) does not require axial vibration monitoring. Under the normal IST Program, axial vibration monitoring per OM-6 would not be required until 1998 and the beginning of the second IST interval.
Alternative Testing:	None. All other vibration measurements will be measured and analyzed in accordance with OM-6.
NRC Approval:	None required because the PC pumps are augmented components (see PRR #10).

NOTE: The need for this relief request is temporary. After compliance with OM-6 para. 4.6.4(a) is achieved (projected for first half of 1997) this relief request will be deleted.

APPENDIX B - VALVE RELIEF REQUESTS

VALVE RELIEF REQUEST NO. 6

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHB-V305, CHA-V306
P&ID & COORDINATES:	13-M-CHP-002 @ C-15
CATEGORY:	C
CLASS:	2
FUNCTIONS	Valves are discharge check valves from the Refueling Water Tank (RWT) to the suction of Low Pressure Safety Injection (LSPI) pump, High Pressure Safety Injection (HPSI) pump, and Containment Spray Pump. Valves open to pass borated water to ECCS pumps.
TEST REQUIREMENT:	Full stroke exercise once every three months or part stroke every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	Valves cannot be exercised at power operation as LPSI, HPSI, and CS pumps do not develop sufficient head to overcome RCS pressure. Valves cannot be exercised at cold shutdown using HPSI pumps as RCS low temperature overpressurization would result, or using LPSI/CS pumps as the RCS lacks sufficient volume to accept the required flowrate. Valves require a flowrate in excess of normal shutdown cooling flow in order to full stroke open. Valves can be part-stroked during operation in support of quarterly testing of LPSI, HPSI and CS pumps.
ALTERNATE TESTING:	Part stroke valves every quarter and full stroke during refueling (cavity fill).

VALVE RELIEF REQUEST NO. 16

SYSTEM:	Diesel Generator (DG)
COMPONENTS:	DGA-UV-3, DGB-UV-4, DGA-UV-5, DGB-UV-6, DGA-UV-7, DGB-UV-8, DGA-UV-9, DGB-UV-10, DGA-UV-11, DGB-UV-12, DGA-UV-15, DGB-UV-16
P&ID COORDINATES:	13-M-DGP-001, sh 5 @ F-7, F-3, D-7, D-3, F-6, F2 13-M-DGP-001, sh 8 @ F-6, F-3, F-6, F-3 13-M-DGP-001, sh 6 @ D-6, D-2
CATEGORY:	B
CLASS:	Non-Classed
FUNCTION:	Valves UV-3, UV-4, UV-5, UV-6, UV-7, UV-8, UV-15, and UV-16 are part of the Diesel Generator Air Start system. Valves DG-UV-9, UV-10, UV-11, and UV-12 are part of the Diesel Generator control air system to the Fuel Control Linkage.
TEST REQUIREMENT:	Full stroke exercise and time test every three months or part stroke test every three months and full stroke test at cold shutdown.
BASIS FOR RELIEF:	The valves are totally-enclosed solenoid valves and it is not possible to observe any stem movement. Additionally there are no remote indicator lights. There is no practical way to stroke time the valve since there is no obtainable evidence of valve movement. Valves were purchased as part of Diesel Generator skid. Valves UV-3, UV-5, UV-7, & UV-15 are controlled from a single handswitch. Valves UV-4, UV-6, UV-8 and UV-16 are controlled from a single handswitch. Valves UV-9 and UV-11 are controlled from a single handswitch. Valves UV-10 and UV-12 are controlled from a single handswitch. Independent operation of individual valves is not possible without rendering other valves inoperable. Technical Specifications 3/4.8.1.1.2a(4) requires monthly starting of Diesel Generator. The Diesel must start and attain speed, frequency and voltage within 10 seconds. Valve malfunction or degradation of operation will reduce D/G starting capacity and D/G will be inoperable.
ALTERNATE TESTING:	Test valves concurrent with monthly Diesel Generator start test, on an alternating train basis; all valves will be tested at least once per quarter.

VALVE RELIEF REQUEST NO. 23

SYSTEM:	Main Steam (SG)
COMPONENTS:	SGE-V642, SGE-V652, SGE-V653, SGE-V693
P&ID COORDINATES:	13-M-SGP-002, G-11, G-10, C-10, C-11
CATEGORY:	C
CLASS:	2
FUNCTION:	The normal function of the valves is to open and provide a flow path for feedwater flow to the steam generators. The safety function is to close.
TEST REQUIREMENT:	Full stroke exercise every three months or partial stroke exercise every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	These valves are in the feedwater inlet lines to each steam generator and are open during power operations. Full stroke or partial stroke testing of these valves during operation would require securing feedwater flow to the steam generator and cause a reactor trip. Per Technical Specifications, Main Steam System is required to be operable prior to entering Mode 4. These valves require Steam Generator pressure to back pressure test the valves for closing. Adequate pressure in Steam Generator does not exist until in Mode 3. These valves cannot be individually verified due to the design of the system.
ALTERNATE TESTING:	Test valves in Mode 3 when sufficient pressure is available for stroking valves to the closed position after cold shutdowns and refueling outages. Valves SGE-V642 and SGE-652 shall be tested in series, as a unit. Valves SGE-V653 and SGE-V693 shall be tested in series, as a unit.

NOTE: SGE-V003, SGE-V005, SGE-V006, and SGE-V007 are now included in CSJ #33.

NOTE: The NRC has accepted testing in Mode 3 for VPI; however, their written response specified that no Relief Request is required.

VALVE RELIEF REQUEST NO. 28

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIE-V113, SIE-V123, SIE-V133, SIE-V143, SIA-V404, SIB-V405
P&ID COORDINATES:	13-M-SIP-002 @ F14, F12, F7, F4 13-M-SIP-001 @ F6, B4
CATEGORY:	C
CLASS:	2
FUNCTION:	Valves open to provide high pressure safety injection flow to the reactor coolant system.
TEST REQUIREMENT:	Full stroke exercise every three months or partial stroke exercise every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	These valves can only be full stroke exercised by initiation of flow through the valves and into the Reactor Coolant system. Safety Injection pump head is insufficient to establish flow through the valves against Reactor Coolant System pressure. Additionally, when the Reactor Coolant System pressure is low, over-pressurization of the RCS is possible if the Vessel head is installed. Testing would challenge the Low Temperature Over-Pressure protection (LTOP) system, and could damage equipment due to over-pressure and would violate Tech. Spec. pressure/ temperature limits. Partial stroke exercising of these valves would require the establishment of a flow path through valves addressed by Technical Specification Surveillance Requirement 4.4.5.2.2d and subsequent containment Radiological Controlled Area entry would be necessary by personnel, in order to meet this Tech. Spec. requirement. Containment entry by personnel during normal operations is an ALARA and radiation protection concern.
ALTERNATE TESTING:	The valves will be full stroked during refueling (Mode 6) when the vessel head is not installed.

VALVE RELIEF REQUEST NO. 30

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIA-V157, SIB-V158, SIA-V201, SIB-V200
P&ID COORDINATES:	13-M-SIP-001 @ G-13, C-13, F-12, B-12
CATEGORY:	C
CLASS:	2
FUNCTION:	Valves SIA-V157 and SIB-V158 open to provide a flow path from the Refueling Water Tank (RWT) to the Containment Spray Pumps. Valves SIA-V201 and SIB-V200 open to provide a flow path from the RWT to the Low Pressure Safety Injection Pumps (LPSI).
TEST REQUIREMENT:	Full stroke exercise every three months or partial stroke exercise every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	These valves can be partial stroked during operation. The valves cannot be full stroked during operation or during cold shutdown. During operation, the only recirculation lines available for testing are the minimum recirculation line (2" with an orifice) and a maxi-recirculation line (6"). Neither line has the capacity to handle full stroke exercise flows. During cold shutdown, these valves are closed and are not part of the shutdown cooling lineup, i.e., the shutdown cooling lines taps into the LPSI and containment spray suction lines down stream from these valves. These valves can be full stroked at refueling as part of filling of the reactor refueling pool from the RWT.
ALTERNATE TESTING:	Testing to be performed as partial stroking during normal operations and full stroke testing during refueling during pool fill.

VALVE RELIEF REQUEST NO. 31

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIA-V164 and SIB-V165
P&ID COORDINATES:	13-M-SIP-002 @ F8 and F6
CATEGORY:	AC
CLASS:	2
FUNCTION:	Valves open to provide flow from Containment Spray pump to the discharge spray nozzles.
TEST REQUIREMENT:	Full stroke exercise every three months or part stroke exercise every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	Flow cannot be established without discharging water into containment, i.e., spray initiating @ >3500 gpm per valve. Partial stroking during operation is prohibited by ALARA concerns as the valves and test connections are in containment. Valves are never in regular service; the internals are immersed in demineralized water.
ALTERNATE TESTING:	1. Disassemble one valve each refueling outage to verify full-stroke capability and structural soundness of internals. Manually full-stroke the valve. 2. If it is found that the disassembled valve's full-stroke capability is in question, the other valve shall also be disassembled, inspected and manually full-stroked at the same outage.

VALVE RELIEF REQUEST NO. 32

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIA-V205 and SIB-V206
P&ID COORDINATES:	13-M-SIP-001 @ G14 and A14
CATEGORY:	C
CLASS:	2
FUNCTION:	These valves open to provide flow to the High Pressure Safety Injection (HPSI) pumps, Low Pressure Safety Injection (LPSI) pumps, and Containment Spray (CS) pumps from the recirculation sump.
TEST REQUIREMENT:	Full stroke exercise every three months or part stroke every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	The recirculation sump is normally dry, therefore full stroking during operation is impractical. Partial stroking during operation is also impractical.
ALTERNATE TESTING:	1. Disassemble one valve each refueling outage to verify full-stroke capability and structural soundness of internals. Manually full-stroke the valve. 2. If it is found that the disassembled valve's full-stroke capability is in question, the other valve shall also be disassembled, inspected and manually full-stroked the same outage.

VALVE RELIEF REQUEST NO. 33

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIE-V215, SIE-V225, SIE-V235, SIE-V245
P&ID COORDINATES:	13-M-SIP-002 @ A15, A12, A7, and A5
CATEGORY:	AC
CLASS:	1
FUNCTION:	OPEN to provide a flow path from the Safety Injection Tanks to the Reactor Coolant System. CLOSE to prevent backflow of primary coolant into the Safety Injection Tanks.
TEST REQUIREMENT:	Full-stroke exercise every three months, or part-stroke exercise every three months and full-stroke test during cold shutdown.
BASIS FOR RELIEF:	Full-stroke exercising these valves is not practical in any plant mode except refueling shutdown when the reactor vessel head is removed. Part stroke testing every 3 months is not practical since a plant mode reduction would be required to perform the test.
ALTERNATE TESTING:	1) Part-stroke exercise each cold shutdown. 2) Full-stroke exercise during each refueling outage when the reactor vessel head is removed. Confirm one valve to have opened fully by a non-intrusive method each refueling outage on a rotating schedule such that all valves are confirmed in this manner in a series of four refueling outages.
NRC APPROVAL:	SER dated 10-23-92 (TAC Nos. M84536, M84537, and M84538)

VALVE RELIEF REQUEST NO. 34

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIE-V217, SIE-V227, SIE-V237, SIE-V247
P&ID COORDINATES:	13-M-SIP-002 @ A13, A10, A6, and A3
CATEGORY:	AC
CLASS:	1
FUNCTION:	OPEN to provide a flow path from Safety Injection and Shutdown Cooling to the Reactor Coolant System (RCS). CLOSE to prevent pressurization of SI piping from RCS loop pressure.
TEST REQUIREMENT:	Full-stroke open every three months, or part-stroke open every three months and full-stroke open at cold shutdown.
BASIS FOR RELIEF:	These valves can only be stroked open by initiating flow through the valves into the RCS. Safety Injection pump head is not sufficient to overcome RCS pressure and stroke the valves during plant operation. Full-stroke exercising is not practical during any plant mode except refueling shutdown when the reactor vessel head is removed. Part-stroke testing every three months is not practical since a plant mode reduction would be required to perform the test.
ALTERNATE TESTING:	1) Part-stroke exercise each cold shutdown. 2) Full-stroke exercise during each refueling outage when the reactor vessel head is removed. Confirm one valve to have opened fully by a non-intrusive method each refueling outage on a rotating schedule such that all valves are confirmed in this manner in a series of four refueling outages.
NRC APPROVAL:	SER dated 10-23-92 (TAC Nos. M84536, M84537, and M84538)

VALVE RELIEF REQUEST NO. 35

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIA-V522, SIA-V523, SIB-V532, SIB-V533
P&ID COORDINATES:	13-M-SIP-002 @ C2, F2, F2, C10, F9
CATEGORY:	AC
CLASS:	1
FUNCTION:	Valves open to provide a long term recirculation flow path for the High Pressure Safety Injection (HPSI) system to the shutdown cooling lines.
TEST REQUIREMENT:	Full stroke exercise test every three months or part stroke exercise every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	These valves can only be full stroked exercised by initiation of flow through the valves and into the RCS. Safety Injection pump head is not sufficient to full stroke exercise these valves due to RCS pressure. SI-V522 and SI-V532 cannot be part stroked during operation due to RCS pressure. SI-V523 and SI-V533 cannot be part stroked during operation due to ALARA concerns as these valves and their test connections are in the containment building. Full stroke exercising during cold shutdown would challenge the Low Temperature Over Pressure (LTOP) relief valves, could damage equipment and would violate RCS Temperature/Pressure limits.
ALTERNATE TESTING:	Full stroke exercise test these valves during the refueling mode (Mode 6) when the reactor vessel head is removed using the Safety Injection System.

VALVE RELIEF REQUEST NO. 41

SYSTEM:	Safety Related Valves
COMPONENTS:	Containment Isolation Valves (See Tech Specs 3/4.6.3, and Procedure 93DP-0LC04)
P&ID COORDINATES:	Various (See FSAR 6.2.4 and Figure 6.2.4-1 sheets 1 to 10)
CATEGORY:	A or AC
CLASS:	2
FUNCTION:	Containment Isolation Valve
TEST REQUIREMENT:	Valves are required to be leak tested per IWV-3421, IWV-3422, IWV-3423, IWV-3424 and IWV-3425 on a two year frequency.
BASIS FOR RELIEF:	Valves requiring testing per 10CFR50, Appendix J are tested on a 24 month frequency. These valves need not be further tested per ASME XI. This basis is in agreement with NRC draft Reg Guide on Inservice Testing of Valves, issued November 1981.
ALTERNATE TESTING:	None: valves tested per 10CFR50, Appendix J and Technical Specification 3/4.6.1 & 3/4.6.3. Note that relief is not requested for any valve identified in Technical Specifications 3/4.4.5.2.2 (Reactor Coolant System Operation Leakage). These latter valves will be tested per Technical Specifications 3/4.4.5.2.2. PVNGS will comply with the Valve Test requirements of IWV-3426 and IWV-3427.

