INSERVICE TEST PROGRAM

VOGTLE ELECTRIC GENERATING PLANT

UNIT 1

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1.0 INTRODUCTION

1.1 GENERAL

The Inservice Testing Program is written and presented in accordance with the requirements of the Code of Federal Regulations 10 CFR 50.55a(g). This document provides a description of the inservice testing program for Vogtle Electric Generating Plant, Unit 1 (VEGP-1), for safety-related ASME Boiler and Pressure Vessel Code Class 1, 2, and 3 pumps and valves in accordance with the requirements of subsections IWP and IWV of the ASME Boiler and Pressure Vessel Code, Section XI, 1983 Edition through the Summer 1983 Addenda. This program is referenced by VEGP-1 plant Technical Specification 4.0.5.

1.2 EFFECTIVE PERIOD

This document shall go into effect beginning with baseline testing to establish reference data and shall then remain in effect through the first 120-month interval of commercial operation.

1.3 PROGRAM REVISIONS

As a minimum, this program will be reviewed and revised as necessary for compliance with the ASME Code in effect 12 months prior to the end of the first 120 months of commercial operation. Similarly, this program will be reviewed and revised for each subsequent 120-month interval. Georgia Power Company reserves the right to submit program revisions which may enhance or improve this pump and valve testing program at any time within the effective period.

1.4 GENERAL PROGRAM CONCEPT

The program specifies Section XI testing requirements for components providing, either by action or position, a safety-related function. By definition, a safety-related function is one that is used in:

a. Mitigating the consequences of an accident.

b. Shutdown of the reactor to the cold shutdown condition.

c. Maintaining the reactor in a safe shutdown condition.

Section XI requires quarterly testing of all components unless it is impractical to do so. This program specifies quarterly testing of pumps and valves unless it has been determined that such testing would:

a. Be impractical due to system or component design.

b. Render a safety-related system inoperable.

c. Cause a reactor or turbine trip.

d. Require significant deviations from normal plant operations.

e. Require entry into inaccessible plant areas.

f. Increase the possibility of an intersystem LOCA.

Each component excluded from quarterly testing has been analyzed to determine when appropriate testing may be performed. If operation of a valve is not practical during plant operation, the Code allows part-stroke exercising during normal plant operation and full-stroke exercising at cold shutdown.

Since the Code accepts cold shutdown testing, this program does not request relief for those valves for which testing is delayed until cold shutdown. The Program does provide a justification for delay of testing until cold shutdown. These justifications are prepared in a format similar to relief requests, and are located behind the Cold Shutdown Justification tab.

Where it has been determined that testing is not practical during plant operation, or at cold shutdown, a specific relief request has been prepared. Each specific relief request provides justification for not performing the Code-specified tests, and provides appropriate alternative testing. In addition to specific relief requests, general relief requests which address specific Code requirements found to be impractical for this site have been prepared. Relief requests are located behind the Relief Requests tab.

1.5 DEFINTIONS

Terms below, when used in the Inservice Testing Program, are defined as follows:

Quarterly: An interval of 92 days for testing components which can be tested during normal plant operation.

Cold Shutdown: Testing scheduled for cold shutdown will commence no later than 48 hours after entering cold shutdown. Testing will continue until all tests are complete or the plant is ready to

return to power. Completion of all testing is not a prerequisite to return to power. Testing not completed at one cold shutdown will be performed during subsequent cold shutdowns that may occur before the refueling outage. In case of frequent cold shutdowns, valve testing will not be performed more often than once every 3 months. The 48-hour interval need not hold for planned cold shutdowns when their duration is of sufficient time to accomplish all shutdown testing.

Refueling: Testing scheduled for refueling will be performed during the normal scheduled refueling shutdowns before returning to power operation.

2.0 PUMPS

The following Pump Test List describes the inservice/preservice testing of pumps subject to the requirements of Subsection IWP of the American Society of Mechanical Engineers (ASME) Code, Section XI, 1983 Edition through Summer 1983 Addenda. The edition and addenda of Section XI for the inservice testing will be as required by 10 CFR 50.55a. The Pump Test List provides identification of the pumps to be tested, inservice inspection (ISI) class, reference drawings, test requirements, and frequency of the tests. The legends before the Pump Test List describe the alpha coding used in the list.

Relief from the testing requirements of Section XI is requested where full compliance with the requirements of the code is not practical. In such cases the Pump Test List refers to a specific pump relief request (PR) number for the appropriate pump. The relief request provides specific information which identifies the applicable code requirements, the justification for the relief request, and the testing to be used as an alternate.

The baseline testing of pumps will be performed during preoperational testing or during the first surveillance test run. Reference values for subsequent inservice testing will be obtained from these baseline tests.

LEGEND FOR HEADINGS

Pump I.D. No.	- Unique Pump Identification Number
ISI Class	- The Classification as Determined for Section XI
Project Class	- The Classification as Determined by the Vogtle Project
P&ID/Sheet Number	- Piping and Instrumentation Diagram on which pump is shown.
Coordinates	- Location on P&ID where pump is shown.
Pump Descriptions	- Functional name of pump.
Relief Req	- Applicable relief request numbers are indicated with a "PR" prefix.
Notes	- Notes are located behind the last Pump Test List.

LEGEND FOR PUMP PARAMETERS

Pi - Inlet pressure (psig)
Po - Outlet pressure (psig)
dP - Differential pressure dP = Po-Pi (psi)
Q - Flowrate (gal/min)
V - Vibration amplitude (mil)
T - Bearing temperature (°F)
LL - Lubricant level or pressure
N - Speed (rpm)
PR - Pump Relief Request

LEGEND FOR FREQUENCY OF TEST

Q - Quarterly
A - Annually
N/A - Not applicable
- - Test deleted, see Relief Request

VEGP Unit No. 1
Pump Test List
System: Nuclear Service Cooling Water - System 1202

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Sheet 1 of 1

Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1202-P4-001	3	313	1X4DB133-1	C-8	NSCW Pumps	Q	Q	Q	Q	Q	N/A	N/A	N/A		*
1-1202-P4-002	3	313	1X4DB133-2	C-8	NSCW Pumps	Q	Q	Q	Q	Q	N/A	N/A	N/A		*
1-1202-P4-003	3	313	1X4DB133-1	C-5	NSCW Pumps	Q	Q	Q	Q	Q	N/A	N/A	N/A		*
1-1202-P4-004	3	313	1X4DB133-2	C-5	NSCW Pumps	Q	Q	Q	Q	Q	N/A	N/A	N/A		*
1-1202-P4-005	3	313	1X4DB133-1	C-7	NSCW Pumps	Q	Q	Q	Q	Q	N/A	N/A	N/A		*
1-1202-P4-006	3	313	1X4DB133-2	C-7	NSCW Pumps	Q	Q	Q	Q	Q	N/A	N/A	N/A		*
1-1202-P4-007	3	313	1X4DB133-1	C-6	NSCW Transfer Pump	Q	Q	Q	Q	Q	N/A	N/A	N/A		*
1-1202-P4-008	3	313	1X4DB133-2	C-6	NSCW Transfer Pump	Q	Q	Q	Q	Q	N/A	N/A	N/A		*

*The bearings of the nuclear service cooling water pumps are in the main process flow path and therefore temperature measurements are not required by IWP-4310.

VEGP Unit No. 1
Pump Test List
System: Component Cooling Water - System No. 1203

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Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1203-P4-001	3	313	1X4DB136	H-4	CCW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1203-P4-002	3	313	1X4DB136	D-4	CCW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1203-P4-003	3	313	1X4DB136	G-4	CCW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1203-P4-004	3	313	1X4DB136	C-4	CCW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1203-P4-005	3	313	1X4DB136	F-4	CCW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1203-P4-006	3	313	1X4DB136	B-4	CCW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	

VEGP Unit No. 1
Pump Test List
System: Safety Injection - System No. 1204

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Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1204-P6-003	2	212	1X4DB121	E-2	Safety Injection Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1204-P6-004	2	212	1X4DB121	C-2	Safety Injection Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	

VEGP Unit No. 1
Pump Test List
System: Residual Heat Removal - System No. 1205

Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1205-P6-001	2	212	1X4DB122	F-4	RHR Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1205-P6-002	2	212	1X4DB122	C-4	RHR Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	

VEGP Unit No. 1
Pump Test List
System: Containment Spray - System No. 1206

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Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1206-P6-001	2	212	1X4DB131	G-4	CS Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1206-P6-002	2	212	1X4DB131	C-4	CS Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	

VEGP Unit No. 1
Pump Test List
System: Chemical and Volume Control - System No. 1208

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Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1208-P6-002	2	212	1X4DB116-2	G-4	Centrifugal Charging Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1208-P6-003	2	212	1X4DB116-2	C-4	Centrifugal Charging Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	

VEGP Unit No. 1
Pump Test List
System: Chemical and Volume Control - System No. 1208

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Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1208-P6-006	3	313	1X4DB118	D-4	Boric Acid Transfer Pumps	Q	Q	Q	-	Q	-	Q	N/A	PR-1,2,3	
1-1208-P6-007	3	313	1X4DB118	B-4	Boric Acid Transfer Pumps	Q	Q	Q	-	Q	-	Q	N/A	PR-1,2,3	

VEGP Unit No. 1
Pump Test List
System: Auxiliary Feedwater - System No. 1302

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Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1302-P4-001	3	313	1X4DB161-2	F-6	AFW Pump (Turbine Driven)	Q	Q	Q	Q	Q	-	Q	Q	PR-1	
1-1302-P4-002	3	313	1X4DB161-2	D-6	AFW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1302-P4-003	3	313	1X4DB161-2	B-6	AFW Pumps	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	

VEGP Unit No. 1
Pump Test List
System: Safety-Related (ESF) Chillers - System No. 1592

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Pump I.D. Number	Class ISI	Class Proj.	P&ID/Sheet Number	Coordinates	Pump Descriptions	Measured Parameters and Frequency Pi (psig)	Po (psig)	dP (psi)	Q (gpm)	V (mil)	T (°F)	LL (NA)	N (rpm)	Relief Req.	Notes
1-1592-P7-001	3	313	1X4DB221	F-5	ESF Chilled Water Pump	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	
1-1592-P7-002	3	313	1X4DB221	C-5	ESF Chilled Water Pump	Q	Q	Q	Q	Q	-	Q	N/A	PR-1	

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RELIEF REQUEST

PR-1

PUMPS:	All pumps except the NSCW and NSCW Transfer
CLASS:	2 and 3
TEST REQUIREMENTS:	IWP-3300 requires a bearing temperature measurement at least once a year.
BASIS FOR RELIEF:	The once-a-year temperature measurement will not provide significant information about pump conditions. Industry experience has shown that bearing temperature changes caused by degrading bearings occur only 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. The long running time required to achieve temperature stability could result in increased maintenance and repair. Deletion of this measurement will not have significant affect on evaluating pump test results since other required test parameters are being measured.
ALTERNATE TESTING:	Vibration amplitude will be measured quarterly as required by Code.

RELIEF REQUEST

PR-2

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PUMPS:	Boric acid transfer pumps (1-1208-P6-006 and 1-1208-P6-007)
CLASS:	3
TEST REQUIREMENTS:	IWP-3100 requires that the resistance of the system be varied until either the measured differential pressure or the measured flow rate equals the corresponding reference value.
BASIS FOR RELIEF:	Relief is requested from varying the system and measuring the reference value flow rates during quarterly pump tests. The plant does not have permanent flow rate measuring instruments. The boric acid transfer pumps are tested by using a recirculation flow path which takes suction from the boric acid storage tank and discharges through flow orifice FO-10117 while returning to the boric acid storage tank. This is a "fixed" resistance flow path and not a "variable" resistance flow path. During preoperational testing the flow rate from pumps 1-1208-P6-006 and 1-1208-P6-007 was measured to be 30.5 gpm and 31.5 gpm, respectively. This establishes the reference value flow rates for these pumps with their corresponding differential pressure measurements. During inservice testing pump degradation would be detected by changes in differential pressure and flow rate measurements would be unnecessary.
ALTERNATE TESTING:	The boric acid transfer pumps will be tested quarterly and differential pressure measurements will be recorded and evaluated to the Code requirements.

RELIEF REQUEST

PR-3

PUMPS:	Boric acid transfer pumps (1-1208-P6-006 and 1-1208-P6-007)
CLASS:	3
TEST REQUIREMENTS:	IWP-4120 states "The full-scale range of each instrument shall be three times the reference value or less."
BASIS FOR RELIEF:	Suction pressure gauges PI-10115 and PI-10116 on the boric acid transfer pumps have a range of 0 psi to 15 psi. The suction pressure measurements taken during preoperational testing were between 2 and 3 psi. Therefore, the maximum full scale range of the gauge would have to be from 0 to 6 or 9 psi to be within Code requirements. These instruments are within the accuracies of Table IWP-4110-1. Considering the low pressures involved, the difference between the Code ranges and the range on the installed instruments would have no significance on the adequacy of the measurements taken.
ALTERNATE TESTING:	The installed instruments will be used for taking suction pressure measurements during pump tests.

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4.0 VALVES

The following Valve Test List describes the inservice/preservice testing of valves subject to the requirements of Subsection IWV of the ASME Code, Section XI, 1983 Edition with Addenda through Summer 1983. The Valve Test List provides the identification of the valves to be tested, ISI class, valve categories, type, size, and actuator. Also listed are the normal position, fail position, safety position, active or passive, description, test requirements, and frequency of tests. The legends before the Valve Test List describe the alpha coding used in the list.