NOTE: The PVNGS IST Program has adopted the requirements of Generic Letter 89-04 Attachment A Position 10 in place of the requirements of VRR #41. Position 10 states that the leak test procedures and requirements for containment isolation valves specified in 10 CFR 50, Appendix J are equivalent to the requirements of IWV-3421 through 3425. The PVNGS IST Program still complies with the Analysis of Leakage Rates and Corrective Action requirements of Paragraph IWV-3426 and 3427(a) as required by Position 10. The corrective action requirements of IWV-3427(b) are no longer required for the subject valves because, as stated in Position 10, "the usefulnes of IWV-3427(b) does not justify the burden of complying with this requirement." (Reference CRDR 930480.05, memo# 315-00905-BPL)

VALVE RELIEF REQUEST NO. 44

SYSTEM:	Safety Related Power Operated Valves
COMPONENTS:	Various
P&ID COORDINATES:	Various
CATEGORY:	A or B
CLASS:	1, 2, and 3
TEST REQUIREMENT:	IWV-3417(a) requires that valves which exhibit an increase of 25% in stroke time (for valves with actual stroke times greater than 10 secs) or 50% in stroke time (for valves with stroke times of less than or equal to 10 secs) shall have their frequency of testing increased to monthly until corrective action is taken, at which time the original test frequency shall be resumed.
BASIS FOR RELIEF:	Using a fixed reference value provides a more logical and stringent basis for determining increased test frequencies. Adhering to the Code as stated above, a valve's stroke time could increase during each test and still be considered acceptable, while in fact, the valve could be failing or, at least, worthy of being tested at an increased frequency. Using a fixed referenced value as a standard would give rise to an increased test frequency much sooner than the standard set forth in the Code.
ALTERNATE TESTING:	If a fixed reference value is exceeded by either: 1) 25% or more for those reference values greater than 10 seconds, or 2) 50% or more for those reference values less than or equal to 10 seconds. The frequency of testing shall be increased to once a month until the condition is corrected.

APPENDIX C - COLD SHUTDOWN JUSTIFICATIONS

COLD SHUTDOWN JUSTIFICATION #1

SYSTEM:	Auxiliary Feedwater (AF)
COMPONENTS:	AFA-V007, AFB-V022, AFA-V137, AFB-V138
P&ID COORDINATES:	13-M-AFP-001 @ D7, C7, D6, C6
CATEGORY:	C
CLASS:	3
FUNCTION:	Suction and Discharge check valves on essential steam driven auxiliary feedwater pump and on essential motor driven auxiliary feedwater pump.
BASIS FOR COLD SHUTDOWN TESTING:	Stroking these valves during power operation would inject cold auxiliary feedwater into a hot steam generator. This will damage the feedwater piping and/or steam generator via thermal shock/fatigue. Additionally, the injection of cold auxiliary feedwater would upset the steam generator pressures and levels and could lead to a reactor trip and/or Main Steam Isolation Signal (MSIS).
REQUIRED TESTING:	Valves will be full stroke exercised during cold shutdowns.
NOTE:	During Preoperation testing, excessive vibration problems with the AF Pumps and associated AF piping necessitated a design change to block off the full flow recirculation lines with a blind flange. Full flow recirculation is no longer a possible test.

COLD SHUTDOWN JUSTIFICATION #2

SYSTEM:	Auxiliary Feedwater (AF)
COMPONENTS:	AFA-V015, AFB-V024
P&ID COORDINATES:	13-M-AFP-001 @ D5, C5
CATEGORY:	C
CLASS:	3
FUNCTION:	Provide flow path to each steam generator from essential auxiliary feedwater pumps.
BASIS FOR COLD SHUTDOWN TESTING:	Stroking these valves during power operation would inject cold auxiliary feedwater into a hot steam generator. This will damage the feedwater piping and/or steam generator via thermal shock/fatigue. Additionally, the injection of cold auxiliary feedwater would upset the steam generator pressures and levels and could lead to a reactor trip and/or Main Steam Isolation Signal (MSIS).
REQUIRED TESTING:	Valves will be full stroke exercised during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #3

SYSTEM:	Auxiliary Feedwater (AF)
COMPONENTS:	AFA-V079, AFB-V080
P&ID COORDINATES:	13-M-AFP-001 @ D2, B2
CATEGORY:	C
CLASS:	2
FUNCTION:	Provide flow path auxiliary feedwater (essential) to each steam generator.
BASIS FOR COLD SHUTDOWN TESTING:	Stroking these valves during power operation would inject cold auxiliary feedwater into a hot steam generator. This will damage the feedwater piping and/or steam generator via thermal shock/fatigue. Additionally, the injection of cold auxiliary feedwater would upset the steam generator pressures and levels and could lead to a reactor trip and/or Main Steam Isolation Signal (MSIS).
REQUIRED TESTING:	Valves will be full stroke exercised during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #4

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHA-V177, CHA-V190, CHE-HV-536, CHN-UV-514, CHN-V154, CHN-V155
P&ID COORDINATES:	13-M-CHP-002 @ B8, A8, A14, B10, C12, B12
CATEGORY:	C, C, B, B, C, C
CLASS:	2, 2, 2, 3, 3, 3
FUNCTION:	Valve opens during emergency boration to provide flow from Refueling Water Tank (RWT) to the suction of the charging pumps via gravity feed or Boric Acid Make-up Pumps.
BASIS FOR COLD SHUTDOWN TESTING:	These valves are normally closed during operation isolating the emergency boration path. Stroking these valves during operation would cause excessive boration due to the high Boron concentration in the Refueling Water Tank. This could increase boron level beyond shutdown margin requirements and could cause a reactor shutdown.
REQUIRED TESTING:	Full stroke test check valves in Mode 3 after cold shutdown when scheduled per Appendix E and Technical Specification 3/4.1.2.2.1b. Full stroke test power operated valves during cold shutdown. (CHN-V154 and CHN-V155 added per CRDR 920679.09)

COLD SHUTDOWN JUSTIFICATION #5

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHN-UV-501
P&ID COORDINATES:	13-M-CHP-002 @ C-7
CATEGORY:	B
CLASS:	2
FUNCTION:	CHN-UV-501 is Volume Control Tank (VCT) Discharge Isolation Valve. UV-501 closes on low VCT level to protect charging pumps from loss of NPSH.
BASIS FOR COLD SHUTDOWN TESTING:	Disrupting the normal charging system flow path would be required to stroke this valve. This would cause transients in the RCS volume. Closing this valve also will result in the loss of NPSH to the charging pumps and would cause damage to the charging pumps. Loss of charging flo would thermally cycle and damage the Regenerative Heat Exchanger.
REQUIRED TESTING:	Valve to be full stroke exercised and stroke time tested during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #6

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHE-V431, CHB-HV-203, CHA-HV-205
P&ID COORDINATES:	13-M-CHP-001 @ H9, H10, G11
CATEGORY:	C, B, B
CLASS:	1
FUNCTION:	Valves open to provide a flow path for Auxiliary Spray to the pressurizer.
BASIS FOR COLD SHUTDOWN TESTING:	Their function is to protect the charging system from Reactor Coolant System Pressure during normal operations and to provide auxiliary spray to cool/depressurize the pressurizer when the Reactor Coolant pumps are not operating. Partial stroking is not possible since CHB-HV-203 and CHA-HV-205 are solenoid valves and control flow to CHE-V431. Stroking these valves during operation introduces transients in RCS pressure and thermal cycling/ fatigue of the pressurizer spray nozzle (reference Tech. Specs. 5.7-1). Exercising these valves during power operation could lead to a reactor trip due to RCS pressure changes.
REQUIRED TESTING:	Full stroke exercise test during cold shutdown for CHE-V431 and full stroke exercise and stroke time test for CHB-HV-203 and CHA-HV-205.

COLD SHUTDOWN JUSTIFICATION #7

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHB-UV-505 and CHA-UV-506
P&ID COORDINATES:	13-M-CHP-002 @ G13 and G14
CATEGORY:	A, A
CLASS:	2
FUNCTION:	Valves provide containment isolation on Reactor Coolant seal water bleed-off line.
BASIS FOR COLD SHUTDOWN TESTING:	These valves are open during normal operation to provide seal water bleed-off from the reactor coolant pumps. Stroking these valves would require discontinuing seal injection to the pumps. Partial stroking is not possible since the valves are not jog capable. Stroking these valves on line would damage Reactor Coolant pump seals and could lead to a Reactor Shutdown.
REQUIRED TESTING:	Full stroke test during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #8

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHB-UV-515, CHA-UV-516, CHB-UV-523
P&ID COORDINATES:	13-M-CHP-001 @ H15, H15, F13
CATEGORY:	B, A, A
CLASS:	CHB-UV-515 and CHA-UV-516 are Class 1, CHB-UV-523 is Class 2.
FUNCTION:	Valves are contained in the normal letdown/volume control make-up loop.
BASIS FOR COLD SHUTDOWN TESTING:	Disrupting normal letdown flow in order to full stroke these valves could cause transients in the RCS volume/boron concentration. Valves do not have part stroke capabilities. Stroking these valves would cause pressurizer level transients and could cause a reactor shutdown. Additionally, disrupting charging letdown flow will thermally cycle letdown nozzles on the RCS piping and the Regenerative Heat Exchanger.
REQUIRED TESTING:	Full stroke test these valves during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #9

SYSTEM:	Chemical and Volume Control System
COMPONENTS:	CHB-HV-530 and CHA-HV-531
P&ID COORDINATES:	13-M-CHP-002 @ C15, and C14
CATEGORY:	B
CLASS:	2
FUNCTION:	Safety Injection Pump to Refueling Water Tank Suction Isolation Valves.
BASIS FOR COLD SHUTDOWN TESTING:	Stroking these valves during operation would violate PVNGS Technical Specifications, Limiting Conditions for Operation, requiring two independent flow paths capable of taking suction from the Refueling Water Tank on a safety injection actuation signal. Valve is normally open. If valve failed in closed position, this would render one complete safety injection train (e.g., HPSI, LPSI, and Containment Spray Pump) in-operable. This is an unsafe mode of operation.
REQUIRED TESTING:	Full stroke test at cold shutdown.

COLD SHUTDOWN JUSTIFICATION #10

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHN-V835, CHE-HV-255
P&ID COORDINATES:	13-M-CHP-001 @ G3, G4
CATEGORY:	CHE-HV-255 is Category A CHN-V835 is Category AC
CLASS:	2
FUNCTION:	Valves are open to provide a flow path for seal injection to the reactor coolant pumps.
BASIS FOR COLD SHUTDOWN TESTING:	These valves are open during normal operation to provide seal injection to the reactor coolant pumps. Stroking these valves closed would require discontinuing seal injection to the pumps and causing reactor coolant pump seal damage. CHE-HV-255 is not jog capable so CHE-HV-255 and the check valve down stream cannot be part stroked. Damaging the seals would necessitate a reactor shutdown and containment entry.
REQUIRED TESTING:	Full stroke test during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #11

SYSTEM:	Containment Purge (CP)
COMPONENTS:	CPA-UV-2A, CPA-UV-2B, CPB-UV-3A, CPB-UV-3B
P&ID COORDINATES:	13-M-CPP-001 @ D6, D5, D2
CATEGORY:	A
CLASS:	2
FUNCTION:	These valves are 42" containment purge supply and exhaust isolation valves.
BASIS FOR COLD SHUTDOWN TESTING:	PVNGS Technical Specifications (3.6.1.7a) requires each 42" containment purge supply and exhaust isolation valve to be sealed closed during operation. Stroking these valves during operation would be a violation of Technical Specification. Failure of these valves in the open position would comprise containment integrity and would violate Tech. Spec. 3/4.6.1.7.
REQUIRED TESTING:	Full stroke test these valves during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #12

SYSTEM:	Essential Cooling Water (EW)
COMPONENTS:	EWA-UV-65 and EWA-UV-145
P&ID COORDINATES:	13-M-EWP-001 @ C8 and C4
CATEGORY:	B
CLASS:	3
FUNCTION:	Valves open to provide Nuclear Cooling (NC) water system with Essential Cooling Water (EW) in the event that the Nuclear Cooling Water System is inoperable.
BASIS FOR COLD SHUTDOWN TESTING:	Full stroke exercising these valves during operation will produce high pressure in the Nuclear Cooling (NC) water system due to the pressure differential between the NC system and the Essential Cooling Water (EW) system. This will cause the NC surge tank pressure relief valves (PSV) to lift. This will result in the loss of level control of both the NC and the EW system. The EW system is required to be operable above Mode 4. In order to preclude loss of EW system function, the NC system would have to be shutdown to perform the test. However, the NC system supplies cooling water to the Reactor Coolant Pump seals. Loss of NC would require tripping all four RCP's and this would cause a reactor trip.
REQUIRED TESTING:	Full stroke test during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #13

SYSTEM:	Service Gas, Instrument Air, Chilled Water System
COMPONENTS:	GAE-V011, GAE-V015, IAE-V021 and WCE-V039
P&ID COORDINATES:	13-M-GAP-001 @ D6, F2 13-M-IAP-003 @ G5 and 13-M-WCP-001 @ G7
CATEGORY:	AC
CLASS:	2
FUNCTION:	Inboard containment isolation valves.
BASIS FOR COLD SHUTDOWN TESTING:	Valves must be tested in a manner that proves that the disk is on its seat. A containment entry would be required to perform this test and the associated system would have to be shutdown for test duration. Containment entry during normal operation to perform this test is not warranted due to ALARA.
REQUIRED TESTING:	Valves will be tested during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #14

SYSTEM:	Instrument Air (IA)
COMPONENTS:	IAA-UV-2
P&ID COORDINATES:	13-M-IAP-003 @ G7
CATEGORY:	A
CLASS:	2
FUNCTION:	Instrument Air Containment Isolation Valve
BASIS FOR COLD SHUTDOWN TESTING:	Closing this valve during operation isolates all instrument air inside containment. All Air Operation Valves (AOV) inside containment could not be operated. CH, SI and WC valves would be affected. Also letdown would be isolated from the RCS. This would cause transients in the RCS volume and charging piping temperature leads to fatigue. Valve is solenoid operated and cannot be part stroked. RCS Transients could lead to a reactor shutdown.
REQUIRED TESTING:	Full stroke test during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #15

SYSTEM:	Nuclear Cooling Water (NC)
COMPONENTS:	NCE-V118, NCB-UV-401, NCA-UV-402, NCB-UV-403
P&ID COORDINATES:	13-M-NCP-003 @ E6, E7, F7, F6
CATEGORY:	AC, A, A, A
CLASS:	2
FUNCTION:	Valves open to provide a flow path for nuclear cooling water supply/return to the reactor coolant pump lube oil coolers, reactor coolant pump seal coolers and Control Element Drive Mechanism (CEDM) air coolers.
BASIS FOR COLD SHUTDOWN TESTING:	These valves are open during normal operation to allow a supply of nuclear cooling water to the reactor coolant pump coolers. Stroking these valves would cause overheating of the reactor coolant pump motor air coolers, lube oil coolers and compromise the integrity of the reactor coolant pump seals. Stroking these valves would also cause overheating of the CEDM's and cause Control Element Assemblies (CEAs) to drop into the core. Partial stroking is not possible since the valves are not jog capable. Stroking these valves would trip the reactor and damage the Reactor Coolant Pumps and CEDMs.
REQUIRED TESTING:	Full stroke test these valves during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #16

SYSTEM:	Reactor Coolant System (RC)
COMPONENTS:	RCA-HV-101, RCB-HV-102, RCA-HV-103, RCB-HV-105 RCA-HV-106, RCB-HV-108, RCB-HV-109
P&ID COORDINATES:	13-M-RCP-001 @ G-15, F-15, G-14, G-13
CATEGORY:	B
CLASS:	1 and 2
FUNCTION:	High point vent for reactor vessel and pressurizer for venting noncondensables from Reactor Coolant System.
BASIS FOR COLD SHUTDOWN TESTING:	Valves are part of reactor coolant pressure boundary and form part of the double isolation valve required by 10CFR50.2v. Valves are solenoid valves and cannot be part stroked. Full stroke testing of these valves violates reactor coolant pressure boundary. Valve malfunction (e.g., stuck open valve during Mode 1) increases the probability of LOCA. Additionally, stroking of RCA-HV-106 (vent to containment) would release reactor coolant to containment atmosphere. This constitutes an ALARA and radiation protection concern. Stroking these valves would lead to possible equipment damage and personnel safety hazards. Tech. spec. 3.4.10 requires these valves to be closed during operation. Failure of one of these valves in the open position would require a reactor shutdown.
REQUIRED TESTING:	Full stroke test valves during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #17

SYSTEM:	Main Steam (SG)
COMPONENTS:	SGB-UV-130, SGB-UV-135, SGA-UV-172, SGA-UV-175
P&ID COORDINATES:	13-M-SGP-002 @ G12, C12, G12 and C12.
CATEGORY:	B
CLASS:	2
FUNCTION:	Downcomer feedwater isolation valves.
BASIS FOR COLD SHUTDOWN TESTING:	These valves are normally open during operation. Full stroke testing of these valves during power operation would isolate up to 15% of the normal feedwater flow to the steam generators and could cause a plant transient and reactor trip. Partial stroking is not possible as the valves are not jog capable.
REQUIRED TESTING:	Full stroke testing at cold shutdown.

COLD SHUTDOWN JUSTIFICATION #18

(Deleted in 73DP-9XI01 Rev. 3)

COLD SHUTDOWN JUSTIFICATION #19

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIE-V114, SIE-V124, SIE-V134, SIE-V144
P&ID COORDINATES:	13-M-SIP-002 @ F13, F11, F6 and F4
CATEGORY:	C
CLASS:	2
FUNCTION:	Valves open to provide flow paths from the low pressure safety injection headers to the Primary Coolant System.
BASIS FOR COLD SHUTDOWN TESTING:	Flow cannot be established to full stroke exercise these valves during operation due to the pressure in the Reactor Coolant System. Partial stroke exercising of these valves would require entry into the containment Radiological Controlled Area which is contrary to ALARA precepts.
REQUIRED TESTING:	Full stroke exercise during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #20

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIA-UV-660 and SIB-UV-659
P&ID COORDINATES:	13-M-SIP-001 @ E-7 and A-6
CATEGORY:	B
CLASS:	2
FUNCTION:	Safety Injection Pump Combined Recirculation.
BASIS FOR COLD SHUTDOWN TESTING:	These valves provide recirculation flow path to the Refueling Water Tank from HPSI, LPSI, and containment spray pumps. If one of these valves were to fail during their quarterly test, a complete Safety Injection train would be rendered inoperable. (No recirculation flow path.) This would require plant shutdown until the problem could be corrected. Valves are solenoid operated and cannot be part stroked.
REQUIRED TESTING:	Full stroke time test at cold shutdown.

COLD SHUTDOWN JUSTIFICATION #21

SYSTEM:	Safety Injection and Shutdown Cooling
COMPONENTS:	SIA-HV-604, SIB-HV-609, SIC-HV-321, SID-HV-331
P&ID COORDINATES:	13-M-SIP-001 @ G3, C3
CATEGORY:	SIC-HV-321 and SID-HV-331 are Category A. SIA-HV-604 and SIB-HV-609 are Category B.
CLASS:	2
FUNCTION:	Isolation Valves in the long term recirculation lines to the reactor coolant system hot legs.
BASIS FOR COLD SHUTDOWN TESTING:	The PVNGS Technical Specifications require these valves be closed during normal operations. Stroking these valves during operation would be a violation of Technical Specifications.
REQUIRED TESTING:	Full stroke test these valves during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #22

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIA-HV-605, SIA-HV-606, SIA-HV-607, SIA-HV-608 SIB-HV-613, SIB-HV-623, SIB-HV-633, SIB-HV-643
P&ID COORDINATES:	13-M-SIP-002 @ E-15, E-12, E-7, E-4
CATEGORY:	B
CLASS:	2
FUNCTION:	Safety Injection Tank Nitrogen Vent. Tank is vented during recovery phase of small break LOCA (such as Steam Generator Tube Rupture) to preclude inadvertent discharge of Tank into Reactor Vessel.
BASIS FOR COLD SHUTDOWN TESTING:	Stroking these valves during operation would be a violation of Technical Specifications. Partial stroking is not possible as these valves are solenoid valves. Full stroking during operation is not practical since the valves are closed and power is removed during operation per Technical Specification 3.5.1e. Cycling the valve during operation would reduce the pressure in the Safety Injection Tank below Technical Specification Limits (600 psi). This would render the Tank inoperable. Rendering each tank (i.e., 4 of 4) inoperable once each quarter is unwarranted. There are no block valves for the vents. If a valve were to fail open, the effected tank would be inoperable and could not be remedied without a shutdown and containment entry.
REQUIRED TESTING:	Full stroke exercise during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #23

SYSTEM:	Safety Injection and Shutdown Cooling System (SI)
COMPONENTS:	SIB-UV-614, SIB-UV-624, SIA-UV-634, SIA-UV-644
P&ID COORDINATES:	13-M-SIP-002 @ A14, A12, A7 and A4
CATEGORY:	B
CLASS:	1
FUNCTION:	Safety Injection Tank Isolation Valves provide flow paths from the Safety Injection Tanks to the Primary Coolant System during operation. The valves are closed to isolate the Safety Injection Tanks in cold shutdown and refueling.
BASIS FOR COLD SHUTDOWN TESTING:	Full or partial stroke testing of these valves during operation is contrary to the safety function of these valves. The PVNGS Technical Specifications require the isolation valves to be key-locked open and power to the valve removed to ensure an unobstructed flow path. Stroking these valves during operation would be a violation of Technical Specification.
REQUIRED TESTING:	Full stroke test during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #24

SYSTEM:	Safety Injection and Shutdown Cooling (SI)
COMPONENTS:	SIA-UV-651, SIB-UV-652, SIC-UV-653, SID-UV-654, SIA-UV-655, SIB-UV-656
P&ID COORDINATES:	13-M-SIP-002 @ C3, C10, E3, E10, G3, G10
CATEGORY:	All valves are Category A
CLASS:	SIA-UV-655 and SIB-UV-656 are Class 2 SIA-UV-651, SIB-UV-652, SIC-UV-653, SID-UV-654 are Class 1
FUNCTION:	Shutdown Cooling Isolation Valve
BASIS FOR COLD SHUTDOWN TESTING:	These valves are provided with interlocks which prevent them from being opened if the pressurizer pressure is in excess of 400 psig. The Class 1 valves provide pressure isolation function between Reactor Coolant System and Shutdown Cooling System as noted in Tech. Spec. 4.4.4.2.1. Opening of these valves would overpressurize their piping system.
REQUIRED TESTING:	Full stroke test during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #25

SYSTEM:	Main Steam (SG)
COMPONENTS:	SGE-UV-170, SGE-UV-171, SGE-UV-180, SGE-UV-181
P&ID COORDINATES:	13-M-SGP-001 @ H-10, F-10, D-10, B-10
CATEGORY:	B
CLASS:	2
FUNCTION:	Main Steam Isolation Valves (MSIV)
BASIS FOR COLD SHUTDOWN TESTING:	Valves are tested per code (part stroke test quarterly). These valves cannot be full stroke tested during operation. Closing an MSIV during operation would cause a turbine trip and would cause a reactor trip. Main steam safety valves would lift and secondary pressure/level would vary dramatically.
REQUIRED TESTING:	Full stroke and time test at cold shutdown frequency in Mode 3 (at secondary normal operating pressure). This includes Full Stroke Test of Instrument Air check valves.

COLD SHUTDOWN JUSTIFICATION #26

SYSTEM:	Main Steam (SG)
COMPONENTS:	SGB-UV-132, SGB-UV-137, SGA-UV-174, SGA-UV-177
P&ID COORDINATES:	13-M-SGP-002 @ E-12, B-12, E-13, B-13
CATEGORY:	B
CLASS:	2
FUNCTION:	Economizer Feedwater Isolation Valves (FWIV)
BASIS FOR COLD SHUTDOWN TESTING:	These valves are tested per code (part stroke test quarterly). These valves cannot be full stroke tested during operation. Closing an FWIV would isolate feed flow to operating steam generators causing loss of secondary level control and a subsequent reactor trip.
REQUIRED TESTING:	Full stroke and time test at cold shutdown. Full Stroke test includes full stroke test of Instrument Air check valves.

COLD SHUTDOWN JUSTIFICATION #27

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIA-HV-691 and SIB-HV-690
P&ID COORDINATES:	13-M-SIP-002 @ H-4, H-13
CATEGORY:	A
CLASS:	2
FUNCTION:	Shutdown cooling warmup bypass valves allow for warmup of shutdown cooling heat exchanger and associated piping, prior to initiation of shutdown cooling.
BASIS FOR COLD SHUTDOWN TESTING:	If the warmup bypass valves were to fail open during their quarterly testing (at power) and a small break LOCA were to occur, shutdown cooling would be required to be operable with these warmup bypass valves closed. Tech. Spec. 3.7.11 would therefore be violated and the unit would have to be shutdown. If the valve failed closed, the shutdown heat exchanger and associated piping could be thermally shocked.
REQUIRED TESTING:	Full stroke test during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #28

SYSTEM:	Main Steam (SG)
COMPONENTS:	SGA-V043, SGA-V044
P&ID COORDINATES:	13-M-SGP-001 @ E-12, C-12
CATEGORY:	C
CLASS:	3
FUNCTION:	Valves open to provide main steam supply to steam driven auxiliary feedwater pump.
BASIS FOR COLD SHUTDOWN TESTING:	Valves will be part stroke exercised during quarterly pump test per T.S. 4.7.1.2. Full stroke exercising of valves would require full flow injection of auxiliary feedwater into hot steam generator. Use of auxiliary feedwater during plant operation will damage feedwater piping and/or steam generators via thermal shock/fatigue. Additionally, the injection of cold auxiliary feedwater would upset the steam generator pressure and levels and could lead to a reactor trip and/or main steam isolation signal (MSIS).
REQUIRED TESTING:	Full stroke exercise valves during cold shutdown when steam pressure permits testing as noted in Tech. Spec. 4.7.1.2.

COLD SHUTDOWN JUSTIFICATION #29

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIA-V434, SIB-V446
P&ID COORDINATES:	13-M-SIP-001 @ F-9, B-9
CATEGORY:	C
CLASS:	2
FUNCTION:	Valves open to provide low pressure ECCS flow to Reactor Coolant System. Valves also open to provide flow path for shutdown cooling.
BASIS FOR COLD SHUTDOWN TESTING:	Valves will be part-stroke exercised during plant operation. Flow rates needed to achieve full stroke exercise cannot be attained during plant operation. The only flow path capable of providing full flow exercising is into the reactor coolant system. During plant operation, RCS pressure is significantly higher than shutoff head of Low Pressure Safety Injection (LPSI) pump. LPSI pump cannot inject into RCS due to pressure in RCS.
REQUIRED TESTING:	Full flow exercise during shutdown cooling when LPSI pump functions as the shutdown cooling pump.

COLD SHUTDOWN JUSTIFICATION #30

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIB-V484, SIA-V485
P&ID COORDINATES:	13-M-SIP-001 @ C-9, H-9
CATEGORY:	C
CLASS:	2
FUNCTION:	Valves open to provide containment spray flow to Containment Building. Valves also open to provide shutdown cooling flow when containment spray pump is used for shutdown cooling.
BASIS FOR COLD SHUTDOWN TESTING:	Valves cannot be full stroked exercised during operation (in containment spray mode) without spraying down inside the Containment Building. Initiation of containment spray during operation will damage equipment by spraying water on electrical equipment and soaking equipment with boric acid. Operation of the containment spray pump on shutdown cooling is not possible since the discharge head of the pump is significantly below the Reactor Coolant System pressure.
REQUIRED TESTING:	Full stroke exercise these valves during cold shutdown using the containment spray pump as a shutdown cooling pump.

COLD SHUTDOWN JUSTIFICATION #31

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIE-V540, SIE-V541, SIE-V542, SIE-V543
P&ID COORDINATES:	13-M-SIP-002 @ C-13, C-11, C-6, C-4
CATEGORY:	AC
CLASS:	1
FUNCTION:	Valves open to provide Safety Injection and shutdown cooling flow into the Reactor Coolant system.
BASIS FOR COLD SHUTDOWN TESTING:	The injection flow rate of the Low Pressure Safety Injection (LPSI) pump and injection pressure of the LPSI, plus High Pressure Safety Injection (HPSI) pump combined, is not adequate to overcome Reactor Coolant pressure during normal operation. Flow rates cannot be attained and pressure is well below RCS pressure.
REQUIRED TESTING:	Full stroke exercise these valves during cold shutdown when the SI system is aligned for shutdown cooling.

COLD SHUTDOWN JUSTIFICATION #32

SYSTEM:	Chemical and Volume Control (CH)
COMPONENTS:	CHN-V494
P&ID COORDINATES:	13-M-CHP-003 @ E-14
CATEGORY:	AC
CLASS:	2
FUNCTION:	This valves only SAFETY Function is containment isolation.
BASIS FOR COLD SHUTDOWN TESTING:	Valve is inside containment. To full stroke this valve closed during operation would require a containment entry. Containment Entry during operation is not warranted due to ALARA concerns and safety of plant personnel.
REQUIRED TESTING:	Valve will be tested during cold shutdown.