Relief from the testing requirements of Section XI is requested where full compliance with the requirements of the Code is not practical. In such cases the Valve Test List refers to a specific valve relief request (RR) number for the appropriate valves. The relief request provides specific information which identifies the applicable code requirements, justification for the relief request, and testing to be used as an alternate.

Valves are full-stroke exercised quarterly, during cold shutdown, or during refueling. Valves are full-stroke exercised except when valve design or system conditions do not permit it during quarterly or cold shutdown testing. When full-stroke exercising is not performed a basis is provided in the applicable "Relief Request" or "Cold Shutdown Justification". Partial-stroke exercising is performed when practical on valves where full-stroke exercising is not performed. Valves which receive partial-stroke exercising are addressed in the applicable "Relief Request" or "Cold Shutdown Justification".

Each valve, following installation and prior to service, will receive a baseline test. These tests will be conducted under conditions similar to those to be experienced during subsequent inservice tests. Safety and relief valves which will be removed and bench tested during subsequent inservice tests need not be installed prior to the baseline testing.

LEGEND FOR HEADINGS

Valve No.	- Unique valve identification number.
ISI Class	- The classification as determined for Section XI.
Project Class	- The classification as determined by the Vogtle Project.
P&ID (coord.)	- Piping and Instrumentaton Diagram on which valve is located. Location on P&ID where valve is shown is indicated as the coordinates (Coord.).
Valve Cat.	- Category of valve as defined in IWV-2200.
Valve Size	- Nominal pipe size diameter of the valve.
Valve Type	- Type of valve (i.e., check, globe, gate)
Act Type	- Type of valve actuator (i.e., motor, air)
Norm. Position	- The normal position of the valve (i.e, open, closed)
Fail Position	- The position to which the valve travels upon a loss of actuator power or air.
Safety Position	- The postion of the valve when it performs its safety-related function.
Act. or Pass.	- Valve function categorized as active (act.) or passive (pass.) as defined in IWV-2100. Active valves are indicated with an "A". Passive valves are indicated with a "P".
Relief Req. or C.S. Just.	- Applicable relief request numbers are indicated with a "RR" prefix. Applicable cold shutdown justification numbers are indicated with a "CS" prefix.

Description - Brief description of valve function or location.

Notes - Notes are located behind the last valve test list.

LEGEND OF VALVE TYPE

A	- Angle Valve
B	- Butterfly Valve
CK	- Check Valve
D	- Diaphragm Valve
GA	- Gate Valve
GL	- Globe Valve
SR	- Safety or Pressure Relief Valve

LEGEND OF VALVE ACTUATOR TYPE

AO	- Air Operated
ES	- Solenoid
H	- Hydraulic Operated
M	- Manual
MO	- Motor Operated
S	- Self Actuating
EH	- Electrohydraulic

LEGEND OF VALVE POSITIONS: NORMAL, FAIL, OR SAFETY

AI	- As Is
C	- Close
O	- Open
N/A	- Not Applicable
O/C	- Open or Close

LEGEND FOR FREQUENCY OF TEST

Q	- Quarterly
R	- Refueling
T	- Per table IWV-3510-1
Y	- 2 years
CS	- Cold shutdown
PQRM	- Partial stroke test exercised quarterly. Valve disassembled during refueling and manual stroke test exercised.

RM - Valve disassembled during refueling and manually stroke test exercised.
PQR - Partial stroke test exercised quarterly and full stroke test exercised during refueling.
PQCS - Partial stroke test exercised quarterly and full stroke test exercised during cold shutdown.
PCS - Partial stroke test exercised during cold shutdown.
- - Test deleted, see Relief Request.

LEGEND FOR VALVE CATEGORIES

Category	Description
A	Valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function.
B	Valves for which seat leakage in the closed position is inconsequential for fulfillment of their function.
C	Valves which are self-actuating in response to some system characteristic.
D	Valves which are actuated by an energy source capable of only one operation, such as rupture discs on explosive-actuated valves. Note: VEGP's design does not include such valves.
AC	Valves which are both Category A and C.

LEGEND FOR VALVE TESTING REQUIREMENTS

PI - Position indication verification, every 2 years per IWV-3300.

ET - Exercise test of Category A and B valves, quarterly per IWV-3411. Safety relief valves tested according to Table-3510-1 per IWV-3511. Check valve exercise test, quarterly per IWV-3520.

ST - Stroke time of Category A and B valves, quarterly per IWV-3413.

FSV - Fail-safe verification of Category A and B valves, quarterly per IWV-3415.

LT - Leakage rate test of Category A valves per IWV-3420. Valves subject to type C local leak rate testing as required by Appendix J of 10 CFR 50 are indicated by reference to Note 1. Valves which are RCS pressure isolation valves and leak rate tested per plant Technical Specifications indicated by reference to Note 2.

VEGP Unit No. 1
Valve Test List
System: Reactor Coolant - System No. 1201

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV-0442A	2	212	1X4DB112 (H-4)	B	1.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1,2 CS-2	Reactor Head Vent to Pressurizer Relief Tank
HV-0442B	2	212	1X4DB112 (G-4)	B	1.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1,2 CS-2	Reactor Head Vent to Pressurizer Relief Tank
HV 8000A	1	111	1X4DB112 (E-7)	B	3.00	GA	MO	O	AI	O/C	A	Y	Q	Q				Pressurizer Power Relief Block Valve
HV 8000B	1	111	1X4DB112 (F-7)	B	3.00	GA	MO	O	AI	O/C	A	Y	Q	Q				Pressurizer Power Relief Block Valve
HV 8028	2	212	1X4DB112 (F-2)	A	3.00	D	AO	O	C	C	A	Y	Q	Q	Q	R		Pressurizer Relief Tank Water Isolation - Penetration No. 63 (Note 1)
HV 8033	2	212	1X4DB112 (G-2)	A	1.00	D	AO	C	C	C	A	Y	Q	Q	Q	R		Pressurizer Relief Tank Vent Isolation - Penetration No. 62 (Note 1)
HV 8047	2	212	1X4DB112 (G-3)	A	1.00	D	AO	C	C	C	A	Y	Q	Q	Q	R		Pressurizer Relief Tank Vent Isolation - Penetration No. 62 (Note 1)
HV 8095A	1	111	1X4DB114 (E-5)	B	1.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1,2 CS-2	Reactor Head Vent
HV 8095B	1	111	1X4DB114 (E-5)	B	1.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1,2 CS-2	Reactor Head Vent

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8096A	1	111	1X4DB114 (E-5)	B	1.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1,2 CS-2	Reactor Head Vent
HV 8096B	1	111	1X4DB114 (E-5)	B	1.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1,2 CS-2	Reactor Head Vent
HV 8701A	1	111	1X4DB122 (G-2)	A	12.00	GA	MO	C	AI	O/C	A	Y	CS	CS		R	CS-1 RR-1,2	Residual Heat Removal (RHR) Recircu-lation Line From Reactor Coolant System (RCS) Loop 1 (Note 2)
HV 8701B	1	111	1X4DB122 (G-2)	A	12.00	GA	MO	C	AI	O/C	A	Y	CS	CS		R	CS-1 RR-1,2	RHR Recircu-lation Line From RCS Loop 1 (Note 2)
HV 8702A	1	111	1X4DB122 (D-2)	A	12.00	GA	MO	C	AI	O/C	A	Y	CS	CS		R	CS-1 RR-1,2	RHR Recircu-lation Line From RCS Loop 4 (Note 2)
HV 8702B	1	111	1X4DB122 (D-2)	A	12.00	GA	MO	C	AI	O/C	A	Y	CS	CS		R	CS-1 RR-1,2	RHR Recircu-lation Line From RCS Loop 4 (Note 2)
PSV 8010A	1	111	1X4DB112 (G-7)	C	6.00	SR	S	C	N/A	O/C	A		T					Pressurizer Relief
PSV 8010B	1	111	1X4DB112 (G-6)	C	6.00	SR	S	C	N/A	O/C	A		T					Pressurizer Relief

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Valve Number	Class ISI	Class Prol.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
PSV 8010C	1	111	1X4DB112 (G-6)	C	6.00	SR	S	C	N/A	O/C	A		T					Pressurizer Relief
PV 0455A	1	111	1X4DB112 (E-8)	B	3.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1, 2,3 CS-11	Pressurizer Power Relief
PV 0456A	1	111	1X4DB112 (F-8)	B	3.00	GL	ES	C	C	O/C	A	Y	CS	CS	CS		RR-1, 2,3 CS-11	Pressurizer Power Relief
U6 112	2	212	1X4DB112 (F-2)	AC	3.00	CK	S	C	N/A	C	A		R			R	RR-2,4	Containment Isolation - Penetration No. 63 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Nuclear Service Cooling Water - System No. 1202

DRAFT

008 REV 1

Valve Number	Class ISI	Class Prof.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
CV 9446	3	313	1X4DB133-1 (B-5)	B	2.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Nuclear Service Cooling Water (NSCW) to Blowdown Isolation
CV 9447	3	313	1X4DB133-2 (B-5)	B	2.00	GL	AO	O	C	C	A	Y	Q	Q	Q			NSCW to Blowdown Isolation
U4 025	3	313	1X4DB133-1 (C-8)	C	18.00	CK	S	O	N/A	O/C	A		Q					NSCW Pump Check
U4 027	3	313	1X4DB133-2 (C-8)	C	18.00	CK	S	O	N/A	O/C	A		Q					NSCW Pump Check
U4 031	3	313	1X4DB133-1 (E-6)	C	18.00	CK	S	O	N/A	O/C	A		Q					NSCW Pump Check
U4 033	3	313	1X4DB133-2 (E-6)	C	18.00	CK	S	O	N/A	O/C	A		Q					NSCW Pump Check
U4 035	3	313	1X4DB133-1 (C-4)	C	18.00	CK	S	O	N/A	O/C	A		Q					NSCW Pump Check
U4 037	3	313	1X4DB133-2 (C-5)	C	18.00	CK	S	O	N/A	O/C	A		Q					NSCW Pump Check
HV 1668A	3	313	1X4DB133-1 (G-5)	B	24.00	B	MO	O	AI	O/C	A	Y	Q	Q				NSCW Isolation to NSCW Tower Spray
HV 1668B	3	313	1X4DB133-1 (F-5)	B	18.00	B	MO	C	AI	O/C	A	Y	Q	Q				NSCW Isolation to NSCW Tower Basin
HV 1669A	3	313	1X4DB133-2 (G-5)	B	24.00	B	MO	O	AI	O/C	A	Y	Q	Q				NSCW Isolation to NSCW Tower Spray
HV 1669B	3	313	1X4DB133-2 (F-5)	B	18.00	B	MO	C	AI	O/C	A	Y	Q	Q				NSCW Isolation to NSCW Tower Basin

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 2134	2	212	1X4DB135-1 (C-5)	B	8.00	B	MO	O	AI	C	A	Y	Q	Q				Reactor Cavity Cooling Coil Supply Isolation
HV 2135	2	212	1X4DB135-2 (D-7)	B	8.00	B	MO	O	AI	C	A	Y	Q	Q				Reactor Cavity Cooling Coil Supply Isolation
HV 2138	2	212	1X4DB135-1 (B-2)	B	8.00	B	MO	O	AI	C	A	Y	Q	Q				Reactor Cavity Cooling Coil Return Isolation
HV 2139	2	212	1X4DB135-2 (D-5)	B	8.00	B	MO	O	AI	C	A	Y	Q	Q				Reactor Cavity Cooling Coil Return Isolation
U4 463	3	313	1X4DB134 (F-2)	C	8.00	CK	S	O/C	N/A	O	A		Q					NSCW To CB ESF Chiller (Condenser)
U4 465	3	313	1X4DB133-2 (D-1)	C	16.00	CK	S	O/C	N/A	O	A		Q					NSCW To CCW Heat Exchanger
U4 469	3	313	1X4DB135-1 (D-7)	C	16.00	CK	S	O/C	N/A	O	A		Q					NSCW To CCW Heat Exchanger
U4 474	3	313	1X4DB135-2 (C-8)	C	8.00	CK	S	O/C	N/A	O	A		Q					NSCW To CNTRL Bldg. ESF Water Chiller

VEGP Unit No. 1
Valve Test List
System: Component Cooling Water - System No. 1203

DRAFT

008 REV 0

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 030	3	313	1X4DB136 (H-4)	C	14.00	CK	S	O	N/A O/C	A		Q					Component Cooling Water (CCW) Pump Out Check
U4 032	3	313	1X4DB136 (G-4)	C	14.00	CK	S	O	N/A O/C	A		Q					CCW Pump Out Check
U4 034	3	313	1X4DB136 (F-4)	C	14.00	CK	S	O	N/A O/C	A		Q					CCW Pump Out Check
U4 055	3	313	1X4DB136 (D-4)	C	14.00	CK	S	O	N/A O/C	A		Q					CCW Pump Out Check
U4 057	3	313	1X4DB136 (C-4)	C	14.00	CK	S	O	N/A O/C	A		Q					CCW Pump Out Check
U4 059	3	313	1X4DB136 (B-4)	C	14.00	CK	S	O	N/A O/C	A		Q					CCW Pump Out Check

VEGP Unit No. 1
Valve Test List
System: Safety Injection - System No. 1204

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008 REV 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. EI	Tests and Freq. SI	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 0943A	3	313	1X4DB120 (E-1)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Accumulator Tank Vent
HV 0943B	3	313	1X4DB120 (D-1)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Accumulator Tank Vent
HV 8801A	2	212	1X4DB119 (F-5)	B	4.00	GA	MO	C	AI	O	A	Y	Q	Q				Boron Injection Tank (BIT) Discharge Isolation
HV 8801B	2	212	1X4DB119 (E-5)	B	4.00	GA	MO	C	AI	O	A	Y	Q	Q				BIT Discharge Isolation
HV 8802A	2	212	1X4DB121 (E-5)	B	4.00	GA	MO	C	AI	O	A	Y	CS	CS			CS-6 RR-1,2	RCS Hot Leg Loop 1/4 Header Isolation
HV 8802B	2	212	1X4DB121 (D-5)	B	4.00	GA	MO	C	AI	O	A	Y	CS	CS			CS-6 RR-1,2	RCS Hot Leg Loop 2/3 Header Isolation
HV 8806	2	212	1X4DB121 (E-1)	B	8.00	GA	MO	O	AI	O/C	A	Y	CS	CS			CS-3 RR-1,2	RWST Isolation
HV 8807A	2	212	1X4DB121 (D-2)	B	6.00	GA	MO	C	AI	O/C	A	Y	Q	Q				Chemical and Volume Control System (CVCS) Connection to Safety Injection System (SIS)
HV 8807B	2	212	1X4DB121 (D-2)	B	6.00	GA	MO	C	AI	O/C	A	Y	Q	Q				CVCS Connection to SIS

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8809A	2	212	1X4DB121 (B-5)	B	8.00	GA	MO	O	AI	O/C	A	Y	CS	CS			CS-4 RR-1,2	RHR Train A to SIS Cold Leg Isolation
HV 8809B	2	212	1X4DB121 (A-5)	B	8.00	GA	MO	O	AI	O/C	A	Y	CS	CS			CS-4 RR-1,2	RHR Train B to SIS Cold Leg Isolation
HV 8813	2	212	1X4DB121 (F-5)	B	2.00	GL	MO	O	AI	O/C	A	Y	CS	CS			CS-26 RR-1,2	SI Miniflow (Note 4)
HV 8814	2	212	1X4DB121 (E-3)	B	1.50	GL	MO	O	AI	O/C	A	Y	Q	Q				SI Miniflow (Note 4)
HV 8821A	2	212	1X4DB121 (E-4)	B	4.00	GA	MO	O	AI	O/C	A	Y	Q	Q				SIS Cold Leg Isolation
HV 8821B	2	212	1X4DB121 (D-4)	B	4.00	GA	MO	O	AI	O/C	A	Y	Q	Q				SIS Cold Leg Isolation
HV 8823	2	212	1X4DB121 (C-8)	B	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q			Pressure Isolation Valve Leak Rate Test Valve
HV 8824	2	212	1X4DB121 (E-8)	B	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q			Pressure Isolation Valve Leak Rate Test Valve
HV 8825	2	212	1X4DB121 (D-8)	B	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q			Pressure Isolation Valve Leak Rate Test Valve
HV 8835	2	212	1X4DB121 (C-5)	B	4.00	GA	MO	O	AI	O/C	A	Y	CS	CS			CS-5 RR-1,2	SIS Cold Leg Loop in Header Isolation

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8840	2	212	1X4DB121 (B-4)	B	12.00	GA	MO	C	AI	O/C	A	Y	CS	CS			CS-27 RR-1,2	RHR System Hot Leg Injection Crossover Isolation
HV 8843	2	212	1X4DB119 (D-6)	B	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q			Containment Isolation Penetration No. 32
HV 8871	2	212	1X4DB121 (H-6)	A	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q	R		Test Isolation - Penetration No. 41 (Note 1)
HV 8875A	2	212	1X4DB120 (H-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank
HV 8875B	2	212	1X4DB120 (F-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank
HV 8875C	2	212	1X4DB120 (D-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank
HV 8875D	2	212	1X4DB120 (B-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank
HV 8875E	2	212	1X4DB120 (G-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank
HV 8875F	2	212	1X4DB120 (E-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	ET	ST	FSV	LT	Relief Req. or C. S. Just.	Description and Notes
HV 8875G	2	212	1X4DB120 (D-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank
HV 8875H	2	212	1X4DB120 (B-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Nitrogen Fill/Vent for Accumulator Tank
HV 8881	2	212	1X4DB121 (G-6)	B	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q			Containment Isolation Penetration-No. 33
HV 8888	2	212	1X4DB121 (F-5)	A	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q	R		Test Isolation - Penetration No. 41 (Note 1)
HV 8890A	2	212	1X4DB121 (G-8)	B	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q			Pressure Isolation Valve Leak Rate Test Valve
HV 8890B	2	212	1X4DB121 (E-8)	B	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q			Pressure Isolation Valve Leak Rate Test Valve
HV 8920	2	212	1X4DB121 (D-3)	B	1.50	GL	MO	O	AI	O/C	A	Y	Q	Q				SI Miniflow (Note 4)
HV 8924	2	212	1X4DB116-2 (A-7)	B	6.00	GA	MO	O	AI	O/C	A	Y	Q	Q				RWST Isolation To CVCS

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8964	2	212	1X4DB121 (H-5)	A	0.75	GL	AO	O/C	C	C	A	Y	Q	Q	Q	R		Test Isolation - Penetration No. 41 (Note 1)
HV 9017A	2	212	1X4DB131 (F-3)	B	10.00	GA	MO	O	AI	O/C	A	Y	Q	Q				Containment Spray (CS) Pump P6-001 Suction From Refueling Water Storage Tank (RWST)
HV 9017B	2	212	1X4DB131 (E-3)	B	10.00	GA	MO	O	AI	O/C	A	Y	Q	Q				CS Pump P6-002 Suction From RWST
HV 10950	2	212	1X4DB120 (G-3)	A	0.75	GL	ES	O/C	C	C	A	Y	Q	Q	Q	R		Accumulator Tank 1 Local Sample Isolation - Penetration No. 72A (Note 1)
HV 10951	2	212	1X4DB120 (E-3)	A	0.75	GL	ES	O/C	C	C	A	Y	Q	Q	Q	R		Accumulator Tank 2 Local Sample Isolation - Penetration No. 73A (Note 1)
HV 10952	2	212	1X4DB120 (C-3)	A	0.75	GL	ES	O/C	C	C	A	Y	Q	Q	Q	R		Accumulator Tank 3 Local Sample Isolation - Penetration No. 72B (Note 1)

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Valve Number	Class IS!	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 10953	2	212	1X4DB120 (A-3)	A	0.75	GL	ES	O/C	C	C	A	Y	Q	Q	Q	R		Accumulator Tank 4 Local Sample Isolation - Penetration No. 73B (Note 1)
HV 10957	2	212	1X4DB121 (G-3)	B	3.00	GA	AO	O/C	C	C	A	Y	Q	Q	Q			Sludge mixing isolation to RWST
HV 10958	2	212	1X4DB121 (G-3)	B	3.00	GA	AO	O/C	C	C	A	Y	Q	Q	Q			Sludge mixing isolation to RWST
U4 026	1	111	1X4DB111 (D-5)	C	1.50	CK	S	C	N/A	O	A		R				RR-2,5	Boron Injection Cold Leg
U4 027	1	111	1X4DB111 (G-5)	C	1.50	CK	S	C	N/A	O	A		R				RR-2,5	Boron Injection Cold Leg
U4 028	1	111	1X4DB111 (G-4)	C	1.50	CK	S	C	N/A	O	A		R				RR-2,5	Boron Injection Cold Leg
U4 029	1	111	1X4DB111 (D-4)	C	1.50	CK	S	C	N/A	O	A		R				RR-2,5	Boron Injection Cold Leg
U4 093	2	212	1X4DB121 (E-3)	C	1.50	CK	S	C	N/A	O/C	A		Q					SI Miniflow
U4 094	2	212	1X4DB121 (D-3)	C	1.50	CK	S	C	N/A	O/C	A		Q					SI Miniflow
U4 120	1	111	1X4DB121 (F-6)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Hot Leg Loop 1 (Note 2)
U4 121	1	111	1X4DB121 (F-6)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Hot Leg Loop 4 (Note 2)

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 122	1	111	1X4DB121 (F-7)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Hot Leg Loop 3 (Note 2)
U4 123	1	111	1X4DB121 (F-7)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Hot Leg Loop 2 (Note 2)
U4 143	1	111	1X4DB121 (B-6)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Cold Leg Check Loop 1 (Note 2)
U4 144	1	111	1X4DB121 (B-7)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Cold Leg Check Loop 4 (Note 2)
U4 145	1	111	1X4DB121 (B-7)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Cold Leg Check Loop 3 (Note 2)
U4 146	1	111	1X4DB121 (B-8)	AC	2.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Cold Leg Check Loop 4 (Note 2)
U4 159	2	212	1X4DB120 (G-2)	A	0.75	GL	M	C	N/A	C	P					R		SIS Sample Line Containment Isolation Valve - Penetration No. 72A (Note 1)
U4 160	2	212	1X4DB120 (E-2)	A	0.75	GL	M	C	N/A	C	P					R		SIS Sample Line Containment Isolation Valve - Penetration No. 73A (Note 1)

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position fail Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 161	2	212	1X4DB120 (C-2)	A	0.75	GL	M	C	N/A C	P					R		SIS Sample Line Containment Isolation Valve - Penetration No. 72B (Note 1)
U4 162	2	212	1X4DB120 (A-2)	A	0.75	GL	M	C	N/A C	P					R		SIS Sample Line Containment Isolation Valve - Penetration No. 73B (Note 1)
U4 262	2	212	1X4DB121 (G-3)	C	3.00	CK	S	O/C	N/A C	A		RM				RR-2&22	Sludge Mixing Isolation to RWST
U4 263	2	212	1X4DB121 (G-3)	C	3.00	CK	S	O/C	N/A C	A		RM				RR-2&22	Sludge Mixing Isolation to RWST

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U6 013	1	111	1X4DB119 (E-6)	C	3.00	CK	S	C	N/A	O	A		R				RR-2,5	Boron injection Inboard Isolation
U6 079	1	111	1X4DB120 (G-8)	AC	10.00	CK	S	C	N/A	O/C	A		RM			R	RR-2,7	SIS Accumulator V6-002 Out Check (Note 2)
U6 080	1	111	1X4DB120 (E-8)	AC	10.00	CK	S	C	N/A	O/C	A		RM			R	RR-2,7	SIS Accumulator V6-003 Out Check (Note 2)
U6 081	1	111	1X4DB120 (C-8)	AC	10.00	CK	S	C	N/A	O/C	A		RM			R	RR-2,7	SIS Accumulator V6-004 Out Check (Note 2)
U6 082	1	111	1X4DB120 (A-8)	AC	10.00	CK	S	C	N/A	O/C	A		RM			R	RR-2,7	SIS Accumulator V6-005 Out Check (Note 2)
U6 083	1	111	1X4DB111 (B-5)	AC	10.00	CK	S	C	N/A	O/C	A		PCS RM			R	RR-2,11	SIS Accumulator/RHR to Cold Leg Loop 1 (Note 2)
U6 084	1	111	1X4DB111 (H-5)	AC	10.00	CK	S	C	N/A	O/C	A		PCS RM			R	RR-2,11	SIS Accumulator/RHR to Cold Leg Loop 2 (Note 2)
U6 085	1	111	1X4DB111 (H-4)	AC	10.00	CK	S	C	N/A	O/C	A		PCS RM			R	RR-2,11	SIS Accumulator/RHR to Cold Leg Loop 3 (Note 2)

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U6 086	1	111	1X4DB111 (B-4)	AC	10.00	CK	S	C	N/A	O/C	A		PCS RM			R	RR-2,11	SIS Accumulator/RHR to Cold Leg Loop 4 (Note 2)
U6 090	2	212	1X4DB121 (E-1)	C	8.00	CK	S	C	N/A	O	A		PQR				RR-2,9	SIS Pump Suction from RWST
U6 098	2	212	1X4DB121 (E-4)	C	4.00	CK	S	C	N/A	O/C	A		PQR				RR-2,8	SIS Pump P6-003 Discharge
U6 099	2	212	1X4DB121 (D-4)	C	4.00	CK	S	C	N/A	O/C	A		PQR				RR-2,8	SIS Pump P6-004 Discharge
U6 124	1	111	1X4DB111 (F-5)	AC	6.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Injection to Hot Leg Loop 2 (Note 2)
U6 125	1	111	1X4DB111 (D-3)	AC	6.00	CK	S	C	N/A	O/C	A		CS			R	CS-8 RR-2	SIS Injection to Hot Leg Loop 4 (Note 2)
U6 126	1	111	1X4DB111 (D-6)	AC	6.00	CK	S	C	N/A	O/C	A		CS			R	CS-8 RR-2	SIS Injection to Hot Leg Loop 1 (Note 2)
U6 127	1	111	1X4DB111 (F-4)	AC	6.00	CK	S	C	N/A	O/C	A		R			R	RR-2,6	SIS Injection to Hot Leg Loop 3 (Note 2)
U6 128	1	111	1X4DB121 (F-6)	AC	8.00	CK	S	C	N/A	O/C	A		CS			R	CS-8 RR-2	RHR to Hot Leg Loop 1 (Note 2)