COLD SHUTDOWN JUSTIFICATION #33

SYSTEM:	Main Steam (SG)
COMPONENTS:	SGE-V003, SGE-V005, SGE-V006, SGE-V007
P&ID COORDINATES:	13-M-SGP-002, @ E-10, A-10, A-10, E-10
CATEGORY:	C
CLASS:	2
FUNCTION:	The normal function of the valves is to open and provide a flow path for feedwater flow to the steam generators. The safety function is to close.
TEST REQUIREMENT:	Full stroke exercise every three months or partial stroke exercise every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	These valves are in the feedwater inlet lines to each steam generator and are open during power operations. Full stroke or partial stroke testing of these valves during operation would require securing feedwater flow to the steam generator and cause a reactor trip.
ALTERNATE TESTING:	Test valves in Mode 5 when feedwater line temperature and pressure permit borescope inspection to verify valve closure.

COLD SHUTDOWN JUSTIFICATION #34

SYSTEM:	Safety Injection (SI)
COMPONENTS:	SIA-V997, SIB-V998
P&ID COORDINATES:	13-M-SGP-002, @ E3, D10
CATEGORY:	AC
CLASS:	1
FUNCTION:	Open to prevent pressure locking of shutdown cooling suction isolation valves SIA-V653 and SIB-654. Close for containment integrity.
TEST REQUIREMENT:	Full stroke exercise every three months, or partial stroke exercise every three months and full stroke exercise at cold shutdown.
BASIS FOR RELIEF:	Valve is inside containment. To exercise this valve during operation would require a containment entry. Containment entry during operation is not warranted due to ALARA concerns and safety of plant personnel.
ALTERNATE TESTING:	Full stroke exercise valves during cold shutdown.

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APPENDIX D - IST PUMP PROGRAM COMPONENTS

PUMP NUMBER	PUMP NAME	ISI CLASS	P &ID COORDINATES	PROCEDURE	TEST PARAMETERS						NOTES
					SPEED	INLET PRESSURE	DIFF. PRESSURE	FLOW RATE	VIBRATION	BEARING TEMP	
AFA-P01	Auxiliary Feedwater Pump (Turbine Driven)	3	AFP-001 D6	73ST-9AF02	M	C	C	PRR-1	M	PRR-7	
AFB-P01	Auxiliary Feedwater Pump (Motor Driven)	3	AFP-001 C6	73ST-9AF03	NA	C	C	PRR-1	M	PRR-7	
AFN-P01	Auxiliary Feedwater Pump (Motor Driven)	*	AFP-001 H6	73ST-9AF01	NA	C	C	PRR-1	M	PRR-7	
* This pump is not an ASME Code Class Pump, however, augmented testing is done in accordance with the PVNGS Tech. Specs 3/4.7.1.2.											
CHA-P01	Charging Pump	2	CHP-002 B3	40ST-9CH06	NA	PRR-2	PRR-2	M	M	PRR-7	
CHB-P01	Charging Pump	2	CHP-002 D3	40ST-9CH06	NA	PRR-2	PRR-2	M	M	PRR-7	
CHE-P01	Charging Pump	2	CHP-002 G3	40ST-9CH06	NA	PRR-2	PRR-2	M	M	PRR-7	
CTA-P01	Condensate Transfer Pump	3	CTP-001 C5	73ST-9CT01	NA	C	C	M	M	PRR-7	
CTB-P01	Condensate Transfer Pump	3	CTP-001 A5	73ST-9CT01	NA	C	C	M	M	PRR-7	
DFA-P01	Diesel Generator Fuel Oil Transfer Pump	3	DFP-001 B6	73ST-9DF01	NA	C	C	M	PRR-3	PRR-7	
DFB-P01	Diesel Generator Fuel Oil Transfer Pump	3	DFP-001 B2	73ST-9DF01	NA	C	C	M	PRR-3	PRR-7	
ECA-P01	Essential Chilled Water Circulation Pump	3	ECP-001 B8	73ST-9EC01	NA	M	C	M	M	PRR-7	
ECB-P01	Essential Chilled Water Circulation Pump	3	ECP-001 B4	73ST-9EC01	NA	M	C	M	M	PRR-7	
EWA-P01	Essential Cooling Water Pump	3	EWP-001 E6	73ST-9EW01	NA	M	C	M	M	PRR-7	
EWB-P01	Essential Cooling Water Pump	3	EWP-001 E2	73ST-9EW01	NA	M	C	M	M	PRR-7	

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APPENDIX D - IST PUMP PROGRAM COMPONENTS

PUMP NUMBER	PUMP NAME	ISI CLASS	P &ID COORDINATES	PROCEDURE	TEST PARAMETERS						NOTES
					SPEED	INLET PRESSURE	DIFF. PRESSURE	FLOW RATE	VIBRATION	BEARING TEMP	
PCA-P01	Spent Fuel Pool Cooling Pump	3	PCP-001 D15	73ST-9PC01	NA	C	C	PRR-10	PRR-11	NA	Augmented Component, Tested per OM-6, Added per CRDR 960497
PCB-P01	Spent Fuel Pool Cooling Pump	3	PCP-001 B15	73ST-9PC01	NA	C	C	PRR-10	PRR-11	NA	Augmented Component, Tested per OM-6, Added per CRDR 960497
SIA-P01	LPSI Pump	2	SIP-001 G11	73ST-9SI11 73ST-9SI14	NA	C	C	PRR-6	M	PRR-7	PRR-5
SIB-P01	LPSI Pump	2	SIP-001 B11	73ST-9SI11 73ST-9SI14	NA	C	C	PRR-6	M	PRR-7	PRR-5
SIA-P02	HPSI Pump	2	SIP-001 E11	73ST-9SI10 73ST-9XI33	NA	C	C	PRR-6	M	PRR-7	
SIB-P02	HPSI Pump	2	SIP-001 A11	73ST-9SI10 73ST-9XI33	NA	C	C	PRR-6	M	PRR-7	
SIA-P03	Containment Spray Pump	2	SIP-001 H11	73ST-9SI06 73ST-9SI15	NA	C	C	PRR-6	M	PRR-7	
SIB-P03	Containment Spray Pump	2	SIP-001 C11	73ST-9SI06 73ST-9SI15	NA	C	C	PRR-6	M	PRR-7	
SPA-P01	Essential Spray Pond Pump	3	SPP-001 C4	73ST-9SP01	NA	C	C	M	M	PRR-7	
SPB-P01	Essential Spray Pond Pump	3	SPP-001 C7	73ST-9SP01	NA	C	C	M	M	PRR-7	

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Appendix E: IST Valve Program Components

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
Auxiliary Feedwater (AF) Valves															
AFA-V007	AFP-001	D7	3	C	8"	CK	SA	C	O	PST FST	OP CS-3	CSJ-1		73ST-9AF02 73ST-9AF02	
AFA-V015	AFP-001	D5	3	C	6"	CK	SA	C	O C	FST FST	CS-3 CS-3	CSJ-2 *		73ST-9AF02 73ST-9AF03	*Test frequency being evaluated per CRDR 940174
AFB-V022	AFP-001	C7	3	C	8"	CK	SA	C	O	PST FST	OP CS-3	CSJ-1		73ST-9AF03 73ST-9AF03	
AFB-V024	AFP-001	C5	3	C	6"	CK	SA	C	O C	FST FST	CS-3 CS-3	CSJ-2 *		73ST-9AF03 73ST-9AF02	*Test frequency being evaluated per CRDR 940174
AFA-V079	AFP-001	D2	3	C	6"	CK	SA	C	O	FST	CS-3	CSJ-3		73ST-9AF02 73ST-9AF03	penet. 75
AFB-V080	AFP-001	C2	3	C	6"	CK	SA	C	O	FST	CS-3	CSJ-3		73ST-9AF02 73ST-9AF03	penet. 76
AFA-V137	AFP-001	D6	3	C	6"	CK	SA	C	O	PST FST	OP CS-3	CSJ-1		73ST-9AF02 73ST-9AF02	
AFB-V138	AFP-001	C6	3	C	6"	CK	SA	C	O	PST FST	OP CS-3	CSJ-1		73ST-9AF03 73ST-9AF03	
AFB-HV30	AFP-001	B4	3	B	6"	GL	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	
AFB-HV31	AFP-001	C4	3	B	6"	GL	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	
AFA-HV32	AFP-001	D4	3	B	6"	GL	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	
AFC-HV33	AFP-001	C4	3	B	6"	GL	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	
AFA-HV54	AFP-001	G4	3	B	4"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	
AFB-UV34	AFP-001	B3	2	B	6"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	penet. 75
AFB-UV35	AFP-001	C3	2	B	6"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	penet. 76

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
AFC-UV36	AFP-001	D3	2	B	6"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	penet. 75
AFA-UV37	AFP-001	C3	2	B	6"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI05 73ST-9XI05	penet. 76
Chemical And Volume Control (CH) Valves															
CHN-V118	CHP-002	C7	2	C	4"	CK	SA	O/C	O	FST	OP			40ST-9CH06	From VCT A, B, E
CHA-V177	CHP-002	B8	2	C	3"	CK	SA	C	O	FST	CS-3	CSJ-4		4xST-xCH04	Boration Flowpath from RWT thru 514 (When Required)
CHA-V190	CHP-002	A8	2	C	3"	CK	SA	C	O	FST	CS-3	CSJ-4		4xST-xCH04	Boration Flowpath from RWT thru 536 (When Required)
CHB-V305	CHP-002	C15	2	C	20"	CK	SA	C	O O C	PST FST FST	OP RF RF		VRR-6 *	73ST-9SI11 73ST-9XI29 40ST-9SI09	During Fuel Pool Fill *Test freq. being eval. per CRDR 940174
CHA-V306	CHP-002	C13	2	C	20"	CK	SA	C	O O C	PST FST FST	OP RF RF		VRR-6 *	73ST-9SI11 73ST-9XI29 40ST-9SI09	During Fuel Pool Fill **Test freq. being eval. per CRDR 940174
CHA-V328	CHP-002	B2	2	C	2"	CK	SA	O/C	O	FST	OP			40ST-9CH06	A Discharge
CHB-V331	CHP-002	E2	2	C	2"	CK	SA	O/C	O	FST	OP			40ST-9CH06	B Discharge
CHE-V334	CHP-002	G2	2	C	2"	CK	SA	O/C	O	FST	OP			40ST-9CH06	E Discharge
CHE-V429	CHP-001	D16	2	C	2"	CK	SA	O	O	FST	OP			40ST-9CH06	A, B, E
CHE-V431	CHP-001	H9	1	C	2"	CK	SA	C	O	FST	CS	CSJ-6		73ST-9XI27	
CHE-V433	CHP-001	G9	1	C	2"	CK	SA	O	O	FST	OP			40ST-9CH06	A, B, E
CHE-V435	CHP-001	F10	1	C	2"	CK	SA	C	O	FST	OP			40ST-9CH06	A, B, E
CHE-V440	CHP-002	C2	2	C	2"	CH	SA	C	O	FST	CS/RF			41ST-1CH02	HPSI Header Special Boration IWV 3416 When Required Operable
CHN-V494	CHP-003	E15	2	A C	1 1/2"	CK	SA	C	C	FST AJLT	CS RF	CSJ-32		73ST-9XI28 73ST-9CL01	penet. 45 Cont. entry required

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
CHN-V835	CHP-001	G3	2	A C	1 1/2"	CK	SA	O	C	FST AJLT	CS RF	CSJ-10		73ST-9XI26 73ST-9CL01	penet. 72
CHE-V854	CHP-001	E15	2	A	3/4"	GL	MAN	C	C	AJLT	RF			73ST-9CL01	
CHE-VM70	CHP-001	F15	2	A C	3"	CK	SA	O	O C	FST AJLT	OP RF			40ST-9CH06 73ST-9CL01	penet. 41 A, B, E
CHB-HV203	CHP-001	H10	1	B	2"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-6		73ST-9XI22 73ST-9XI27	Aux Spray
CHA-HV205	CHP-001	G11	1	B	2"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-6		73ST-9XI22 73ST-9XI27	Aux Spray
CHE-HV239	CHP-001	G11	2	B	2"	GL	AO	O	C	FST VPI	OP RF			73ST-9XI06 73ST-9XI06	
CHE-PDV240	CHP-001	G11	1	B	2"	GL	AO	O	C	FST VPI	OP RF			73ST-9XI06 73ST-9XI06	
CHB-HV255	CHP-001	G4	2	A	1 1/2"	GL	MO	O	C	FST VPI AJLT	CS RF RF	CSJ-10		73ST-9XI22 73ST-9XI22 73ST-9CL01	penet. 72
CHA-HV524	CHP-001	D16	2	A	2"	GL	MO	O	C	AJLT	RF			73ST-9CL01	Locked Open
CHB-HV530	CHP-002	B15	2	B	20"	GA	MO	O	C	FST VPI	CS RF	CSJ-9		73ST-9XI22 73ST-9XI22	
CHA-HV531	CHP-002	C14	2	B	20"	GA	MO	O	C	FST VPI	CS RF	CSJ-9		73ST-9XI22 73ST-9XI22	
CHE-HV536	CHP-002	A14	3	B	3"	GL	MO	C	O	FST VPI	CS RF	CSJ-4		73ST-9XI22 73ST-9XI22	Grav. Flow Isol. to Charging
CHN-UV501	CHP-002	C7	2	B	4"	GA	MO	O	C	FST VPI	CS RF	CSJ-5		73ST-9XI22 73ST-9XI22	Discharge from VCT
CHB-UV505	CHP-002	H13	2	A	1"	GL	AO	O	O/C	FST VPI AJLT	CS RF RF	CSJ-7		73ST-9XI22 73ST-9XI22 73ST-9CL01	penet. 43
CHA-UV506	CHP-002	H14	2	A	1"	GL	AO	O	O/C	FST VPI AJLT	CS RF RF	CSJ-7		73ST-9XI22 73ST-9XI22 73ST-9CL01	penet. 43
CHN-UV514	CHP-002	B10	3	B	3"	GL	MO	C	O	FST VPI	CS RF	CSJ-4		73ST-9XI22 73ST-9XI22	BAMP Discharge

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
CHB-UV515	CHP-001	H15	1	B	2"	GL	AO	O	C	FST VPI	CS RF	CSJ-8		73ST-9XI22 73ST-9XI22	
CHA-UV516	CHP-001	H15	1	A	2"	GL	AO	O	C	FST VPI AJLT	CS RF RF	CSJ-8		73ST-9XI22 73ST-9XI22 73ST-9CL01	penet. 40
CHB-UV523	CHP-001	F13	2	A	2"	GL	AO	O	C	FST VPI AJLT	CS RF RF	CSJ-8		73ST-9XI22 73ST-9XI22 73ST-9CL01	penet. 40
CHA-UV560	CHP-003	B15	2	A	3"	GL	AO	O/C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 44
CHB-UV561	CHP-003	A15	2	A	3"	GL	AO	O/C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 44
CHA-UV580	CHP-003	E14	2	A	1 1/2"	GA	AO	O/C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 45
CHA-UV715	CHP-003	E13	2	A	1/2"	GL	SOL	O/C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 45
CHB-UV924	CHP-001	E14	2	A	1/2"	GA	SOL	O/C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 40
CHN-PSV115	CHP-002	C6	2	C	3"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHN-PSV199	CHP-002	H15	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHA-PSV315	CHP-002	C5	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHB-PSV318	CHP-002	F5	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHE-PSV321	CHP-002	H5	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHE-PSV324	CHP-002	H2	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHB-PSV325	CHP-002	F2	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHA-PSV326	CHP-002	C2	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
CHN-PSV345	CHP-001	E12	2	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHN-PSV354	CHP-001	E9	2	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
CHN-PSV865	CHP-001	H6	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	Valve installed in Unit 1 only.
CHN-V154	CHP-002	C12	3	C	3"	CK	SA	C	O	FST	CS-3	CSJ-4		4xST-xCH04	Added per CRDR 920679.09
CHN-V155	CHP-002	B12	3	C	3"	CK	SA	C	O	FST	CS-3	CSJ-4		4xST-xCH04	Added per CRDR 920679.09
CHN-V144	CHP-002	B14	3	B	4"	DIA	MAN	C	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHN-V164	CHP-002	D11	3	B	3"	DIA	MAN	C	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHA-V316	CHP-002	B5	2	B	4"	DIA	MAN	O	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHB-V319	CHP-002	D5	2	B	4"	DIA	MAN	O	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHE-V322	CHP-002	F5	2	B	4"	DIA	MAN	O	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHB-V327	CHP-002	F5	2	B	3"	DIA	MAN	C	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHA-V755	CHP-002	C5	2	B	3"	DIA	MAN	C	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHB-V756	CHP-002	D5	2	B	3"	DIA	MAN	C	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
CHE-V757	CHP-002	F5	2	B	3"	DIA	MAN	C	O/C	FST	OP			73ST-9XI31	Added per CRDR 930025.03
Containment Purge (CP) Valves															
CPA-UV2A	CPP-001	D6	2	A	42"	BTF	MO	C	C	FST VPI AJLT	CS RF RF	CSJ-11		73ST-9XI23 73ST-9XI23 73ST-9CL06	penet. 56
CPA-UV2B	CPP-001	E3	2	A	42"	BTF	MO	C	C	FST VPI AJLT	CS RF RF	CSJ-11		73ST-9XI23 73ST-9XI23 73ST-9CL10	penet. 57
CPB-UV3A	CPP-001	D5	2	A	42"	BTF	MO	C	C	FST VPI AJLT	CS RF RF	CSJ-11		73ST-9XI23 73ST-9XI23 73ST-9CL06	penet. 56
CPB-UV3B	CPP-001	E2	2	A	42"	BTF	MO	C	C	FST VPI AJLT	CS RF RF	CSJ-11		73ST-9XI23 73ST-9XI23 73ST-9CL10	penet. 57

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
CPA-UV4A	CPP-001	D6	2	A	8"	BTF	AO	C	C	FST VPI AJLT	OP RF RF			73ST-9XI15 73ST-9XI15 73ST-9CL07	penet. 78
CPA-UV4B	CPP-001	D3	2	A	8"	BTF	AO	C	C	FST VPI AJLT	OP RF RF			73ST-9XI15 73ST-9XI15 73ST-9CL07	penet. 79
CPB-UV5A	CPP-001	D5	2	A	8"	BTF	AO	C	C	FST VPI AJLT	OP RF RF			73ST-9XI15 73ST-9XI15 73ST-9CL07	penet. 78
CPB-UV5B	CPP-001	D2	2	A	8"	BTF	AO	C	C	FST VPI AJLT	OP RF RF			73ST-9XI15 73ST-9XI15 73ST-9CL07	penet. 79
Condensate Transfer (CT) Valves															
CTA-V016	CTP-001	C4	3	C	3"	CK	SA	C	O	FST	OP			73ST-9XI09	
CTA-V018	CTP-001	C3	3	B	3"	GA	MAN	C	O	FST	OP			73ST-9XI09	NRC Letter
CTB-V019	CTP-001	B3	3	B	3"	GA	MAN	C	O	FST	OP			73ST-9XI10	NRC Letter
CTB-V020	CTP-001	A4	3	C	3"	CK	SA	C	O	FST	OP			73ST-9XI10	
CTA-V037	CTP-001	C4	3	C	3"	CK	SA	C	O	FST	OP			73ST-9XI09	
CTB-V038	CTP-001	B4	3	C	3"	CK	SA	C	O	FST	OP			73ST-9XI10	
CTA-HV1	CTP-001	D2	3	B	10"	BTF	MO	C	O	FST VPI	OP RF			73ST-9XI05	
CTA-HV4	CTP-001	D3	3	B	10"	BTF	MO	C	O	FST VPI	OP RF			73ST-9XI05	
Diesel Fuel Transfer (DF) Valves															
DFA-V012	DFP-001	D6	3	C	2"	CK	SA	C	O	FST	OP			73ST-9DF01	
DFB-V019	DFP-001	D2	3	C	2"	CK	SA	C	O	FST	OP			73ST-9DF01	
Diesel Generator (DG) Valves															
DGA-V066	DGP-001 Sheet 1	B7	3	C	1"	CK	SA	O/C	C	FST FST	OP CS			73ST-9XI17 73ST-9XI17	1-6

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
DGA-V067	DGP-001 Sheet 1	B7	3	C	1"	CK	SA	O/C	C	FST FST	OP CS			73ST-9XI17 73ST-9XI17	1-6
DGB-V068	DGP-001 Sheet 1	B3	3	C	1"	CK	SA	O/C	C	FST FST	OP CS			73ST-9XI18 73ST-9XI18	1-6
DGB-V069	DGP-001 Sheet 1	B3	3	C	1"	CK	SA	O/C	C	FST FST	OP CS			73ST-9XI18 73ST-9XI18	1-6
DGA-V317	DGP-001 Sheet 4	F6	3	C	6"	CK	SA	C	O	FST	OP			4xST-xDG01	
DGA-V318	DGP-001 Sheet 4	D6	3	C	3"	CK	SA	O/C	O	FST	OP			4xST-xDG01	
DGA-V332	DGP-001 Sheet 7	E7	3	C	1"	CK	SA	C	O	FST	OP			4xST-xDG01	
DGA-V355	DGP-001 Sheet 3	C7	3	C	6"	CK	SA	C	O	FST	OP			4xST-xDG01	
DGA-V364	DGP-001 Sheet 4	C6	3	C	3"	CK	SA	O/C	O	FST	OP			4xST-xDG01	
DGA-V396	DGP-001 Sheet 6	G7	3	C	3"	CK	SA	O	O	FST	OP			4xST-xDG01	Tested with Train "B" air start system
DGA-V397	DGP-001 Sheet 6	C7	3	C	3"	CK	SA	O	O	FST	OP			4xST-xDG01	Tested with Train "A" air start system
DGB-V417	DGP-001 Sheet 4	F2	3	C	6"	CK	SA	C	O	FST	OP			4xST-xDG02	
DGB-V418	DGP-001 Sheet 4	D2	3	C	3"	CK	SA	O/C	O	FST	OP			4xST-xDG02	
DGB-V432	DGP-001 Sheet 6	E3	3	C	1"	CK	SA	C	O	FST	OP			4xST-xDG02	
DGB-V455	DGP-001 Sheet 4	C4	3	C	6"	CK	SA	C	O	FST	OP			4xST-xDG02	
DGB-V464	DGP-001 Sheet 3	C2	3	C	3"	CK	SA	O/C	O	FST	OP			4xST-xDG02	
DGB-V496	DGP-001 Sheet 7	G3	3	C	3"	CK	SA	O	O	FST	OP			4xST-xDG02	Tested with Train "B" air start system

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
DGB-V497	DGP-001 Sheet 7	C3	3	C	3"	CK	SA	O	O	FST	OP			4xST-xDG02	Tested with Train "A" air start system
DGA-V510	DGP-001 Sheet 3	E8	3	C	1 1/4"	CK	SA	O/C	O	FST	OP			4xST-xDG01	
DGA-V520	DGP-001 Sheet 7	G7	-	C	1"	CK	SA	C	O	FST	OP			4xST-xDG01	
DGA-V523	DGP-001 Sheet 6	G8	3	C	3"	CK	SA	C	O	FST	OP			4xST-xDG01	
DGA-V524	DGP-001 Sheet 6	C8	3	C	3"	CK	SA	C	O	FST	OP			4xST-xDG01	
DGB-V610	DGP-001 Sheet 3	E4	3	C	1 1/4"	CK	SA	O/C	O	FST	OP			4xST-xDG02	
DGB-V620	DGP-001 Sheet 6	G3	-	C	1"	CK	SA	C	O	FST	OP			4xST-xDG02	
DGB-V623	DGP-001 Sheet 6	G4	3	C	3"	CK	SA	C	O	FST	OP			4xST-xDG02	
DGB-V624	DGP-001 Sheet 6	C4	3	O	8"	CK	SA	O	O	FST	OP			4xST-xDG02	
DGA-UV3	DGP-001 Sheet 6	F7	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG01	
DGB-UV4	DGP-001 Sheet 6	F3	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG02	
DGA-UV5	DGP-001 Sheet 6	D7	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG01	
DGB-UV6	DGP-001 Sheet 6	D3	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG02	
DGA-UV7	DGP-001 Sheet 6	F6	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG01	
DGB-UV8	DGP-001 Sheet 6	F2	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG02	
DGA-UV9	DGP-001 Sheet 8	F6	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG01	

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
DGB-UV10	DGP-001 Sheet 8	F3	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG02	
DGA-UV11	DGP-001 Sheet 8	F6	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG01	
DGB-UV12	DGP-001 Sheet 8	F3	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG02	
DGA-UV15	DGP-001 Sheet 6	D6	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG01	
DGB-UV16	DGP-001 Sheet 6	D2	-	B	3/8"	GA	SOL	C	O	FST	OP		VRR-16	4xST-xDG02	
DGA-PSV5	DGP-001 Sheet 1	C6	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
DGB-PSV6	DGP-001 Sheet 1	C3	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
DGA-PSV7	DGP-001 Sheet 1	B6	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
DGB-PSV8	DGP-001 Sheet 1	B3	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
Demineralized Water (DW) Valves															
DWE-V061	DWP-001	D3	2	A	2"	GL	MAN	C	C	AJLT	RF			73ST-9CL01	Penet. 6 Locked Closed
DWE-V062	DWP-001	D3	2	A	2"	GL	MAN	C	C	AJLT	RF			73ST-9CL01	Penet. 6 Locked Closed
Essential Chilled Water (EC) Valves															
ECA-PSV75	ECP-001	D6	3	C	1 1/2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV76	ECP-001	D3	3	C	1 1/2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV95	ECP-001	E5	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV96	ECP-001	E1	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV97	ECP-001	E7	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV98	ECP-001	E4	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV99	ECP-001	G7	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
ECB-PSV100	ECP-001	G2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV101	ECP-001	G6	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV102	ECP-001	G1	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV103	ECP-001	H7	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV104	ECP-001	H4	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV105	ECP-001	H6	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV106	ECP-001	H2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV107	ECP-001	H5	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV108	ECP-001	H1	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV109	ECP-001	G4	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV117	ECP-001	G5	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECB-PSV120	ECP-001	E3	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
ECA-PSV121	ECP-001	E6	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
Essential Cooling Water (EW) Valves															
EWA-UV65	EWP-001	C8	3	B	14"	BTF	MO	C	C	FST VPI	CS RF	CSJ-12		73ST-9XI23	
EWA-UV145	EWP-001	C4	3	B	14"	BTF	MO	C	C	FST VPI	CS RF	CSJ-12		73ST-9XI23	
EWA-HCV67	EWP-001	E8	3	B	10"	BTF	MAN	C	O/C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
EWB-HCV68	EWP-001	E4	3	B	10"	BTF	MAN	C	O/C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
EWA-HCV133	EWP-001	D6	3	B	10"	BTF	MAN	C	O/C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
EWB-HCV134	EWP-001	D2	3	B	10"	BTF	MAN	C	O/C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
EWA-PSV47	EWP-001	B7	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
EWB-PSV48	EWP-001	B3	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
EWA-PSV61	EWP-001	D7	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	

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EWB-PSV62	EWP-001	D3	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
EWA-PSV79	EWP-001	F7	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
EWB-PSV80	EWP-001	F3	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
EWA-PSV103	EWP-001	H6	3	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
EWB-PSV104	EWP-001	H2	3	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
Fire Protection (FP) Valves															
FPE-V089	FPP-006	E8	2	A	6"	GL	MAN	C	C	AJLT	RF			73ST-9CL01	Locked Closed
FPE-V090	FPP-006	E9	2	A C	6"	CK	SA	C	C	AJLT	RF			73ST-9CL01	penet. 7
Service Gas (GA) Valves															
GAE-V011	GAP-001	D6	2	A C	1"	CK	SA	O/C	C	FST AJLT	CS RF	CSJ-13		73ST-9XI28 73ST-9CL01	penet. 30
GAE-V015	GAP-001	F2	2	A C	1"	CK	SA	O/C	C	FST AJLT	CS RF	CSJ-13		73ST-9XI28 73ST-9CL01	penet. 29
GAA-UV1	GAP-001	D6	2	A	1"	GA	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 30
GAA-UV2	GAP-001	F3	2	A	1"	GA	SOL	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 29
Gaseous Radwaste (GR) Valves															
GRA-UV1	GRP-001	H7	2	A	1"	GL	MO	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 52
GRB-UV2	GRP-001	G7	2	A	1"	GL	SOL	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 52
Containment HVAC (HC) Valves															