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U6 129	1	111	1X4DB121 (F-6)	AC	8.00	CK	S	C	N/A	O/C	A		CS			R	CS-8 RR-2	RHR to Hot Leg Loop 4 (Note 2)
U6 147	1	111	1X4DB121 (B-6)	AC	6.00	CK	S	C	N/A	O/C	A		CS			R	CS-7 RR-2	RHR to Cold Leg Loop 1 (Note 2)
U6 148	1	111	1X4DB121 (B-6)	AC	6.00	CK	S	C	N/A	O/C	A		CS			R	CS-7 RR-2	RHR to Cold Leg Loop 2 (Note 2)
U6 149	1	111	1X4DB121 (A-7)	AC	6.00	CK	S	C	N/A	O/C	A		CS			R	CS-7 RR-2	RHR to Cold Leg Loop 3 (Note 2)
U6 150	1	111	1X4DB121 (A-7)	AC	6.00	CK	S	C	N/A	O/C	A		CS			R	CS-7 RR-2	RHR to Cold Leg Loop 4 (Note 2)
U6 163	2	212	1X4DB122 (B-8)	C	8.00	CK	S	C	N/A	O	A		R				RR-2,10	RHR to SIS Pump Suction

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8716A	2	212	1X4DB122 (F-7)	B	8.00	GA	MO	O	AI	O/C	A	Y	Q	Q				RHR Train A Hot Leg Isolation
HV 8716B	2	212	1X4DB122 (D-7)	B	8.00	GA	MO	O	AI	O/C	A	Y	Q	Q				RHR Train B Hot Leg Isolation
HV 8804A	2	212	1X4DB122 (F-8)	B	8.00	GA	MO	C	AI	O/C	A	Y	Q	Q				RHR Heat Exchanger (HX) Train A to CVCS Charge Pump Suction
HV 8804B	2	212	1X4DB122 (B-8)	B	8.00	GA	MO	C	AI	O/C	A	Y	Q	Q				RHR HX Train B to Safety Injection Pump Suction
HV 8811A	2	212	1X4DB122 (B-3)	B	14.00	GA	MO	C	AI	O/C	A	Y	Q	Q				Containment Sump Isolation
HV 8811B	2	212	1X4DB122 (B-3)	B	14.00	GA	MO	C	AI	O/C	A	Y	Q	Q				Containment Sump Isolation
HV 8812A	2	212	1X4DB122 (F-4)	B	12.00	GA	MO	O	AI	O/C	A	Y	Q	Q				RHR Pump P6-001 Inlet From RWST
HV 8812B	2	212	1X4DB122 (C-4)	B	12.00	GA	MO	O	AI	O/C	A	Y	Q	Q				RHR Pump P6-002 Inlet From RWST
PSV 8708A	2	212	1X4DB122 (H-3)	C	3.00	SR	S	C	N/A	O/C	A		T					RHR Pump P6-001 Inlet
PSV 8708B	2	212	1X4DB122 (E-3)	C	3.00	SR	S	C	N/A	O/C	A		T					RHR Pump P6-002 Inlet

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 122	2	212	1X4DB122 (C-3)	C	14.00	CK	S	C	N/A	O/C	A		Q					RHR Sump Suction (Note 3)
U4 123	2	212	1X4DB122 (B-3)	C	14.00	CK	S	C	N/A	O/C	A		Q					RHR Sump Suction (Note 3)
U6 001	2	212	1X4DB122 (F-4)	C	12.00	CK	S	C	N/A	O	A		Q					RWST to RHR Pump Suction
U6 002	2	212	1X4DB122 (C-4)	C	12.00	CK	S	C	N/A	O	A		Q					RWST to RHR Pump Suction
U6 009	2	212	1X4DB122 (G-5)	C	8.00	CK	S	C	N/A	O/C	A		Q					RHR Pump P6-001 Discharge Check
U6 010	2	212	1X4DB122 (D-5)	C	8.00	CK	S	C	N/A	O/C	A		Q					RHR Pump P6-002 Discharge Check
FV 0610	2	212	1X4DB122 (H-5)	B	3.00	GA	MO	O	AI	O/C	A	Y	Q	Q				RHR Pump P6-001 Miniflow
FV 0611	2	212	1X4DB122 (E-5)	B	3.00	GA	MO	O	AI	O/C	A	Y	Q	Q				RHR Pump P6-002 Miniflow

VEGP Unit No. 1
Valve Test List
System: Containment Spray - System No. 1206

008 REV 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	ET	ST	FSV	LT	Relief Req. or C. S. Just.	Description and Notes
HV 8994A	3	313	1X4DB131 (D-4)	B	3.00	GA	MO	C	AI	O	A	Y	CS	CS			CS-28 RR-1,2	Spray Additive Tank Outlet Isolation
HV 8994B	3	313	1X4DB131 (D-3)	B	3.00	GA	MO	C	AI	O	A	Y	CS	CS			CS-28 RR-1,2	Spray Additive Tank Outlet Isolation
HV 9001A	2	212	1X4DB131 (G-6)	A	8.00	GA	MO	C	AI	O	A	Y	Q	Q		R		CS Pump P6-001 to Spray Header (Note 1)
HV 9001B	2	212	1X4DB131 (C-6)	A	8.00	GA	MO	C	AI	O	A	Y	Q	Q		R		CS Pump P6-002 to Spray Header (Note 1)
HV 9002A	2	212	1X4DB131 (B-6)	B	10.00	GA	MO	C	AI	O	A	Y	Q	Q				CS Pump P6-001 Suction
HV 9002B	2	212	1X4DB131 (C-6)	B	10.00	GA	MO	C	AI	O	A	Y	Q	Q				CS Pump P6-002 Suction
HV 9003A	2	212	1X4DB131 (B-5)	B	10.00	GA	MO	C	AI	O	A	Y	Q	Q				CS Suction Isolation
HV 9003B	2	212	1X4DB131 (C-5)	B	10.00	GA	MO	C	AI	O	A	Y	Q	Q				CS Suction Isolation
U6 001	2	212	1X4DB131 (G-3)	C	10.00	CK	S	C	N/A	O/C	A		PQRM				RR-2,13	RWST to CS Pump Check
U6 008	2	212	1X4DB131 (D-3)	C	10.00	CK	S	C	N/A	O/C	A		PQRM				RR-2,13	RWST to CS Pump Check

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U6 015	2	212	1X4DB131 (H-7)	AC	8.00	CK	S	C	N/A	O/C	A		RM			R	RR-2,14	CS Inboard Containment Check Valve (Note 1)
U6 016	2	212	1X4DB131 (C-7)	AC	8.00	CK	S	C	N/A	O/C	A		RM			R	RR-2,14	CS Inboard Containment Check Valve (Note 1)
U6 037	2	212	1X4DB131 (F-5)	C	3.00	CK	S	C	N/A	O/C	A		Q					Spray Additive Tank to Train A NaOH Eductor Check
U6 038	2	212	1X4DB131 (E-5)	C	3.00	CK	S	C	N/A	O/C	A		Q					Spray Additive Tank to Train B NaOH Eductor Check
*	3	313	1X4DB131 (F-4)	C	1.00	CK	S	C	N/A	O	A		Q					Vacuum Breakers

*Spray additive tank vacuum breakers (2)

VEGP Unit No. 1
Valve Test List
System: Chemical and Volume Control - System No. 1208

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 0190A	2	212	1X4DB116-2 (G-7)	B	1.00	GL	ES	C	C	O	A	Y	Q	Q	-		RR-15	Centrifugal Charging Pump (CCP) to Regenerative HX
HV 0190B	2	212	1X4DB116-2 (B-7)	B	1.00	GL	ES	C	C	O	A	Y	Q	Q	-		RR-15	Centrifugal Charging Pump (CCP) to Regenerative HX
HV 8100	2	212	1X4DB114 (D-2)	A	2.00	GA	MO	O	AI	C	A	Y	CS	CS		R	CS-9 RR-1,2	Reactor Coolant Pump Seal Water Isolation - Penetration No. 49 (Note 1)
HV 8105	2	212	1X4DB116-1 (C-8)	A	3.00	GA	MO	O	AI	O/C	A	Y	CS	CS		R	CS-10 RR-1,2	Charge Pump to RCS Isolation - Penetration No. 50 (Note 1)
HV 8106	2	212	1X4DB116-1 (C-7)	B	3.00	GA	MO	O	AI	C	A	Y	CS	CS			CS-10 RR-1,2	Charge Pump to RCS Isolation
HV 8110	2	212	1X4DB116-2 (E-8)	B	2.00	GL	MO	O	AI	C	A	Y	Q	Q				Charge Pump Miniflow Isolation
HV 8111A	2	212	1X4DB116-2 (F-6)	B	2.00	GL	MO	O	AI	C	A	Y	Q	Q				Charge Pump Miniflow Isolation
HV 8111B	2	212	1X4DB116-2 (D-6)	B	2.00	GL	MO	O	AI	C	A	Y	Q	Q				Charge Pump Miniflow Isolation

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8112	2	212	1X4DB114 (D-3)	A	2.00	GL	MO	O	AI	C	A	Y	CS	CS		R	CS-9 RR-1,2	Reactor Coolant Pump Seal Water Isolation - Penetration No. 49 (Note 1)
HV 8116	2	212	1X4DB116-2 (G-8)	B	1.00	GL	MO	C	AI	O	A	Y	Q	Q				CCP to Regenerative HX
HV 8152	2	212	1X4DB114 (H-2)	A	3.00	GL	AO	O	C	C	A	Y	CS	CS	CS	R	CS-12 RR-1,2	Letdown Isolation Outside - Penetration No. 48 (Note 1)
HV 8160	2	212	1X4DB114 (H-3)	A	3.00	GL	AO	O	C	C	A	Y	CS	CS	CS	R	CS-12 RR-1,2	CVCS Letdown Isolation - Penetration No. 48 (Note 1)
HV 8508A	2	212	1X4DB116-2 (G-6)	B	2.00	GL	MO	C	AI	O/C	A	Y	Q	Q				Pump Miniflow to RWST
HV 8508B	2	212	1X4DB116-2 (D-5)	B	2.00	GL	MO	C	AI	O/C	A	Y	Q	Q				Pump Miniflow to RWST
HV 15214	2	212	1X4DB114 (H-4)	B	3.00	GL	AO	O	C	C	A	Y	CS	CS	CS		CS-12 RR-1,2	RCS Letdown Isolation
LV 0112B	2	212	1X4DB116-1 (F-4)	B	4.00	GA	MO	O	AI	C	A	Y	CS	CS			CS-13 RR-1,2	VCT Isolation
LV 0112C	2	212	1X4DB116-1 (E-4)	B	4.00	GA	MO	O	AI	C	A	Y	CS	CS			CS-13 RR-1,2	VCT Isolation

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
LV 0112D	2	212	1X4DB116-2 (E-2)	B	8.00	GA	MO	C	AI	O/C	A	Y	CS	CS			CS-14 RR-1,2	RWST Isolation
LV 0112E	2	212	1X4DB116-2 (D-2)	B	8.00	GA	MO	C	AI	O/C	A	Y	CS	CS			CS-14 RR-1,2	RWST Isolation
U4 021	2	212	1X4DB114 (D-3)	AC	0.75	CK	S	C	N/A	C	P					R		CVCS Seal Backflush Check - Penetration No. 49 (Note 1)
U4 140	2	212	1X4DB116-2 (G-6)	C	2.00	CK	S	C	N/A	O	A		Q					CCP Miniflow
U4 147	2	212	1X4DB116-2 (C-6)	C	2.00	CK	S	C	N/A	O	A		Q					CCP Miniflow
U6 032	2	212	1X4DB114 (G-3)	AC	3.00	CK	S	O	N/A	O/C	A		R			R	RR-2,16	CVCS to Regenerative HX - Penetration No. 50 (Note 1)
U6 142	2	212	1X4DB116-2 (G-6)	C	4.00	CK	S	C	N/A	O/C	A		PQR				RR-2,12	CVCS Pump Out Check
U6 149	2	212	1X4DB116-2 (C-6)	C	4.00	CK	S	C	N/A	O/C	A		PQR				RR-2,12	CVCS Pump Out Check
U6 189	2	212	1X4DB116-2 (E-2)	C	8.00	CK	S	C	N/A	O	A		PCS R				RR-2,17	RWST to CVCS Check
U6 436	2	212	1X4DB122 (F-8)	C	8.00	CK	S	C	N/A	O	A		PCS R				RR-2,17	CVCS Charge Pump Suction From RHR

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
PSV 8510A	2	212	1X4DB116-2 (F-5)	C	1.50	SR	S	C	N/A	O/C	A		T					Miniflow Relief to RWST
PSV 8510B	2	212	1X4DB116-2 (E-5)	C	1.50	SR	S	C	N/A	O/C	A		T					Miniflow Relief to RWST
U4 185	2	212	1X4DB116-1 (D-1)	C	2.00	CK	S	C	N/A	O	A		CS				CS-29 RR-2	Boric Acid to Charging Pumps
U4 284	3	313	1X4DB118 (D-5)	C	2.00	CK	S	C	N/A	O	A		Q					Boric Acid Transfer Pump Discharge
U4 299	3	313	1X4DB118 (B-5)	C	2.00	CK	S	C	N/A	O	A		Q					Boric Acid Transfer Pump Discharge
U4 499	2	212	1X4DB116-1 (D-3)	C	1.00	CK	S	C	N/A	O	A		CS				CS-29 RR-2	Boric Acid to Charging Pumps
HV-8104	2	212	1X4DB116-1 (D-1)	B	2.00	GL	MO	C	AI	O/C	A	Y	Q	Q				Boric Acid to Charging Pumps
HV-8439	2	212	1X4DB116-1 (D-3)	B	1.00	GL	ES	C	C	O/C	A	Y	Q	Q	Q			Boric Acid to Charging Pumps