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VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
HCB-UV44	HCP-001	E3	2	A	1"	GA	SOL	O	C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 25a
HCA-UV45	HCP-001	E2	2	A	1"	GA	SOL	O	C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 25a
HCA-UV46	HCP-001	D2	2	A	1"	GA	SOL	O	C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 25b
HCB-UV47	HCP-001	D3	2	A	1"	GA	SOL	O	C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 25b
							Hydrogen Purge (HP) Valves								
HPA-V002	HPP-001	F7	2	A C	2"	CK	SA	C	O C	FST FST AJLT	OP CS RF	 *		73ST-9XI09 73ST-9XI28 73ST-9CL01	penet. 38 *Test frequency being evaluated per CRDR 940174
HPB-V004	HPP-001	C7	2	A C	2"	CK	SA	C	O C	FST FST AJLT	OP CS RF	 *		73ST-9XI10 73ST-9XI28 73ST-9CL01	penet. 39 *Test frequency being evaluated per CRDR 940174
HPA-HV7A	HPP-001	F5	2	A	1"	GL	SOL	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 35
HPA-HV7B	HPP-001	G6	2	A	1"	GL	SOL	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 38
HPB-HV8A	HPP-001	C5	2	A	1"	GL	SOL	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 36
HPB-HV8B	HPP-001	B6	2	A	1"	GL	SOL	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 39
HPA-UV1	HPP-001	E7	2	A	2"	GL	MO	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 35

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
HPB-UV2	HPP-001	D7	2	A	2"	GL	MO	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 36
HPA-UV3	HPP-001	E6	2	A	2"	GL	MO	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 35
HPB-UV4	HPP-001	D6	2	A	2"	GL	MO	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 36
HPA-UV5	HPP-001	F6	2	A	2"	GL	MO	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 38
HPB-UV6	HPP-001	C6	2	A	2"	GL	MO	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 39
HPA-UV23	HPP-001	G6	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 38
HPA-UV24	HPP-001	F4	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI08 73ST-9XI08 73ST-9CL01	penet. 35
Instrument Air (IA) Valves															
IAE-V021	IAP-003	G5	2	A C	2"	CK	SA	O	C	FST AJLT	CS RF	CSJ-13		73ST-9XI28 73ST-9CL01	penet. 31
IAE-V072	IAP-003	G7	2	A	3"	GL	MAN	C	C	AJLT	RF			73ST-9CL01	Locked Closed
IAE-V073	IAP-002	H7	2	A C	3"	CK	SA	C	C	AJLT	RF			73ST-9CL01	penet. 59
IAA-UV2	IAP-003	G6	2	A	2"	GA	SOL	O	C	FST VPI AJLT	CS RF RF	CSJ-14		73ST-9XI23 73ST-9XI23 73ST-9CL01	penet. 31
Nuclear Cooling Water (NC) Valves															
NCE-V118	NCP-003	E6	2	A C	10"	CK	SA	O	C	FST AJLT	CS RF	CSJ-15		73ST-9XI26 73ST-9CL01	penet. 33

PV210-08NM (9-88)

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
NCA-HCV244	NCP-002	C4	3	B	10	BTF	MAN	O	C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
NCB-HCV245	NCP-002	B4	3	B	10	BTF	MAN	O	C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
NCA-HCV258	NCP-002	C4	3	B	10	BTF	MAN	O	C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
NCB-HCV259	NCP-002	B4	3	B	10	BTF	MAN	O	C	FST	OP			73ST-9XI31	Augmented - CRDR 960497
NCB-UV401	NCP-003	E7	2	A	10"	BTF	MO	O	C	FST VPI AJLT	CS RF RF	CSJ-15		73ST-9XI23 73ST-9XI23 73ST-9CL01	penet. 33
NCA-UV402	NCP-003	F7	2	A	10"	BTF	MO	O	C	FST VPI AJLT	CS RF RF	CSJ-15		73ST-9XI23 73ST-9XI23 73ST-9CL01	penet. 34
NCB-UV403	NCP-003	F6	2	A	10"	BTF	MO	O	C	FST VPI AJLT	CS RF RF	CSJ-15		73ST-9XI23 73ST-9XI23 73ST-9CL01	penet. 34
NCA-PSV250	NCP-002	E2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	Augmented - CRDR 960497
NCB-PSV251	NCP-002	D2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	Augmented - CRDR 960497
NCE-PSV614	NCP-003	E5	N	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ20	Augmented - CRDR 970322
NCB-PSV615	NCP-003	E5	N	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ20	Augmented - CRDR 970322
Fuel Pool Cooling (PC) Valves															
PCA-V013	PCP-001	D14	3	C	8"	CK	SA	C	O/C	FST	OP			73ST-9PC01	Augmented - CRDR 960497
PCB-V017	PCP-001	B14	3	C	8"	CK	SA	C	O/C	FST	OP			73ST-9PC01	Augmented - CRDR 960497
PCE-V070	PCP-001	E10	2	A	4"	GA	MAN	C	C	AJLT	RF			73ST-9CL01	Locked Closed
PCE-V071	PCP-001	E09	2	A	4"	GA	MAN	C	C	AJLT	RF			73ST-9CL01	Locked Closed
PCE-V075	PCP-001	G6	2	A	4"	GA	MAN	C	C	AJLT	RF			73ST-9CL01	Locked Closed
PCE-V076	PCP-001	G5	2	A	4"	GA	MAN	C	C	AJLT	RF			73ST-9CL01	Locked Closed
PCN-V215	CHP-002	A11	3	B	3"	DIA	MAN	C	O	FST	OP			73ST-9XI31	Boration Flowpath NRC Letter & B/ANPP-31548 (12-20-84)
PCA-PSV35	PCP-001	E13	3	C	1"	PSV	SA	C	O	PSVT	RF			73ST-9ZZ20	Augmented - CRDR 960497

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
PCB-PSV36	PCP-001	C13	3	C	1"	PSV	SA	C	O	PSVT	RF			73ST-9ZZ20	Augmented - CRDR 960497
Reactor Coolant (RC) Valves															
RCA-HV101	RCP-001	G15	2	B	1"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-16		73ST-9XI24 73ST-9XI24	
RCB-HV102	RCP-001	G15	2	B	1"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-16		73ST-9XI24 73ST-9XI24	
RCA-HV103	RCP-001	G14	2	B	1"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-16		73ST-9XI24 73ST-9XI24	
RCB-HV105	RCP-001	G15	2	B	1"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-16		73ST-9XI24 73ST-9XI24	
RCA-HV106	RCP-001	F15	2	B	1"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-16		73ST-9XI24 73ST-9XI24	
RCB-HV108	RCP-001	G13	1	B	1"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-16		73ST-9XI24 73ST-9XI24	
RCB-HV109	RCP-001	G14	1	B	1"	GL	SOL	C	O/C	FST VPI	CS RF	CSJ-16		73ST-9XI24 73ST-9XI24	
RCE-PSV200	RCP-001	F12	1	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ24	
RCE-PSV201	RCP-001	F12	1	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ24	
RCE-PSV202	RCP-001	F12	1	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ24	
RCE-PSV203	RCP-001	G12	1	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ24	
Radioactive Drains (RD) Valves															
RDA-UV23	RDP-001	G5	2	A	3"	GA	MO	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 9
RDB-UV24	RDP-001	G4	2	A	3"	GA	AO	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 9
RDB-UV407	RDP-001	F4	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 9

PV216-08RI (8-93)

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
Main Steam (SG) Valves															
SGE-V003	SGP-002	E10	2	C	24"	CK	SA	O	C	FST	CS-3	CSJ-33		73ST-9XI32	penet. 8 Economizer
SGE-V005	SGP-002	A10	2	C	24"	CK	SA	O	C	FST	CS-3	CSJ-33		73ST-9XI32	penet. 10 Economizer
SGE-V006	SGP-002	A10	2	C	24"	CK	SA	O	C	FST	CS-3	CSJ-33		73ST-9XI32	penet. 10 Economizer
SGE-V007	SGP-002	E10	2	C	24"	CK	SA	O	C	FST	CS-3	CSJ-33		73ST-9XI32	penet. 8 Economizer
SGA-V043	SGP-001	E12	3	C	6"	CK	SA	C	O O C	PST FST FST	OP CS-3 OP	CSJ-28		73ST-9AF02 73ST-9AF02 73ST-9AF02	Recirc,"A" Train Full Flow
SGA-V044	SGP-001	C12	3	C	6"	CK	SA	C	O O C	PST FST FST	OP CS-3 OP	CSJ-28		73ST-9AF02 73ST-9AF02 73ST-9AF02	Recirc, "B" Train Full Flow
SGE-V642	SGP-002	G11	2	C	8"	CK	SA	O	C	FST	CS-3		VRR-23	73ST-9XI32	penet. 11 downcomer
SGE-V652	SGP-002	G10	2	C	8"	CK	SA	O	C	FST	CS-3		VRR-23	73ST-9XI32	penet. 11 downcomer
SGE-V653	SGP-002	C10	2	C	8"	CK	SA	O	C	FST	CS-3		VRR-23	73ST-9XI32	penet. 12 downcomer
SGE-V693	SGP-002	C11	2	C	8"	CK	SA	O	C	FST	CS-3		VRR-23	73ST-9XI32	penet. 12 downcomer
SGE-V887	SGP-001	D12	3	C	2"	CK	SA	C	O C	FST FST	OP CS	*		73ST-9AF02 73ST-9XI36	Recirc. *Test freq. being eval. per CRDR 940174
SGE-V888	SGP-001	C13	3	C	2"	CK	SA	C	O C	FST FST	OP CS	*		73ST-9AF02 73ST-9XI36	Recirc. *Test freq. being eval. per CRDR 940174
SGB-HV-178	SGP-001	E15	2	B	12"	GL	AO	C	O/C	FST FT VPI	OP OP RF			73ST-9XI20 73ST-9XI20 73ST-9XI20	ADV - Pen. 2. FST/FT includes testing of the check valves on the Air/Nitrogen lines.
SGA-HV-179	SGP-001	A14	2	B	12"	GL	AO	C	O/C	FST FT VPI	OP OP RF			73ST-9XI20 73ST-9XI20 73ST-9XI20	ADV - Pen. 2. FST/FT includes testing of the check valves on the Air/Nitrogen lines.
SGA-HV-184	SGP-001	F14	2	B	12"	GL	AO	C	O/C	FST FT VPI	OP OP RF			73ST-9XI20 73ST-9XI20 73ST-9XI20	ADV - Pen. 2. FST/FT includes testing of the check valves on the Air/Nitrogen lines.

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SGB-HV-185	SGP-001	C15	2	B	12"	GL	AO	C	O/C	FST FT VPI	OP OP RF			73ST-9XI20 73ST-9XI20 73ST-9XI20	ADV - Pen. 2. FST/FT includes testing of the check valves on the Air/Nitrogen lines.
SGB-HV200	SGP-002	F11	2	B	3/8"	GA	SOL	O/C	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 11
SGB-HV201	SGP-002	C11	2	B	3/8"	GA	SOL	O/C	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 12
SGB-UV130	SGP-002	G12	2	B	8"	GA	AO	O	C	FST VPI	CS RF	CSJ-17		73ST-9XI19 73ST-9XI19	penet. 11 Down. F.W.
SGB-UV132	SGP-002	E12	2	B	24"	GA	HY	O	C	PST FST VPI	OP CS RF	CSJ-26		73ST-9XI16 73ST-9XI16 73ST-9XI16	penet. 8 Econ. F.W.
SGA-UV134	SGP-001	E13	2	A	6"	GA	MO	C	O/C	FST VPI LT	OP RF-3 RF-3			73ST-9XI01 73ST-9XI01 73ST-9XI34	penet. 2
SGA-UV134A	SGP-001	E13	2	A	1"	GL	SOL	C	O/C	FST VPI LT	OP RF-3 RF-3			73ST-9XI01 73ST-9AF02 73ST-9XI34	penet. 2
SGB-UV135	SGP-002	C12	2	B	8"	GA	AO	O	C	FST VPI	CS RF	CSJ-17		73ST-9XI19 73ST-9XI19	penet. 12 Down. F.W.
SGB-UV137	SGP-002	A12	2	B	24"	GA	HY	O	C	PST FST VPI	OP CS RF	CSJ-26		73ST-9XI16 73ST-9XI16 73ST-9XI16	penet. Econ. F.W.
SGA-UV138	SGP-001	C12	2	A	6"	GA	MO	C	O/C	FST VPI LT	OP RF-3 RF-3			73ST-9XI02 73ST-9XI02 73ST-9XI34	penet. 3
SGA-UV138A	SGP-001	C12	2	A	1"	GL	SOL	C	O/C	FST VPI LT	OP RF-3 RF-3			73ST-9XI02 73ST-9AF02 73ST-9XI34	penet. 3
SGE-UV169	SGP-001	E11	2	B	4"	GA	AO	O/C	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 2 MSIV Bypass
SGE-UV170	SGP-001	G10	2	B	28"	GA	HY	O	C	PST FST FT VPI	OP CS-3 CS RF	CSJ-25		73ST-9SG01 73ST-9SG01 73ST-9SG01 73ST-9SG01	penet. 1 MSIV

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SGE-UV171	SGP-001	D10	2	B	28"	GA	HY	O	C	PST FST FT VPI	OP CS-3 CS RF	CSJ-25		73ST-9SG01 73ST-9SG01 73ST-9SG01 73ST-9SG01	penet. 3 MSIV
SGA-UV172	SGP-002	G12	2	B	8"	GA	AO	O	C	FST VPI	CS RF	CSJ-17		73ST-9XI19 73ST-9XI19	penet. 11 Down. F.W.
SGA-UV174	SGP-002	E12	2	B	24"	GA	HY	O	C	PST FST VPI	OP CS RF	CSJ-26		73ST-9XI16 73ST-9XI16 73ST-9XI16	penet. 8 Econ. F.W.
SGA-UV175	SGP-002	C12	2	B	8"	GA	AO	O	C	FST VPI	CS RF	CSJ-17		73ST-9XI19 73ST-9XI19	penet. 12 Down. F.W.
SGE-VA19	SGP-001	G10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 170 I.A. Check Valve
SGE-VA20	SGP-001	G10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 170 I.A. Check Valve
SGE-VA21	SGP-001	E10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 180 I.A. Check Valve
SGE-VA22	SGP-001	E10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 180 I.A. Check Valve
SGE-VA23	SGP-001	D10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 171 I.A. Check Valve
SGE-VA24	SGP-001	D10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 171 I.A. Check Valve
SGE-VA25	SGP-001	B10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 181 I.A. Check Valve
SGE-VA26	SGP-001	B10	2	A C	1/2"	CK	SA	O	C	FST LT	CS-3 CS-3	CSJ-25		73ST-9SG01 73ST-9SG01	MSIV 181 I.A. Check Valve
SGA-VA27	SGP-002	E12	2	A C	1/2"	CK	SA	O	C	FST LT	CS CS	CSJ-26		73ST-9XI16 73ST-9XI16	ECON FWIV 174 I.A. Check Valve
SGA-VA28	SGP-002	A12	2	A C	1/2"	CK	SA	O	C	FST LT	CS CS	CSJ-26		73ST-9XI16 73ST-9XI16	ECON FWIV 177 I.A. Check Valve
SGB-VA29	SGP-002	E12	2	A C	1/2"	CK	SA	O	C	FST LT	CS CS	CSJ-26		73ST-9XI16 73ST-9XI16	ECON FWIV 132 I.A. Check Valve