VEGP Unit No. 1
Valve Test List
System: Nuclear Sampling-Liquid - System No. 1212

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 3502	2	212	1X4DB140 (E-7)	A	0.50	GL	AO	O	C	C	A	Y	Q	Q	Q	R		Hot Leg Sample Line - Penetration No. 24 (Note 1)
HV 3507	2	212	1X4DB140 (G-7)	A	0.50	GL	AO	C	C	C	A	Y	Q	Q	Q	R		Pressurizer Steam Space - Penetration No. 67B (Note 1)
HV 3508	2	212	1X4DB6140 (G-7)	A	0.50	GL	AO	C	C	C	A	Y	Q	Q	Q	R		Pressurizer Steam Space - Penetration No. 67B (Note 1)
HV 3513	2	212	1X4DB140 (F-7)	A	0.50	GL	AO	C	C	C	A	Y	Q	Q	Q	R		Hot Leg Sample Line - Penetration No. 67A (Note 1)
HV 3514	2	212	1X4DB140 (F-7)	A	0.50	GL	AO	C	C	C	A	Y	Q	Q	Q	R		Hot Leg Sample Line - Penetration No. 67A (Note 1)
HV 3548	2	212	1X4DB140 (D-8)	A	0.50	GL	MO	O	C	C	A	Y	Q	Q	Q	R		Reactor Hot Leg Sample Line - Penetration No. 24 (Note 1)
HV 8220	2	212	1X4DB140 (D-7)	A	0.50	GL	ES	C	C	C	A	Y	Q	Q	Q	R		Post-Accident Sampling - Penetration No. 24 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Spent Fuel Cooling and Purification - System No. 1213

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U6 050	2	212	1X4DB130 (G-8)	A	3.00	D	M	C	N/A	C	P					R		Containment Isolation Valve - Penetration No. 15 (Note 1)
U6 051	2	212	1X4DB130 (H-8)	A	3.00	D	M	C	N/A	C	P					R		Containment Isolation Valve - Penetration No. 15 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Containment and Auxiliary Building Drains - System No. 1214

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 0780	2	212	1X4DB143 (G-6)	A	3.00	GA	AO	O	C	C	A	Y	Q	Q	Q	R		Normal Containment Sump Pump Discharge - Penetration No. 78 (Note 1)
HV 0781	2	212	1X4DB143 (G-6)	A	3.00	GA	AO	O	C	C	A	Y	Q	Q	Q	R		Normal Containment Sump Pump Discharge - Penetration No. 78 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Auxiliary Component Cooling Water - System No. 1217

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 1974	2	212	1X4DB138-2 (G-7)	A	10.00	B	MO	O	AI	C	A	Y	CS	CS		R	CS-15 RR-1,2	Auxiliary Component Cooling Water (ACCW) Return - Penetration No. 29 (Note 1)
HV 1975	2	212	1X4DB138-1 (B-2)	A	10.00	B	MO	O	AI	C	A	Y	CS	CS		R	CS-15 RR-1,2	ACCW Return - Penetration No. 29 (Note 1)
HV 1978	2	212	1X4DB138-2 (H-7)	A	10.00	B	MO	O	AI	C	A	Y	CS	CS		R	CS-15 RR-1,2	ACCW Supply - Penetration No. 28 (Note 1)
HV 1979	2	212	1X4DB138-1 (D-3)	A	10.00	B	MO	O	AI	C	A	Y	CS	CS		R	CS-15 RR-1,2	ACCW Supply - Penetration No. 28 (Note 1)
U4 084	3	313	1X4DB138-2 (E-6)	C	2.50	CK	S	O	N/A	C	A		R				RR-2,18	ACCW to RCP Thermal Barrier
U4 085	3	313	1X4DB138-2 (C-6)	C	2.50	CK	S	O	N/A	C	A		R				RR-2,18	ACCW to RCP Thermal Barrier
U4 086	3	313	1X4DB138-2 (B-3)	C	2.50	CK	S	O	N/A	C	A		R				RR-2,18	ACCW to RCP Thermal Barrier
U4 087	3	313	1X4DB138-2 (F-3)	C	2.50	CK	S	O	N/A	C	A		R				RR-2,18	ACCW to RCP Thermal Barrier
U4 113	2	212	1X4DB138-2 (G-7)	A/C	0.75	CK	S	C	N/A	C	P					R		ACCW Return - Penetration No. 29 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Auxiliary Component Cooling Water - System No. 1217

DRAFT

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 2041	3	313	1X4DB138-2 (F-7)	B	3.00	GA	MO	O	AI	C	A	Y	CS	CS			CS-30 RR-1,2	Thermal Barrier Isolation
HV 19051	3	313	1X4DB138-2 (E-7)	B	2.50	GA	MO	O	AI	C	A	Y	CS	CS			CS-30 RR-1,2	Thermal Barrier Isolation
HV 19053	3	313	1X4DB138-2 (C-7)	B	2.50	GA	MO	O	AI	C	A	Y	CS	CS			CS-30 RR-1,2	Thermal Barrier Isolation
HV 19055	3	313	1X4DB138-2 (B-2)	B	2.50	GA	MO	O	AI	C	A	Y	CS	CS			CS-30 RR-1,2	Thermal Barrier Isolation
HV 19057	3	313	1X4DB138-2 (F-1)	B	2.50	GA	MO	O	AI	C	A	Y	CS	CS			CS-30 RR-1,2	Thermal Barrier Isolation

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	ET	ST	FSV	LT	Relief Req. or C. S. Just.	Description and Notes
PV 3000	2	212	1X4DB159-2 (H-2)	B	10.00	GL	EH	C	C	O/C	A	Y	CS	CS	CS		CS-17 RR-1,2	Main Steam Power-Operated Relief Valve
HV 3006A	2	212	1X4DB159-2 (H-6)	B	29.50	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	Main Steam Isolation Valve (MSIV)
HV 3006B	2	212	1X4DB159-2 (H-7)	B	28.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	MSIV
HV 3009	2	212	1X4DB159-2 (G-3)	B	4.00	GA	MO	O	AI	O/C	A	Y	Q	Q				Steam Generator Outlet to Auxiliary Turbine (Note 4)
PV 3010	2	212	1X4DB159-2 (F-2)	B	10.00	GL	EH	C	C	O/C	A	Y	CS	CS	CS		CS-17 RR-1,2	Main Steam Power-Operated Relief Valve
HV 3016A	2	212	1X4DB159-2 (F-6)	B	29.50	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	MSIV
HV 3016B	2	212	1X4DB159-2 (F-7)	B	28.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	MSIV
HV 3019	2	212	1X4DB159-2 (E-2)	B	4.00	GA	MO	O	AI	O/C	A	Y	Q	Q				Steam Generator Outlet to Auxiliary Turbine (Note 4)
PV 3020	2	212	1X4DB159-2 (D-2)	B	10.00	GL	EH	C	C	O/C	A	Y	CS	CS	CS		CS-17 RR-1,2	Main Steam Power-Operated Relief Valve
HV 3026A	2	212	1X4DB159-2 (D-6)	B	29.50	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	MSIV

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 3026B	2	212	1X4DB159-2 (D-7)	B	28.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	MSIV
PV 3030	2	212	1X4DB159-2 (C-2)	B	10.00	GL	EH	C	C	O/C	A	Y	CS	CS	CS		CS-17 RR-1,2	Main Steam Power-Operated Relief Valve
HV 3036A	2	212	1X4DB159-2 (B-6)	B	29.50	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	MSIV
HV 3036B	2	212	1X4DB159-2 (B-7)	B	28.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-16 RR-1,2	MSIV
HV 7603A	2	212	1X4DB159-3 (F-2)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-001 Blowdown Isolation
HV 7603B	2	212	1X4DB159-3 (B-2)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-002 Blowdown Isolation
HV 7603C	2	212	1X4DB159-1 (F-2)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-003 Blowdown Isolation
HV 7603D	2	212	1X4DB159-1 (B-2)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-004 Blowdown Isolation
HV 9451	2	212	1X4DB159-3 (E-3)	B	0.50	GL	ES	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-001 Blowdown Sample

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	ET	ST	FSV	LT	Relief Req. or C. S. Just.	Description and Notes
HV 9452	2	212	1X4DB159-3 (B-3)	B	0.50	GL	ES	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-002 Blowdown Sample
HV 9453	2	212	1X4DB159-1 (E-2)	B	0.50	GL	ES	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-003 Blowdown Sample
HV 9454	2	212	1X4DB159-1 (B-3)	B	0.50	GL	ES	O	C	C	A	Y	Q	Q	Q			Steam Generator B6-004 Blowdown Sample
HV 13005A	2	212	1X4DB159-2 (G-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 13005B	2	212	1X4DB159-2 (G-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 13006A	2	212	1X4DB159-2 (A-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 13006B	2	212	1X4DB159-2 (A-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 13007A	2	212	1X4DB159-2 (E-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 13007B	2	212	1X4DB159-2 (E-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 13008A	2	212	1X4DB159-2 (C-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 13008B	2	212	1X4DB159-2 (C-6)	B	4.00	GL	AO	O	C	C	A	Y	Q	Q	Q			MSIV Bypass Valve
HV 15212A	2	212	1X4DB159-3 (F-4)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation
HV 15212B	2	212	1X4DB159-3 (B-4)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 15212C	2	212	1X4DB159-1 (F-3)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation
HV 15212D	2	212	1X4DB159-1 (B-3)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation
HV 15216A	2	212	1X4DB159-3 (F-3)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation
HV 15216B	2	212	1X4DB159-3 (B-3)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation
HV 15216C	2	212	1X4DB159-1 (F-3)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation
HV 15216D	2	212	1X4DB159-1 (B-3)	B	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q			Blowdown Isolation
PSV 3001	2	212	1X4D3159-2 (H-3)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3002	2	212	1X4DB159-2 (H-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3003	2	212	1X4DB159-2 (H-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3004	2	212	1X4DB159-2 (H-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3005	2	212	1X4DB159-2 (H-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3011	2	212	1X4DB159-2 (F-3)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3012	2	212	1X4DB159-2 (F-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3013	2	212	1X4DB159-2 (F-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3014	2	212	1X4DB159-2 (F-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief

VEGP Unit No. 1
Valve Test List
System: Main Steam - System 1301

DRAFT

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
PSV 3015	2	212	1X4DB159-2 (F-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3021	2	212	1X4DB159-2 (D-3)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3022	2	212	1X4DB159-2 (D-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3023	2	212	1X4DB159-2 (D-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3024	2	212	1X4DB159-2 (D-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3025	2	212	1X4DB159-2 (D-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3031	2	212	1X4DB159-2 (B-3)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3032	2	212	1X4DB159-2 (B-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3033	2	212	1X4DB159-2 (B-4)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3034	2	212	1X4DB159-2 (B-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
PSV 3035	2	212	1X4DB159-2 (B-5)	C	6.00	SR	S	C	N/A	O/C	A		T					Main Steam Relief
U4 006	3	313	1X4DB159-2 (G-4)	C	4.00	CK	S	C	N/A	O	A		PQCS				CS-31 RR-2	Auxiliary Feedwater (AFW) Pump Check
U4 008	3	313	1X4DB159-2 (E-4)	C	4.00	CK	S	O	N/A	O/C	A		PQCS RM				RR-23, 2	AFW Pump Check
U4 404	3	313	1X4DB159-2 (E-4)	C	4.00	CK	S	O	N/A	O/C	A		PQCS				CS-31 RR-2	AFW Pump Check

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 5106	3	313	1X4DB161-3 (G-5)	B	4.00	GA	MO	C	AI	O	A	Y	Q	Q				AFW Pump Turbine Valve
HV 5113	3	313	1X4DB161-2 (E-8)	B	10.00	B	MO	C	AI	O	A	Y	Q	Q				Condensate Storage Tank (CST) V4-002 to Pump P4-001
HV 5118	3	313	1X4DB161-2 (C-8)	B	8.00	B	MO	C	AI	O	A	Y	Q	Q				CST V4-002 to Pump P4-002
HV 5119	3	313	1X4DB161-2 (A-8)	B	8.00	B	MO	C	AI	O	A	Y	Q	Q				CST V4-002 to Pump P4-003
HV 5120	2	212	1X4DB161-2 (H-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-001 Isolation to Steam Generator B6-004
HV 5122	2	212	1X4DB161-2 (G-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-001 Isolation to Steam Generator B6-001
HV 5125	2	212	1X4DB161-2 (F-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-001 Isolation to Steam Generator B6-002
HV 5127	2	212	1X4DB161-2 (E-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-001 Isolation to Steam Generator B6-003
HV 5132	2	212	1X4DB161-2 (D-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-002 Isolation to Steam Generator B6-002