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SGB-VA30	SGP-002	A12	2	A C	1/2"	CK	SA	O	C	FST LT	CS CS	CSJ-26		73ST-9XI16 73ST-9XI16	ECON FWIV 137 I.A. Check Valve
SGA-UV177	SGP-002	A12	2	B	24"	GA	HY	O	C	PST FST VPI	OP CS RF	CSJ-26		73ST-9XI16 73ST-9XI16 73ST-9XI16	penet. 9 Econ. F.W.
SGE-UV180	SGP-001	E10	2	B	28"	GA	HY	O	C	PST FST FT VPI	OP CS-3 CS-3 RF	CSJ-25		73ST-9SG01 73ST-9SG01 73ST-9SG01 73ST-9SG01	penet. 2 MSIV
SGE-UV181	SGP-001	B10	2	B	28"	GA	HY	O	C	PST FST FT VPI	OP CS-3 CS-3 RF	CSJ-25		73ST-9SG01 73ST-9SG01 73ST-9SG01 73ST-9SG01	penet. 4 MSIV
SGE-UV183	SGP-001	B11	2	B	4"	GA	AO	O/C	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 3 MSIV Bypass
SGA-UV204	SGP-002	G3	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 37B
SGA-UV211	SGP-002	G3	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 37A
SGB-UV219	SGP-002	G3	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 37B
SGA-UV220	SGP-002	G6	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 49
SGB-UV221	SGP-002	G5	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 49
SGB-UV222	SGP-002	C3	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 63B
SGA-UV223	SGP-002	C3	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 63B
SGB-UV224	SGP-002	D3	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 63A
SGA-UV225	SGP-002	D2	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 63A

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SGB-UV226	SGP-002	C2	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 48
SGA-UV227	SGP-002	C5	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 48
SGB-UV228	SGP-002	G2	2	B	1/2"	GL	SOL	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 37A
SGA-UV500P	SGP-002	E3	2	B	6"	GA	AO	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 46
SGB-UV500Q	SGP-002	E2	2	B	6"	GA	AO	O	C	FST VPI	OP RF			73ST-9XI01 73ST-9XI01	penet. 46
SGB-UV500R	SGP-002	A3	2	B	6"	GA	AO	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 47
SGA-UV500S	SGP-002	A2	2	B	6"	GA	AO	O	C	FST VPI	OP RF			73ST-9XI02 73ST-9XI02	penet. 47
SGA-UV1133	SGP-001	D14	2	B	1"	GL	SOL	O	C	FST VPI	OP RF-3			73ST-9XI01 73ST-9XI32	penet. 2
SGA-UV1134	SGP-001	C14	2	B	1"	GL	SOL	O	C	FST VPI	OP RF-3			73ST-9XI02 73ST-9XI32	penet. 3
SGB-UV1135A	SGP-001	H11	2	B	1"	GL	SOL	O	C	FST VPI	OP RF-3			73ST-9XI01 73ST-9XI32	penet. 1
SGB-UV1135B	SGP-001	F11	2	B	1"	GL	SOL	O	C	FST VPI	OP RF-3			73ST-9XI01 73ST-9XI32	penet. 2
SGB-UV1136A	SGP-001	D11	2	B	1"	GL	SOL	O	C	FST VPI	OP RF-3			73ST-9XI02 73ST-9XI32	penet. 3
SGB-UV1136B	SGP-001	B11	2	B	1"	GL	SOL	O	C	FST VPI	OP RF-3			73ST-9XI02 73ST-9XI32	penet. 4
SGE-PSV554	SGP-001	D12	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 3
SGE-PSV555	SGP-001	D13	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 3
SGE-PSV556	SGP-001	D14	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 3
SGE-PSV557	SGP-001	D14	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 3
SGE-PSV558	SGP-001	B14	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 4

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SGE-PSV559	SGP-001	B14	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 4
SGE-PSV560	SGP-001	B13	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 4
SGE-PSV561	SGP-001	B12	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 4
SGE-PSV572	SGP-001	H12	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 1
SGE-PSV573	SGP-001	H13	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 1
SGE-PSV574	SGP-001	H14	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 1
SGE-PSV575	SGP-001	H15	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 1
SGE-PSV576	SGP-001	F14	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 2
SGE-PSV577	SGP-001	F14	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 2
SGE-PSV578	SGP-001	F13	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 2
SGE-PSV579	SGP-001	F12	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 2
SGE-PSV691	SGP-001	F15	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 2
SGE-PSV692	SGP-001	H16	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 1
SGE-PSV694	SGP-001	D15	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 3
SGE-PSV695	SGP-001	B15	2	C	6"	PSV	SA	C	O	PSVT				73ST-9ZZ18	penet. 4
SGB-PSV302	SGP-001	A11	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SGB-PSV305	SGP-001	B11	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SGA-PSV309	SGP-001	G11	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SGA-PSV312	SGP-001	G11	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SGA-PSV316	SGP-001	G14	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SGA-PSV319	SGP-001	G13	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SGB-PSV322	SGP-001	A13	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SGB-PSV325	SGP-001	B13	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIE-V113	SIP-002	F14	2	C	3"	CK	SA	C	O C	FST FST	RF CS-3	 *	VRR-28	73ST-9XI33 73ST-9SI05	penet. 13 *Test frequency being evaluated per CRDR 940174
SIE-V114	SIP-002	F14	2	C	12"	CK	SA	C	O C	FST FST	CS CS-3	CSJ-19 *		73ST-9XI27 73ST-9SI05	penet. 17 *Test frequency being evaluated per CRDR 940174
SIE-V123	SIP-002	F12	2	C	3"	CK	SA	C	O C	FST FST	RF CS-3	 *	VRR-28	73ST-9XI33 73ST-9SI05	penet. 14 *Test frequency being evaluated per CRDR 940174
SIE-V124	SIP-002	F11	2	C	12"	CK	SA	C	O C	FST FST	CS CS-3	CSJ-19 *		73ST-9XI27 73ST-9SI05	penet. 18 *Test frequency being evaluated per CRDR 940174
SIE-V133	SIP-002	F7	2	C	3"	CK	SA	C	O C	FST FST	RF CS-3	 *	VRR-28	73ST-9XI33 73ST-9SI05	penet. 15 *Test frequency being evaluated per CRDR 940174
SIE-V134	SIP-002	F6	2	C	12"	CK	SA	C	O C	FST FST	CS CS-3	CSJ-19 *		73ST-9XI26 73ST-9SI05	penet. 19 *Test frequency being evaluated per CRDR 940174
SIE-V143	SIP-002	F4	2	C	3"	CK	SA	C	O C	FST FST	RF CS-3	 *	VRR-28	73ST-9XI33 73ST-9SI05	penet. 16 *Test frequency being evaluated per CRDR 940174
SIE-V144	SIP-002	F4	2	C	12"	CK	SA	C	O C	FST FST	CS CS-3	CSJ-19 *		73ST-9XI26 73ST-9SI05	penet. 20 *Test frequency being evaluated per CRDR 940174
SIA-V157	SIP-001	G13	2	C	18"	CK	SA	C	O	PST FST	OP RF		VRR-30	73ST-9XI06/ 73ST-9XI09 73ST-9XI29	
SIB-V158	SIP-001	C13	2	C	18"	CK	SA	C	O	PST FST	OP RF		VRR-30	73ST-9XI06/ 73ST-9XI10 73ST-9XI29	
SIA-V164	SIP-002	F8	2	A C	10"	CK	SA	C	O	AJLT FST	RF RF		 VRR-31	73ST-9CL01 73ST-9ZZ25	penet. 21 (Disassemble)
SIB-V165	SIP-002	F6	2	A C	10"	CK	SA	C	O	AJLT FST	RF RF		 VRR-31	73ST-9CL01 73ST-9ZZ25	penet. 22 (Disassemble)

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIB-V200	SIP-001	B12	2	C	20"	CK	SA	C	O C	PST FST FST	OP RF RF		 VRR-30 *	73ST-9SI11/ 73ST-9XI10 73ST-9XI29 40ST-9SI09	*Test frequency being evaluated per CRDR 940174
SIA-V201	SIP-001	F12	2	C	20"	CK	SA	C	O C	PST FST FST	OP RF RF		 VRR-30 *	73ST-9SI11/ 73ST-9XI09 73ST-9XI29 40ST-9SI09	*Test frequency being evaluated per CRDR 940174
SIA-V205	SIP-001	G14	2	C	24"	CK	SA	C	O C	FST FST	RF RF		VRR-32 *	73ST-9ZZ25 40ST-9SI09	(Disassemble) *Test Frequency being evaluated per CRDR 940174
SIB-V206	SIP-001	A14	2	C	24"	CK	SA	C	O C	FST FST	RF RF		VRR-32 *	73ST-9ZZ25 40ST-9SI09	(Disassemble) *Test Frequency being evaluated per CRDR 940174
SIE-V215	SIP-002	A15	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	 CS-3 RF RF		 VRR-33	 73ST-9XI32 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (req'd by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST
SIE-V217	SIP-002	A13	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	 CS RF RF		 VRR-34	 73ST-9XI27 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (req'd. by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST
SIE-V225	SIP-002	A12	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	 CS-3 RF RF		 VRR-33	 73ST-9XI32 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (Req'd by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST
SIE-V227	SIP-002	A10	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	 CS RF RF		 VRR-34	 73ST-9XI27 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (req'd by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIE-V235	SIP-002	A7	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	CS-3 RF RF		VRR-33	73ST-9XI32 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (req'd by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST
SIE-V237	SIP-002	A6	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	CS RF RF		VRR-34	73ST-9XI26 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (req'd by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST
SIE-V245	SIP-002	A5	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	CS-3 RF RF		VRR-33	73ST-9XI32 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (req'd by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST
SIE-V247	SIP-002	A4	1	A C	14"	CK	SA	C	C O O	FST* PST FST LT	CS RF RF		VRR-34	73ST-9XI26 73ST-9XI30 73ST-9SI03 73ST-9ZZ25**	*Closure test (req'd by VRR-33 and 34 approval letter) being eval by CRDR 940174. **Alternate FST
SIA-V404	SIP-001	F6	2	C	4"	CK	SA	C	O C	FST FST	RF RF		VRR-28 *	73ST-9XI33 73ST-9XI33	*Test frequency being evaluated per CRDR 940174
SIB-V405	SIP-001	B4	2	C	4"	CK	SA	C	O C	FST FST	RF RF		VRR-28 *	73ST-9XI33 73ST-9XI33	*Test frequency being evaluated per CRDR 940174
SIA-V424	SIP-001	F10	2	C	2"	CK	SA	C	O	FST	OP			73ST-9SI10	
SIB-V426	SIP-001	A10	2	C	2"	CK	SA	C	O	FST	OP			73ST-9SI10	
SIA-V434	SIP-001	F9	2	C	10"	CK	SA	C	O	PST FST	OP CS	CSJ-29		73ST-9XI09 73ST-9XI26	
SIB-V446	SIP-001	B9	2	C	10"	CK	SA	C	O	PST FST	OP CS	CSJ-29		73ST-9XI10 73ST-9XI27	
SIB-V448	SIP-001	B10	2	C	2"	CK	SA	C	O	FST	OP			73ST-9SI11	Miniflow
SIA-V451	SIP-001	G10	2	C	2"	CK	SA	C	O	FST	OP			73ST-9SI11	Miniflow
SIE-V463	SIP-001	D8	1	A	2"	GL	MAN	C	C	AJLT	RF			73ST-9CL01	penet. 28 Locked Closed

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIB-V484	SIP-001	C9	2	C	10"	CK	SA	C	O	PST FST	OP CS	 CSJ-30		73ST-9XI10 73ST-9XI27	
SIA-V485	SIP-001	H9	2	C	10"	CK	SA	C	O	PST FST	OP CS	 CSJ-30		73ST-9XI09 73ST-9XI26	
SIA-V486	SIP-001	G10	2	C	2"	CK	SA	C	O	FST	OP			73ST-9XI06	Miniflow
SIB-V487	SIP-001	C10	2	C	2"	CK	SA	C	O	FST	OP			73ST-9XI06	Miniflow
SIA-V522	SIP-002	C2	1	A C	3"	CK	SA	C	O C	FST FST* LT	RF RF		VRR-35	73ST-9XI33 73ST-9SI03	 *Need and frequency for closure test being eval. by CRDR 940174
SIA-V523	SIP-002	F2	1	A C	3"	CK	SA	C	O C	FST FST* AJLT LT	RF RF		VRR-35	73ST-9XI33 73ST-9CL01 73ST-9SI03	penet. 77 *Need and frequency for closure test being eval. by CRDR 940174
SIB-V532	SIP-002	C10	1	A C	3"	CK	SA	C	O C	FST FST* LT	RF RF		VRR-35	73ST-9XI33 73ST-9SI03	 *Need and frequency for closure test being eval. by CRDR 940174
SIB-V533	SIP-002	F9	1	A C	3"	CK	SA	C	O C	FST FST* AJLT LT	RF RF		VRR-35	73ST-9XI33 73ST-9CL01 73ST-9SI03	penet. 67 *Need and frequency for closure test being eval. by CRDR 940174
SIE-V540	SIP-002	C13	1	A C	12"	CK	SA	C	O C	FST FST* LT	CS RF	CSJ-31		73ST-9XI27 73ST-9SI03	 *Need and frequency for closure test being eval. by CRDR 940174
SIE-V541	SIP-002	C11	1	A C	12"	CK	SA	C	O C	FST FST* LT	CS RF	CSJ-31		73ST-9XI27 73ST-9SI03	 *Need and frequency for closure test being eval. by CRDR 940174
SIE-V542	SIP-002	C6	1	A C	12"	CK	SA	C	O C	FST FST* LT	CS RF	CSJ-31		73ST-9XI26 73ST-9SI03	 *Need and frequency for closure test being eval. by CRDR 940174
SIE-V543	SIP-002	C4	1	A C	12"	CK	SA	C	O C	FST FST* LT	CS RF	CSJ-31		73ST-9XI26 73ST-9SI03	 *Need and frequency for closure test being eval. by CRDR 940174
SIA-V997	SIP-002	E3	1	A C	1"	CK	SA	C	O/C	FST AJLT	CS RF	CS--34		73ST-9XI21 73ST-9CL01	Being installed per DMWO 714670. May not be in all units yet.