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 5134	2	212	1X4DB161-2 (C-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-002 Isolation to Steam Generator B6-003
HV 5137	2	212	1X4DB161-2 (B-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-003 Isolation to Steam Generator B6-004
HV 5139	2	212	1X4DB161-2 (A-3)	B	4.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW P4-003 Isolation to Steam Generator B6-001
HV 15196	2	212	1X4DB168-3 (E-2)	B	6.00	GA	AO	O	C	C	A	Y	CS	CS	CS		CS-18 RR-1,2	Feedwater Bypass Isolation to Steam Generator B6-001
HV 15197	2	212	1X4DB168-3 (E-4)	B	6.00	GA	AO	O	C	C	A	Y	CS	CS	CS		CS-18 RR-1,2	Feedwater Bypass Isolation to Steam Generator B6-002
HV 15198	2	212	1X4DB168-3 (E-8)	B	6.00	GA	AO	O	C	C	A	Y	CS	CS	CS		CS-18 RR-1,2	Feedwater Bypass Isolation to Steam Generator B6-003
HV 15199	2	212	1X4DB168-3 (E-6)	B	6.00	GA	AO	O	C	C	A	Y	CS	CS	CS		CS-18 RR-1,2	Feedwater Bypass Isolation to Steam Generator B6-004

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 001	3	313	1X4DB161-2 (B-5)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Out
U4 002	3	313	1X4DB161-2 (D-5)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Out
U4 013	3	313	1X4DB161-2 (F-7)	C	10.00	CK	S	C	N/A	O	A		PQCS				CS-24 RR-2	AFW Pump Suction
U4 014	3	313	1X4DB161-2 (F-5)	C	6.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Out
U4 017	2	212	1X4DB161-2 (H-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 020	2	212	1X4DB161-2 (G-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 023	2	212	1X4DB161-2 (F-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 026	2	212	1X4DB161-2 (E-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 033	3	313	1X4DB161-2 (B-7)	C	8.00	CK	S	C	N/A	O	A		PQCS				CS-24 RR-2	AFW Pump Suction
U4 037	2	212	1X4DB161-2 (D-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 040	2	212	1X4DB161-2 (C-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 043	2	212	1X4DB161-2 (B-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 046	2	212	1X4DB161-2 (A-3)	C	4.00	CK	S	C	N/A	O	A		CS				CS-19 RR-2	AFW Pump Isolation
U4 051	3	313	1X4DB161-2 (E-7)	C	10.00	CK	S	C	N/A	O	A		PQCS				CS-24 RR-2	AFW Pump Suction

VEGP Unit No. 1
Valve Test List
System: Auxiliary Feedwater - System No. 1302

DRAFT

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 052	3	313	1X4DB161-2 (A-7)	C	8.00	CK	S	C	N/A	O	A		PQCS				CS-24 RR-2	AFW Pump Suction
U4 058	3	313	1X4DB161-2 (D-7)	C	8.00	CK	S	C	N/A	O	A		PQCS				CS-24 RR-2	AFW Pump Suction
U4 061	3	313	1X4DB161-2 (C-7)	C	8.00	CK	S	C	N/A	O	A		PQCS				CS-24 RR-2	AFW Pump Suction
U4 113	2	212	1X4DB168-3 (F-2)	C	4.00	CK	S	C	N/A	O/C	A		CS				CS-32 RR-2	AFW to Steam Generator B6-001
U4 114	2	212	1X4DB168-3 (F-4)	C	4.00	CK	S	C	N/A	O/C	A		CS				CS-32 RR-2	AFW to Steam Generator B6-002
U4 115	2	212	1X4DB168-3 (F-8)	C	4.00	CK	S	C	N/A	O/C	A		CS				CS-32 RR-2	AFW to Steam Generator B6-003
U4 116	2	212	1X4DB168-3 (F-6)	C	4.00	CK	S	C	N/A	O/C	A		CS				CS-32 RR-2	AFW to Steam Generator B6-004
U4 117	2	212	1X4DB168-3 (F-2)	C	6.00	CK	S	O	N/A	C	A		RM				RR-19 RR-2	Feedwater Bypass to Steam Generator B6-001
U4 118	2	212	1X4DB168-3 (F-4)	C	6.00	CK	S	O	N/A	C	A		RM				RR-19 RR-2	Feedwater Bypass to Steam Generator B6-002
U4 119	2	212	1X4DB168-3 (F-6)	C	6.00	CK	S	O	N/A	C	A		RM				RR-19 RR-2	Feedwater Bypass to Steam Generator B6-004
U4 120	2	212	1X4DB168-3 (F-8)	C	6.00	CK	S	O	N/A	C	A		RM				RR-19 RR-2	Feedwater Bypass to Steam Generator B6-003

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 125	2	212	1X4DB168-3 (G-2)	C	6.00	CK	S	O	N/A	O	A		Q					* Feedwater Bypass to Steam Generator B6-001
U4 126	2	212	1X4DB168-3 (G-4)	C	6.00	CK	S	O	N/A	O	A		Q					* Feedwater Bypass to Steam Generator B6-002
U4 127	2	212	1X4DB168-3 (G-6)	C	6.00	CK	S	O	N/A	O	A		Q					* Feedwater Bypass to Steam Generator B6-004
U4 128	2	212	1X4DB168-3 (G-8)	C	6.00	CK	S	O	N/A	O	A		Q					* Feedwater Bypass to Steam Generator B6-003
FV 5154	3	313	1X4DB161-2 (C-6)	B	2.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW Pump Mini Flow
FV 5155	3	313	1X4DB161-2 (B-5)	B	2.00	GL	MO	O	AI	O/C	A	Y	Q	Q				AFW Pump Mini Flow

*Normal plant operation assures that these valves are open and capable of performing their open safety function.

VEGP Unit No.: 1
Valve Test List
System: Condensate Feedwater - System No. 1305

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 5227	2	212	1X4DB168-3 (F-1)	B	16.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-20 RR-1,2	Steam Generator B6-001 Feedwater Isolation
HV 5228	2	212	1X4DB168-3 (F-3)	B	16.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-20 RR-1,2	Steam Generator B6-002 Feedwater Isolation
HV 5229	2	212	1X4DB168-3 (F-7)	B	16.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-20 RR-1,2	Steam Generator B6-003 Feedwater Isolation
HV 5230	2	212	1X4DB168-3 (F-5)	B	16.00	GA	EH	O	C	C	A	Y	PQCS	CS	CS		CS-20 RR-1,2	Steam Generator B6-004 Feedwater Isolation
U4 071	2	212	1X4DB168-3 (G-5)	C	16.00	CK	S	O	N/A	C	A		RM				RR-2,20	Feedwater Check
U4 073	2	212	1X4DB168-3 (G-1)	C	16.00	CK	S	O	N/A	C	A		RM				RR-2,20	Feedwater Check
U4 075	2	212	1X4DB168-3 (G-7)	C	16.00	CK	S	O	N/A	C	A		RM				RR-2,20	Feedwater Check
U4 077	2	212	1X4DB168-3 (G-3)	C	16.00	CK	S	O	N/A	C	A		RM				RR-2,20	Feedwater Check

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 5278	2	212	1X4DB159-3 (G-2)	A	0.50	GL	AO	C	C	C	P					R		Wet Layup Chemical Additive Steam Generator B6-001 Containment Isolation - Penetration No. 69A (Note 1)
HV 5279	2	212	1X4DB159-3 (C-2)	A	0.50	GL	AO	C	C	C	P					R		Wet Layup Chemical Additive Steam Generator B6-002 Containment Isolation - Penetration No. 69B (Note 1)
HV 5280	2	212	1X4DB159-1 (G-2)	A	0.50	GL	AO	C	C	C	P					R		Wet Layup Chemical Additive Steam Generator B6-003 Containment Isolation - Penetration No. 11A (Note 1)
HV 5281	2	212	1X4DB159-1 (C-2)	A	0.50	GL	AO	C	C	C	P					R		Wet Layup Chemical Additive Steam Generator B6-004 Containment Isolation - Penetration No. 12A (Note 1)

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 029	2	212	1X4DB159-1 (C-2)	AC	0.50	CK	S	C	N/A	C	P					R		Wet Layup Chemical Additive Steam Generator B6-004 Containment Isolation - Penetration No. 12A (Note 1)
U4 031	2	212	1X4DB159-1 (G-2)	AC	0.50	CK	S	C	N/A	C	P					R		Wet Layup Chemical Additive Steam Generator B6-003 Containment Isolation Penetration No. 11A (Note 1)
U4 043	2	212	1X4DB159-3 (G-2)	AC	0.50	CK	S	C	N/A	C	P					R		Wet Layup Chemical Additive Steam Generator B6-001 Containment Isolation - Penetration No. 69A (Note 1)
U4 044	2	212	1X4DB159-3 (C-2)	AC	0.50	CK	S	C	N/A	C	P					R		Wet Layup Chemical Additive Steam Generator B6-002 Containment Isolation - Penetration No. 69B (Note 1)

VEGP Unit No. 1
Valve Test List
System: Demineralized Water System - System No. 1418

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
PSV 17589	2	212	AX4DB190-2 (E-3)	AC	1.50	SR	S	C	N/A C	P					R		Demineralizer Water Supply Containment Isolation - Penetration No. 22 (Note 1)
U4 005	2	212	AX4DB190-2 (E-4)	A	2.00	GL	M	C	N/A C	P					R		Demineralizer Water Supply Containment Isolation - Penetration No. 22 (Note 1)
U4 038	2	212	AX4DB190-2 (E-3)	AC	2.00	CK	S	C	N/A C	P					R		Demineralizer Water Supply Containment Isolation - Penetration No. 22 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Containment Air Purification and Cleanup - System No. 1505

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 2626A	2	212	1X4DB213-1 (E-7)	A	24.00	B	MO	O/C	AI	C	A	Y	CS	CS		R	CS-21 RR-1,2	Containment Building (CB) Normal Purge Supply Isolation - Penetration No. 83 (Note 1)
HV 2626B	2	212	1X4DB213-1 (D-7)	A	14.00	B	AO	O/C	C	C	A	Y	Q	Q	Q	R		CB Normal Purge Supply Isolation - Penetration No. 83 (Note 1)
HV 2627A	2	212	1X4DB213-1 (E-6)	A	24.00	B	MO	O/C	AI	C	A	Y	CS	CS		R	CS-21 RR-1,2	CB Normal Purge Supply Isolation - Penetration No. 83 (Note 1)
HV 2627B	2	212	1X4DB213-1 (D-6)	A	14.00	B	AO	O/C	C	C	A	Y	Q	Q	Q	R		CB Normal Purge Supply Isolation - Penetration No. 83 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Containment Air Purification and Cleanup - System No. 1506

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 2628A	2	212	1X4DB213-1 (C-7)	A	24.00	B	MO	O/C	AI	C	A	Y	CS	CS		R	CS-22 RR-1,2	CB Normal Purge Exhaust Isolation Inside Reactor Containment - Penetration No. 84 (Note 1)
HV 2628B	2	212	1X4DB213-1 (B-7)	A	14.00	B	AO	O/C	C	C	A	Y	Q	Q	Q	R		CB Normal Purge Exhaust Isolation Inside Reactor Containment - Penetration No. 84 (Note 1)
HV 2629A	2	212	1X4DB213-1 (C-6)	A	24.00	B	MO	O/C	AI	C	A	Y	CS	CS		R	CS-22 RR-1,2	CB Normal Purge Exhaust Isolation Outside Reactor Containment - Penetration No. 84 (Note 1)
HV 2629B	2	212	1X4DB213-1 (B-6)	A	14.00	B	AO	O/C	C	C	A	Y	Q	Q	Q	R		CB Normal Purge Exhaust Isolation Outside Reactor Containment - Penetration No. 84 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Containment Air Purification and Cleanup - System No. 1508

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 2624A	2	212	1X4DB213-1 (G-7)	A	4.00	B	MO	C	AI	O/C	A	Y	Q	Q		R		CB Post-Loss-of-Coolant Accident (LOCA) Purge Exhaust Isolation - Penetration No. 100 (Note 1)
HV 2624B	2	212	1X4DB213-1 (F-7)	A	4.00	B	MO	C	AI	O/C	A	Y	Q	Q		R		CB Post-LOCA Purge Exhaust Isolation - Penetration No. 100 (Note 1)
U4 012	2	212	1X4DB213-1 (G-6)	A	4.00	GA	M	C	N/A	C	P					R		Containment Isolation Valve - Penetration No. 100 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Containment Air Purification and Cleanup - System No. 1513

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	ET	ST	FSV	LT	Relief Req. or C. S. Just.	Description and Notes
HV 2790A	2	212	1X4DB213-2 (E-7)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Containment Hydrogen Monitor Suction - Penetration No. 70A (Note 1)
HV 2790B	2	212	1X4DB213-2 (D-7)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Containment Hydrogen Monitor Suction - Penetration No. 70A (Note 1)
HV 2791A	2	212	1X4DB213-2 (E-6)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Hydrogen Monitor Isolation Outside Reactor Containment - Penetration No. 70A (Note 1)
HV 2791B	2	212	1X4DB213-2 (C-6)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Hydrogen Monitor Isolation Outside Reactor Containment - Penetration No. 71A (Note 1)
HV 2792A	2	212	1X4DB213-2 (C-7)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Hydrogen Monitor Isolation Inside Reactor Containment - Penetration No. 71A (Note 1)

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Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 2792B	2	212	1X4DB213-2 (C-7)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Hydrogen Monitor Isolation Inside Reactor Containment - Penetration No. 71A (Note 1)
HV 2793A	2	212	1X4DB213-2 (B-6)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Hydrogen Monitor Isolation Outside Reactor Containment - Penetration No. 70B (Note 1)
HV 2793B	2	212	1X4DB213-2 (A-6)	A	0.75	GL	ES	C	C	O/C	A	Y	Q	Q	Q	R		Hydrogen Monitor Isolation Outside Reactor Containment - Penetration No. 71B (Note 1)
U4 001	2	212	1X4DB213-2 (B-7)	A/C	0.75	CK	S	C	N/A	O/C	A		Q R			R	RR-25	Containment Hydrogen Monitor Check - Penetration No. 70B (Note 1)
U4 002	2	212	1X4DB213-2 (B-7)	A/C	0.75	CK	S	C	N/A	O/C	A		Q R			R	RR-25	Containment Hydrogen Monitor Check - Penetration No. 71B (Note 1)

VEGP Unit No. 1
Valve Test List
System: Safety-Related (ESF) Chillers - System No. 1592

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
U4 186	3	313	1X4DB221 (F-4)	C	6.00	CK	S	O	N/A	O/C	A		Q					ESF Chilled Water Cooler Pump Check
U4 187	3	313	1X4DB221 (C-4)	C	6.00	CK	S	O	N/A	O/C	A		Q					ESF Chilled Water Cooler Pump Check

VEGP Unit No. 1
Valve Test List
System: Radiation Monitor - System No. 1609

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 12975	2	212	1X4DB213-2 (E-3)	A	1.00	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Air Radiation Monitor Inlet - Penetration No. 13A (Note 1)
HV 12976	2	212	1X4DB213-2 (E-2)	A	1.00	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Air Radiation Monitor Inlet - Penetration No. 13A (Note 1)
HV 12977	2	212	1X4DB213-2 (D-2)	A	1.00	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Air Radiation Monitor Inlet - Penetration No. 13B (Note 1)
HV 12978	2	212	1X4DB213-2 (D-3)	A	1.00	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Air Radiation Monitor Inlet - Penetration No. 13B (Note 1)

VEGP Unit No. 1
Valve Test List
System: Waste Processing System-Liquid - System No. 1901

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 7126	2	212	1X4DB127 (G-5)	A	0.75	D	AO	O	C	C	A	Y	Q	Q	Q	R		Reactor Coolant Drain Tank Vent Isolation - Penetration No. 79 (Note 1)
HV 7136	2	212	1X4DB127 (E-1)	A	3.00	D	AO	O	C	C	A	Y	Q	Q	Q	R		Reactor Coolant Drain Tank Pump Discharge - Penetration No. 77 (Note 1)
HV 7150	2	212	1X4DB127 (G-4)	A	0.75	D	AO	O	C	C	A	Y	Q	Q	Q	R		Reactor Coolant Drain Tank Vent Isolation - Penetration No. 79 (Note 1)
HV 7699	2	212	1X4DB127 (D-2)	A	3.00	GL	AO	O	C	C	A	Y	Q	Q	Q	R		Reactor Coolant Drain Tank Pump Discharge - Penetration No. 77 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Fire Protection Water - System No. 2301

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	ET	ST	FSV	LT	Relief Req. or C. S. Just.	Description and Notes
HV 27901	2	212	1X4DB174-4 (B-7)	A	4.00	GA	AO	O/C	C	C	A	Y	CS	CS	CS	R	CS-23 RR-1,2	Fire Protection Header Containment Isolation - Penetration No. 40 (Note 1)
U4 036	2	212	1X4DB174-4 (B-7)	AC	6.00	[illegible]	[illegible]	C	N/A	C	P					R		Fire Protection Header Containment Isolation - Penetration No. 40 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Service Air - System No. 2401

008 REV 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 9385	2	212	1X4DB186-1 (D-3)	A	4.00	GA	AO	O/C	C	C	A	Y	Q	Q	Q	R		Containment Isolation - Penetration No. 80 (Note 1)
U4 034	2	212	1X4DB186-1 (D-2)	AC	4.00	CK	S	C	N/A	C	P					R		Containment Isolation - Penetration No. 80 (Note 1)
U4 184	2	212	1X4DB186-1 (C-3)	AC	1.50	CK	S	C	N/A	C	P					R		Containment Isolation - Penetration No. 23 (Note 1)
U4 211	2	212	1X4DB186-1 (C-3)	A	1.00	GA	M	C	N/A	C	P					R		Containment Isolation - Penetration No. 23 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Nitrogen to Accumulator and Steam - System No. 2402

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8880	2	212	1X4DB120 (G-1)	A	1.00	GL	AO	O/C	C	C	A	Y	Q	Q	Q	R		Accumulator Nitrogen Supply Isolation - Penetration No. 42 (Note 1)
U4 017	2	212	1X4DB120 (G-1)	AC	1.00	CK	S	C	N/A	C	A		R			R	RR-2,24	Nitrogen Supply Containment Isolation Valve - Penetration No. 42 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Instrument Air - System No. 2420

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. PI	ET	ST	FSV	LT	Relief Req. or C. S. Just.	Description and Notes
HV 9378	2	212	1X4DB186-2 (C-3)	A	2.00	GL	AO	O	C	C	A	Y	CS	CS	CS	R	CS-25 RR-1,2	Containment Isolation - Penetration No. 81 (Note 1)
U4 049	2	212	1X4DB186-2 (C-2)	AC	2.00	CK	S	O	N/A	C	A		R			R	RR-2,21	Containment Isolation - Penetration No. 81 (Note 1)

VEGP Unit No. 1
Valve Test List
System: Post-Accident Sampling - System No. 2702

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Sheet 1 of 1

Valve Number	Class ISI	Class Proj.	P&ID (Coord.)	Valve Size Cat	Valve Size (in.)	Valve Size Type	Act. Type	Position Norm	Position Fail	Position Safety	Act. or Pass.	Tests and Freq. Pi	Tests and Freq. ET	Tests and Freq. ST	Tests and Freq. FSV	Tests and Freq. LT	Relief Req. or C. S. Just.	Description and Notes
HV 8208	2	212	1X4DB110 (F-8)	A	1.00	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Isolation - Penetration No. 86C (Note 1)
HV 8209	2	212	1X4DB110 (F-7)	A	1.00	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Isolation - Penetration No. 86C (Note 1)
HV 8211	2	212	1X4DB110 (C-8)	A	0.50	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Isolation - Penetration No. 86A (Note 1)
HV 8212	2	212	1X4DB110 (C-7)	A	0.50	GL	ES	O	C	C	A	Y	Q	Q	Q	R		Containment Isolation - Penetration No. 86A (Note 1)

NOTES

1. Valves included in the Appendix J, type C local leak rate test program. The Appendix J, type c requirements are implemented in lieu of paragraphs IWV-3421 through IWV-3425. Leakage rate analysis and corrective actions as required by IWV-3426 and 3427 will be performed.

2. This is a RCS pressure isolation valve and is leak rate tested per plant Technical Specifications.

3. These are Anchor-Darling testable check valves. These valves have a manual operation lever.

4. These valves perform a safety function in the open position. These valves are normally open therefore testing from the closed to open position is unnecessary.

RELIEF REQUEST

RR-1

SYSTEM: N/A

VALVE: Valves Tested During Cold Shutdown

CATEGORY: A and B

CLASS: 1, 2, and 3

FUNCTION: N/A

TEST REQUIREMENT: IWV-3417(a) states that if an increase in stroke time of 25 percent or more from the previous test for valves with stroke times greater than 10 seconds or 50 percent or more for valves with stroke times less than or equal to 10 seconds is observed, test frequency shall be increased to once each month until corrective action is taken.

BASIS FOR RELIEF: Valves that are normally tested during cold shutdown cannot be tested once each month. Stroking these valves during power operation may place the plant in an unsafe condition.

ALTERNATE TESTING: The test frequency shall be increased to once each cold shutdown, not to exceed once each month.

RELIEF REQUEST

RR-2

SYSTEM: N/A

VALVE: Valves Exercised Only During Cold Shutdown Or Refueling

CATEGORY: A, B, C, and AC

CLASS: 1, 2, and 3

FUNCTION: N/A

TEST REQUIREMENT: IWV-3417(b) and IWV-3523 state that when corrective action is required as a result of tests made during cold shutdown, the condition shall be corrected before startup.

BASIS FOR RELIEF: The plant Technical Specifications provide the requirements and plant conditions necessary for plant startup.

ALTERNATE TESTING: The corrective action will be completed prior to the valve being required for plant operability as defined in the plant Technical Specifications.

RELIEF REQUEST

RR-3

SYSTEM: N/A

VALVE: Valves With Stroke Times Of 2 Seconds And Less
1201-PV-0455A, 1201-PV-0456A

CATEGORY: A and B

CLASS: 1, 2, and 3

FUNCTION: N/A

TEST REQUIREMENT: IWV-3413(b) requires that the stroke time of all power-operated valves shall be measured to the nearest second for stroke times of 10 seconds or less. IWV-3417 requires that on any one test of power-operated valves, an increase in stroke time of 50 percent or more from the previous test for valves with stroke times of 10 seconds or less, the test frequency shall be increased to once each month until corrective action is taken.

BASIS FOR RELIEF: Accurate measurement of stroke times which are 2 seconds or less is not practical.

ALTERNATE TESTING: These valves will be full-stroke tested. A full-stroke time of 2 seconds will be allowed for these valves. Acceptance of the test will be based only on the stroke time limit and not on the "50 percent" criterion in IWV-3417.

RELIEF REQUEST

RR-4

SYSTEM: Reactor Coolant-System No. 1201

VALVE: 1201-U6 112

CATEGORY: AC

CLASS: 2

FUNCTION: This valve is required to close to perform its containment isolation function

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure

BASIS FOR RELIEF: The only method available to verify reverse flow closure is valve leak testing during Appendix J, type C, testing at refueling.

ALTERNATE TESTING: Reverse flow closure will be verified during Appendix J, type C, testing at refueling.

RELIEF REQUEST

RR-5

DRAFT

SYSTEM: Safety Injection-System No. 1204

VALVE: 1204-U4 026, 1204-U4 027, 1204-U4 028, 1204-U4 029, 1204-U6 013

CATEGORY: C

CLASS: 1

FUNCTION: Valves open to allow cold leg injection from the charging pumps during an accident.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: The only possible way to verify full-flow operability of these check valves is by using the CVCS charging pump flow through the boron injection tank into the RCS cold legs. However, injecting water into the RCS through the boron injection tank during power operation exposes the safety injection nozzles to thermal shock and interrupts normal charging and letdown. Injection of CVCS charging pump flow at cold shutdown could result in a low temperature overpressurization of the RCS.

ALTERNATE TESTING: Forward flow operability will be verified at refueling when the reactor vessel head is removed and full CVCS charging pump flow can be used.

RELIEF REQUEST

RR-6

SYSTEM: Safety Injection-System No. 1204

VALVE: 1204-U4 120, 1204-U4 121, 1204-U4 122, 1204-U4 123, 1204-U4 143, 1204-U4 144, 1204-U4 145, 1204-U4 146, 1204-U6 124, 1204-U6 127

CATEGORY: AC

CLASS: 1

FUNCTION: Valves U4 143, U4 144, U4 145 and U4 146 open to allow cold leg injection from the SIS pumps during an accident. Valves U4 120, U4 121, U4 122, U4 123, U6 124, and U6 127, open to allow hot leg injection from the SIS pumps during an accident.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: Verification of forward flow operability of these normally closed check valves can be performed only by injecting SIS water into the reactor coolant system. During normal operation the SIS pumps cannot overcome RCS operating pressure. During cold shutdown, injecting SIS flow into the RCS could cause low temperature overpressurization of the RCS.

ALTERNATE TESTING: Forward flow operability will be verified at refueling when the reactor vessel head is removed and full SIS pump flow can be used. The total flow from one safety injection pump will be compared to the system flow balance requirements of the Technical Specifications to verify that these valves open to perform their function. The ECCS test line subsystem provides the capability for determination of the integrity of the high pressure boundaries. The subsystem is used to verify that each of the series check valves can independently sustain operational differential pressure and is closed. These are required periodic tests performed at each refueling prior to startup after the RCS has been pressurized.

RELIEF REQUEST

RR-7

SYSTEM: Safety Injection-System No. 1204

VALVE: 1204-U6 079, 1204-U6 080, 1204-U6 081, 1204-U6 082

CATEGORY: AC

CLASS: 1

FUNCTION: These valves open when the downstream pressure is less than the upstream pressure which allows cold leg injection from the accumulator tanks.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: The SIS accumulator tanks are isolated from the RCS by these normally closed check valves. Each accumulator is charged with a nitrogen blanket of 650 psig. This pressure is insufficient during operation to inject into the RCS. If these valves were to be exercised at cold shutdown, the contents of the tank would be dumped into the RCS at the charge pressure of 650 psig which could result in a low temperature overpressurization of the RCS.

ALTERNATE TESTING: One of these valves will be disassembled and manually stroked at refueling on a staggered test basis. If disassembly reveals that the valve is inoperable, the remaining valves will be disassembled. These valves will not be disassembled and manually stroked to perform preservice testing.

RELIEF REQUEST

RR-8

SYSTEM: Safety Injection-System No. 1204

VALVE: 1204-U6 098, 1204-U6 099

CATEGORY: C

CLASS: 2

FUNCTION: The SIS pump discharge check valves open to allow flow from the pumps for safety injection.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: Forward flow operability of these normally closed check valves can be verified only by injecting SIS water into the reactor coolant system. During normal operation the SIS pumps can not overcome RCS operating pressure. During cold shutdown, injecting SIS flow into the RCS could cause low temperature overpressurization of the RCS.