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIB-V998	SIP-002	D10	1	A C	1"	CK	SA	C	O/C	FST AJLT	CS RF	CS-34		73ST-9XI21 73ST-9CL01	Being installed per DMWO 714670. May not be in all units yet.
SIA-VA10	SIP-002	G3	2	A C	1"	CK	SA	C	O/C	FST AJLT	OP RF			73ST-9XI09 73ST-9CL01	Being installed per DMWO 746122. May not be in all units yet.
SIB-VA15	SIP-002	G10	2	A C	1"	CK	SA	C	O/C	FST AJLT	OP RF			73ST-9XI10 73ST-9CL01	Being installed per DMWO 746122. May not be in all units yet.
SIA-HV306	SIP-001	G5	2	B	10"	GL	MO	O	O	FST TP/VPI	OP RF			73ST-xXI11 73ST-xXI11	penet. 19
SIB-HV307	SIP-001	B4	2	B	10"	GL	MO	O	O	FST TP/VPI	OP RF			73ST-xXI12 73ST-xXI12	penet. 17
SIC-HV321	SIP-002	G2	1	A	3"	GL	MO	C	O	FST TP/VPI AJLT	CS RF RF	CSJ-21		73ST-xXI11 73ST-xXI11 73ST-9CL01	penet. 77
SID-HV331	SIP-002	G9	1	A	3"	GL	MO	C	O	FST TP/VPI AJLT	CS RF RF	CSJ-21		73ST-xXI12 73ST-xXI12 73ST-9CL01	penet. 67
SIA-HV604	SIP-001	G3	2	B	3"	GA	MO	C	O	FST VPI	CS RF	CSJ-21		73ST-9XI25 73ST-9XI25	
SIA-HV605	SIP-002	E15	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	
SIA-HV606	SIP-002	E12	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	
SIA-HV607	SIP-002	E7	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	
SIA-HV608	SIP-002	E4	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	
SIB-HV609	SIP-001	C3	2	B	3"	GA	MO	C	O	FST VPI	CS RF	CSJ-21		73ST-9XI25 73ST-9XI25	
SIB-HV613	SIP-002	E15	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIB-HV623	SIP-002	E12	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	
SIB-HV633	SIP-002	E7	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	
SIB-HV643	SIP-002	E4	2	B	1"	GL	SOL	C	O	FST VPI	CS RF	CSJ-22		73ST-9XI37 73ST-9XI37	
SIA-HV657	SIP-001	H4	2	B	16"	BTF	MO	C	O/C	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	
SIB-HV658	SIP-001	C4	2	B	16"	BTF	MO	C	O/C	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	
SIA-HV685	SIP-001	G8	2	B	10"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	
SIA-HV686	SIP-001	H6	2	B	20"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	
SIA-HV688	SIP-001	G9	2	B	10"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIB-HV690	SIP-002	H13	2	A	10"	GL	MO	C	O	FST VPI AJLT	CS RF RF	CSJ-27		73ST-9XI21 73ST-9XI21 73ST-9CL01	penet. 26
SIA-HV691	SIP-002	H4	2	A	10"	GL	MO	C	O	FST VPI AJLT	CS RF RF	CSJ-27		73ST-9XI21 73ST-9XI21 73ST-9CL01	penet. 27
SIB-HV693	SIP-001	C9	2	B	10"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIB-HV694	SIP-001	B8	2	B	10"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	
SIB-HV696	SIP-001	C6	2	B	20"	GA	MO	C	O/C	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	
SIA-HV698	SIP-001	F4	2	B	4"	GA	MO	O	C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIB-HV699	SIP-001	B3	2	B	4"	GA	MO	O	C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIB-UV322	SIP-002	D2	2	B	1"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIB-UV332	SIP-002	D10	2	B	1"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIB-UV611	SIP-002	B16	2	B	2"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIB-UV614	SIP-002	A14	1	B	14"	GA	MO	O	O	FST VPI	CS RF	CSJ-23		73ST-9XI25 73ST-9XI25	
SIB-UV615	SIP-002	G13	2	B	12"	GL	MO	C	O	FST TP/VPI	OP RF			73ST-xXI12 73ST-xXI12	penet. 17
SIB-UV616	SIP-002	G14	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	penet. 13
SIA-UV617	SIP-002	G15	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	penet. 13
SIB-UV618	SIP-002	B16	1	B	1"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIB-UV621	SIP-002	C13	2	B	2"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIB-UV624	SIP-002	A12	1	B	14"	GA	MO	O	O	FST VPI	CS RF	CSJ-23		73ST-9XI25 73ST-9XI25	
SIB-UV625	SIP-002	G11	2	B	12"	GL	MO	C	O	FST TP/VPI	OP RF			73ST-xXI12 73ST-xXI12	penet. 18
SIB-UV626	SIP-002	G12	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	penet. 14
SIA-UV627	SIP-002	G12	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	penet. 14
SIB-UV628	SIP-002	B13	1	B	1"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIB-UV631	SIP-002	C8	2	B	2"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIA-UV634	SIP-002	A7	1	B	14"	GA	MO	O	O	FST VPI	CS RF	CSJ-23		73ST-9XI25 73ST-9XI25	

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VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIA-UV635	SIP-002	G6	2	B	12"	GL	MO	C	O	FST TP/VPI	OP RF			73ST-xXI11 73ST-xXI11	penet. 19
SIB-UV636	SIP-002	G7	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	penet. 15
SIA-UV637	SIP-002	G8	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	penet. 15
SIB-UV638	SIP-002	B8	1	B	1"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIB-UV641	SIP-002	C5	2	B	2"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIA-UV644	SIP-002	A4	1	B	14"	GA	MO	O	O	FST VPI	CS RF	CSJ-23		73ST-9XI25 73ST-9XI25	
SIA-UV645	SIP-002	G4	2	B	12"	GL	MO	C	O	FST TP/VPI	OP RF			73ST-xXI11 73ST-xXI11	penet. 20
SIB-UV646	SIP-002	G4	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	penet. 16
SIA-UV647	SIP-002	G5	2	B	2"	GL	MO	C	O	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	penet. 16
SIB-UV648	SIP-002	B7	1	B	1"	GL	AO	O/C	C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIA-UV651	SIP-002	C3	1	A	16"	GA	MO	C	O/C	LT FST VPI	RF CS RF	CSJ-24		73ST-9SI03 73ST-9XI21 73ST-9XI21	
SIB-UV652	SIP-002	C10	1	A	16"	GA	MO	C	O/C	LT FST VPI	RF CS RF	CSJ-24		73ST-9SI03 73ST-9XI21 73ST-9XI21	
SIC-UV653	SIP-002	E3	1	A	16"	GA	MO	C	O/C	LT FST VPI AJLT	RF CS RF RF	CSJ-24		73ST-9SI03 73ST-9XI21 73ST-9XI21 73ST-9CL01	penet. 27
SID-UV654	SIP-002	E10	1	A	16"	GA	MO	C	O/C	LT FST VPI AJLT	RF CS RF RF	CSJ-24		73ST-9SI03 73ST-9XI21 73ST-9XI21 73ST-9CL01	penet. 26

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIA-UV655	SIP-002	G3	2	A	16"	GA	MO	C	O/C	FST VPI AJLT	CS RF RF	CSJ-24		73ST-9XI21 73ST-9XI21 73ST-9CL01	penet. 27
SIB-UV656	SIP-002	G10	2	A	16"	GA	MO	C	O/C	FST VPI AJLT	CS RF RF	CSJ-24		73ST-9XI21 73ST-9XI21 73ST-9CL01	penet. 26
SIB-UV659	SIP-001	A6	2	B	4"	GL	SOL	O	C	FST VPI	CS RF	CSJ-20		73ST-9XI21 73ST-9XI21	
SIA-UV660	SIP-001	F6	2	B	4"	GL	SOL	O	C	FST VPI	CS RF	CSJ-20		73ST-9XI21 73ST-9XI21	
SIA-UV664	SIP-001	G10	2	B	2"	GL	MO	O	C	FST TP/VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIB-UV665	SIP-001	B10	2	B	2"	GL	MO	O	C	FST TP/VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIA-UV666	SIP-001	F10	2	B	2"	GL	MO	O	C	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	
SIB-UV667	SIP-001	A10	2	B	2"	GL	MO	O	C	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	
SIB-UV668	SIP-001	B10	2	B	2"	GL	MO	O	C	FST VPI	OP RF			73ST-9XI14 73ST-9XI14	
SIA-UV669	SIP-001	G10	2	B	2"	GL	MO	O	C	FST VPI	OP RF			73ST-9XI13 73ST-9XI13	
SIB-UV671	SIP-001	C6	2	A	8"	GA	MO	C	O	FST VPI AJLT	OP RF RF			73ST-9XI04 73ST-9XI04 73ST-9CL01	penet. 22 C.S. Isol.
SIA-UV672	SIP-001	G6	2	A	8"	GA	MO	C	O	FST VPI AJLT	OP RF RF			73ST-9XI03 73ST-9XI03 73ST-9CL01	penet. 21 C.S. Isol.
SIA-UV673	SIP-001	G16	2	B	24"	BTF	MO	C	O	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	penet. 23 Sump
SIA-UV674	SIP-001	G14	2	B	24"	BTF	MO	C	O	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	penet. 23 Sump
SIB-UV675	SIP-001	A16	2	B	24"	BTF	MO	C	O	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	penet. 24 Sump

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIB-UV676	SIP-001	A14	2	B	24"	BTF	MO	C	O	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	penet. 24 Sump
SIA-UV682	SIP-001	D10	2	A	2"	GL	AO	C	C	FST VPI AJLT	OP RF RF			73ST-9XI03 73ST-9XI03 73ST-9CL01	penet. 28
SIA-UV708	SIP-001	G15	2	A	1/2"	GL	SOL	C	O/C	FST VPI AJLT	OP RF RF			73ST-9XI03 73ST-9XI03 73ST-9CL01	Remove after SARCN deletes this valve.
SIA-UV709	SIP-001	E8	2	B	1/2"	GL	SOL	C	O/C	FST VPI	OP RF			73ST-9XI03 73ST-9XI03	
SIB-UV710	SIP-001	A7	2	B	1/2"	GL	SOL	C	O/C	FST VPI	OP RF			73ST-9XI04 73ST-9XI04	
SIB-PSV140	SIP-001	B15	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	penet. 24
SIB-PSV141	SIP-001	B14	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV150	SIP-001	G15	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV151	SIP-001	G15	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	penet. 23
SIA-PSV161	SIP-001	H6	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV162	SIP-001	G5	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV166	SIP-002	G9	2	C	1 1/2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV169	SIP-002	D10	1	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV179	SIP-002	F3	2	A C	6"	PSV	SA	C	O	PSVT LT	RF RF			73ST-9ZZ19 73ST-9CL01	penet. 27 LTOP
SIB-PSV189	SIP-002	F10	2	A C	6"	PSV	SA	C	O	PSVT LT	RF RF			73ST-9ZZ19 73ST-9CL01	penet. 26 LTOP
SIB-PSV191	SIP-001	D6	2	C	1 1/2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV192	SIP-001	C4	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV193	SIP-001	D6	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV194	SIP-001	H6	2	C	1 1/2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SIE-PSV211	SIP-002	E15	2	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIE-PSV221	SIP-002	E12	2	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIE-PSV231	SIP-002	E7	2	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIE-PSV241	SIP-002	E5	2	C	2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV285	SIP-001	F9	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV286	SIP-001	B9	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV287	SIP-001	C9	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIE-PSV288	SIP-001	E5	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV289	SIP-001	G9	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIE-PSV407	SIP-001	E8	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV409	SIP-001	B2	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV417	SIP-001	F3	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV439	SIP-001	H3	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIB-PSV449	SIP-001	D3	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV468	SIP-002	G2	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIA-PSV469	SIP-002	D3	1	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIE-PSV473	SIP-001	E10	2	C	3/4"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SIE-PSV474	SIP-001	E9	2	A C	3/4"	PSV	SA	C	O	PSVT AJLT				73ST-9ZZ20 73ST-9CL01	penet. 28
SIA-PSV754	SIP-002	B3	1	C	1/2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	Being installed per DMWO 677651. May not be in all units yet.
SIB-PSV755	SIP-002	B10	1	C	1/2"	PSV	SA	C	O	PSVT				73ST-9ZZ20	Being installed per DMWO 677651. May not be in all units yet.

Essential Spray Pond (SP) Valves

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SPB-V012	SPP-001	C6	3	C	24"	CK	SA	C	O	FST	OP			73ST-9SP01	
SPA-V041	SPP-001	C4	3	C	24"	CK	SA	C	O	FST	OP			73ST-9SP01	
SPE-HCV-207	SPP-001	D5	3	B	10"	BTF	MAN	C	O	FST	OP			73ST-9XI31	Added to IST Program per CRDR 930025.10.
SPE-HCV-208	SPP-001	E4	3	B	10"	BTF	MAN	C	O	FST	OP			73ST-9XI31	Added to IST Program per CRDR 930025.10.
SPA-PSV29	SPP-002	D3	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPB-PSV30	SPP-002	D7	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPA-PSV137	SPP-002	G2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPB-PSV138	SPP-002	G5	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPA-PSV139	SPP-002	F2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPB-PSV140	SPP-002	F5	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPA-PSV141	SPP-002	F2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPB-PSV142	SPP-002	F5	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPA-PSV143	SPP-002	F2	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
SPB-PSV144	SPP-002	E5	3	C	1"	PSV	SA	C	O	PSVT				73ST-9ZZ20	
Nuclear Sampling (SS) Valves															
SSB-UV200	SSP-001	G6	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 42C
SSB-UV201	SSP-001	F6	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 42A
SSB-UV202	SSP-001	E6	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 42B
SSA-UV203	SSP-001	G7	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 42C

VALVE NUMBER	P&ID	COORDINATES	ISI CLASS	VALVE CATEGORY	VALVE SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	STROKE DIRECTION	TEST	TEST MODE	COLD SHUTDOWN JUSTIFICATION	RELIEF REQUEST	PROCEDURES	REMARKS
SSA-UV204	SSP-001	F7	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 42A
SSA-UV205	SSP-001	E7	2	A	1/2"	GL	SOL	C	C	FST VPI AJLT	OP RF RF			73ST-9XI06 73ST-9XI06 73ST-9CL01	penet. 42B
Normal Chilled Water (WC) Valves															
WCE-V039	WCP-001	G7	2	A C	10"	CK	SA	O	C	FST AJLT	CS RF	CSJ-13		73ST-9XI28 73ST-9CL01	penet. 60
WCB-UV61	WCP-001	F7	2	A	10"	GA	MO	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 61
WCA-UV62	WCP-001	F6	2	A	10"	GA	MO	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 61
WCB-UV63	WCP-001	F6	2	A	10"	GA	MO	O	C	FST VPI AJLT	OP RF RF			73ST-9XI07 73ST-9XI07 73ST-9CL01	penet. 60