ALTERNATE TESTING: A partial stroke exercise test will be performed quarterly. Forward flow operability will be verified at refueling when the reactor vessel head is removed and full SIS pump flow can be used.

RELIEF REQUEST

RR-9

SYSTEM: Safety Injection-System No. 1204

VALVE: 1204-U6 090

CATEGORY: C

CLASS: 2

FUNCTION: Valve opens to allow SIS pump suction from the RWST

QUARTERLY TEST REQUIREMENT: Verify forward flow.

BASIS FOR RELIEF: The only possible flow test during normal operation is during pump testing using the 3-inch minflow line back to the RWST. Full flow testing using the SI pumps is not possible because the maximum SI pump pressure is less than the RCS operating pressure. Using the SI pumps to test the valve at cold shutdown could cause low temperature overpressurization of the RCS.

ALTERNATE TESTING: Valve will be partial-stroke exercised during quarterly pump testing and full-stroke exercised at refueling.

RELIEF REQUEST

RR-10

SYSTEM: Safety Injection-System No. 1204

VALVE: 1204-U6 163

CATEGORY: C

CLASS: 2

FUNCTION: Valve opens to allow suction to the safety injection pumps from the RHR system.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: To verify forward flow operability requires full flow operation of the SIS injection pump. During normal RCS operation the SIS pumps cannot overcome RCS operating pressure. During cold shutdown injection into the RCS using the SIS pumps could cause a low temperature overpressurization of the RCS.

ALTERNATE TESTING: Forward flow operability will be verified at refueling when the reactor vessel head is removed and full SIS pump flow can be used.

DRAFT

RELIEF REQUEST

RR-11

SYSTEM: Safety Injection-System No. 1204

VALVE: 1204-U6 083, 1204-U6 084, 1204-U6 085, 1204-U6 086

CATEGORY: AC

CLASS: 1

FUNCTION: These valves open when the downstream pressure is less than the upstream pressure which allows cold leg injection from the accumulator tanks. These valves also open for RHR flow.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: The SIS accumulator tanks are isolated from the RCS by these normally closed check valves. Each accumulator is charged with a nitrogen blanket of 650 psig. This pressure is insufficient during operation to inject into the RCS. If these valves were to be exercised at cold shutdown, the contents of the tank would be dumped into the RCS at the charge pressure of 650 psig which could result in a low temperature overpressurization of the RCS.

ALTERNATE TESTING: One of these valves will be disassembled and manually stroked at refueling on a staggered test basis. If disassembly reveals that the valve is inoperable, the remaining valves will be disassembled. These valves will not be disassembled and manually stroked to perform preservice testing. In addition, these valves will be partially stroke exercised during cold shutdown by normal flow from the RHR pumps.

RELIEF REQUEST

RR-12

DRAFT

SYSTEM: Chemical and Volume Control - System No. 1208

VALVE: 1208-U6-142, and 1208-U6-149

CATEGORY: C

CLASS: 2

FUNCTION: Valves open for high head safety injection into the RCS

QUARTERLY TEST REQUIREMENT: Verify forward flow operability and reverse flow closure.

BASIS FOR RELIEF: During normal operation CVCS is aligned for normal charging. Therefore, only a partial-stroke exercise test is possible during power operation. Injecting through flow paths other than normal charging exposes the safety injection nozzles to thermal shock. Full-stroke testing of these valves during cold shutdown could cause low temperature overpressurization of the RCS.

ALTERNATE TESTING: These valves will be partial-stroke exercised quarterly and full-stroke exercised during refueling. During refueling forward flow operability will be verified when the reactor vessel head is removed and full charging pump flow can be used. Reverse flow closure is verified quarterly by monitoring pressure upstream of the check valve.

RELIEF REQUEST

RR-13

SYSTEM: Containment Spray-System No. 1206

VALVE: 1206-U6 001, 1206-U6 008

CATEGORY: C

CLASS: 2

FUNCTION: Valves open to allow flow from the RWST to the suction of the containment spray pumps.

QUARTERLY TEST REQUIREMENT: Verify forward and reverse flow operability

BASIS FOR RELIEF: Forward flow operability can be verified only by operating the containment spray pumps during pump testing. The pump test return line to the refueling water storage tank is only a 2-inch line, which precludes full-flow testing of these 10-inch check valves. The only flow path possible to achieve full flow would require initiating spray into the containment. Reverse flow closure verification would require filling the containment sumps and initiating containment spray system recirculation mode operation. Either of these tests would result in extensive damage to components inside containment. In addition, verification of closure capability by measuring differential pressure was evaluated. However, the system does not contain the required isolation valves to observe a pressure differential across these check valves.

ALTERNATE TESTING: Partial flow forward testing will be performed quarterly during pump testing. In addition, one of these valves will be disassembled and manually stroked at refueling on a staggered test basis. If disassembly reveals that the valve is inoperable the remaining valve will be disassembled. These valves will not be disassembled and manually stroked to perform preservice testing.

DRAFT

RELIEF REQUEST

RR-14

SYSTEM: Containment Spray-System No. 1206

VALVE: 1206-U6 015, 1206-U6 016

CATEGORY: AC

CLASS: 2

FUNCTION: Valve opens to allow flow for containment spray. Valve closes to perform containment isolation function.

QUARTERLY TEST REQUIREMENT: Verify forward and reverse flow operability.

BASIS FOR RELIEF: Forward flow operability can be verified only by initiating flow through the valves into the containment structure. The initiation of containment spray into the containment would result in extensive damage to equipment inside containment. The only method available to verify reverse flow closure is valve leak testing during Appendix J, type C, testing at refueling.

ALTERNATE TESTING: One of these valves will be disassembled and manually stroked at refueling on a staggered test basis. If disassembly reveals that the valve is inoperable, the remaining valves will be disassembled. In addition, reverse flow closure will be verified during Appendix J, type C, testing at refueling. These valves will not be disassembled and manually stroked to perform preservice testing.

RELIEF REQUEST

RR-15

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE: 1208-HV0190A, 1208-HV0190B

CATEGORY: B

CLASS: 2

FUNCTION: These valves open to allow flow for a safety grade cold shutdown.

QUARTERLY TEST REQUIREMENT: Exercise, time, and fail.

BASIS FOR RELIEF: The safety-related position of these valves is open. To fail-safe test these valves to the closed position does not stroke the valve in the direction required to perform a safety-related function. Therefore, a fail-safe test is not necessary.

ALTERNATE TESTING: These valves will be exercised and timed every quarter to ensure that they will perform their safety-related function.

RELIEF REQUEST

RR-16

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE: 1208-U6 032

CATEGORY: AC

CLASS: 2

FUNCTION: CVCS to regenerative heat exchanger check valve which closes to perform a containment isolation function.

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure

BASIS FOR RELIEF: The only method available to verify reverse flow closure is valve leak testing during appendix J, type C, testing at refueling.

ALTERNATE TESTING: Reverse flow closure will be verified during appendix J, type C, testing at refueling.

RELIEF REQUEST

RR-17

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE: 1208-U6 189, 1208-U6 436

CATEGORY: C

CLASS: 2

FUNCTION: Valve U6 189 opens to allow flow to the suction of the centrifugal charging pumps from the RWST. Valve U6 436 opens to allow flow to the suction of the centrifugal charging pumps from the RHR system.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: To verify full-flow capability requires operation of both centrifugal charging pumps. Operation of the centrifugal charging pumps during either normal operation or cold shutdown would result in overpressurization of the reactor coolant system. Partial exercising by operating one charging pump would inject refueling or RHR water into the RCS and would affect RCS boron concentration which could result in a plant shutdown.

ALTERNATE TESTING: Valves will be full-stroke exercised when the reactor vessel head is removed at refueling and both centrifugal charging pumps can be operated. In addition, these valves will be partial-stroke exercised during cold shutdown.

RELIEF REQUEST

RR-18

SYSTEM: Auxiliary Component Cooling Water-System No. 1217

VALVE: 1217-U4-084, 1217-U4-085, 1217-U4-086, 1217-U4-087

CATEGORY: C

CLASS: 3

FUNCTION: Valves close to prevent reverse flow if a reactor coolant pump thermal barrier ruptures.

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: Reverse flow closure will be verified during refueling by performing a modified leak rate test. These tests cannot be performed quarterly during power operation because the system is in operation and cannot be isolated. Also, these valves are inside containment. These tests are too complex to be performed during cold shutdown and will be scheduled for refueling outages.

ALTERNATE TESTING: Reverse flow closure will be verified during refueling by performing a modified leak rate test.

DRAFT

RELIEF REQUEST

RR-19

SYSTEM: Auxiliary Feedwater-System No. 1302

VALVE: 1302-U4 117, 1302-U4 118, 1302-U4 119, 1302-U4 120

CATEGORY: C

CLASS: 2

FUNCTION: These valves close to ensure that AFW flows to the steam generators.

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: Reverse flow closure can be verified only by disassembling the check valves and observing the disc position.

ALTERNATE TESTING: One of these valves will be disassembled and manually stroked at refueling on a staggered test basis. If disassembly reveals that the valve is inoperable, the remaining valves will be disassembled. These valves will not be disassembled and manually stroked to perform preservice testing.

RELIEF REQUEST

RR-20

SYSTEM: Condensate and Feedwater-System No. 1305

VALVE: 1305-U4 071, 1305-U4 073, 1305-U4 075, 1305-U4 077

CATEGORY: C

CLASS: 2

FUNCTION: Valves close to prevent steam generator blowdown following a feedwater line break outside containment.

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: Reverse flow closure can be verified only by disassembling the check valves and observing the disc position.

ALTERNATE TESTING: One of these valves will be disassembled and manually stroked at refueling on a staggered test basis. If disassembly reveals that the valve is inoperable, the remaining valves will be disassembled. These valves will not be disassembled and manually stroked to perform preservice testing.

DRAFT

RELIEF REQUEST

RR-21

SYSTEM: Instrument Air-System No. 2420

VALVE: 2420-U4-049

CATEGORY: AC

CLASS: 2

FUNCTION: Valve closes to perform a containment isolation function.

QUARTERLY TEST REQUIREMENT:	Verify reverse flow closure.
BASIS FOR RELIEF:	The only method available to verify reverse flow closure is valve leak testing during appendix J, type C, testing at refueling.
ALTERNATE TESTING:	Reverse flow closure will be verified during appendix J, type C, testing at refueling.

RELIEF REQUEST

RR-22

SYSTEM: Safety Injection - System No. 1204

VALVE: 1204-U4-262, 1204-U4-263

CATEGORY: C

CLASS: 2

FUNCTION: These valves close to isolate the refueling water storage tank if an upstream line breaks.

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: Reverse flow closure can be verified only by disassembling the check valves and observing the disk position.

ALTERNATE TESTING: One of these valves will be disassembled and manually stroked at refueling on a staggered test basis. If disassembly reveals that the valve is inoperable, the remaining valves will be disassembled. These valves will not be disassembled and manually stroked to perform preservice testing.

RELIEF REQUEST

RR-23

SYSTEM: Main Steam - System No. 1301

VALVE: 1301-U4-008

CATEGORY: C

CLASS: 3

FUNCTION: This valve opens to allow steam to the AFW pump turbine and closes to prevent reverse flow.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability and reverse flow closure.

BASIS FOR RELIEF: These valve is partial-stroke exercised quarterly during the turbine-driven AFW pump test. Full-stroke exercising during power operation cannot be performed because the turbine-driven AFW pump is not delivering full flow to the steam generators. This valve will be tested during cold shutdown by verifying that the AFW pump is delivering the required flow through valves 1302-U4-014, 1302-U4-017, 1302-U4-020, 1302-U4-023, and 1302-U4-026 as discussed in CS-19. Reverse flow closure cannot be verified by flow or pressure. Therefore, this valve will be disassembled.

ALTERNATE TESTING: Forward flow operability will be demonstrated quarterly (partial-stroke) and during cold shutdown (full-stroke) as discussed. Reverse flow closure will be demonstrated by disassembling and manually full-stroke exercising the valve during refueling. This valve will not be disassembled and manually stroked to perform preservice testing.

RELIEF REQUEST

RR-24

SYSTEM: Nitrogen to Accumulator - System No. 2402

VALVE: 2402-U4 017

CATEGORY: AC

CLASS: 2

FUNCTION: Nitrogen Supply Containment Isolation Valve

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: The only method available to verify reverse flow closure is valve leak testing during appendix J, type C, testing at refueling.

ALTERNATE TESTING: Reverse flow closure will be verified during appendix J, type C, testing at refueling.

DRAFT

RELIEF REQUEST

RR-25

SYSTEM: Containment Air Purification and Cleanup - System No. 1513

VALVE: 1513-U4-001, 1513-U4-002

CATEGORY: AC

CLASS: 2

FUNCTION: Containment Isolation Hydrogen Monitoring

QUARTERLY TEST REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: The only method available to verify reverse flow closure is valve leak testing during appendix J, type C, testing at refueling.

ALTERNATE TESTING: Reverse flow closure will be verified during appendix J, type C, testing at refueling.

COLD SHUTDOWN JUSTIFICATION

CS-1

SYSTEM: Reactor Coolant-System No. 1201

VALVE(s): 1201-HV-8701A, 1201-HV-8701B, 1201-HV-8702A, 1201-HV-8702B

CATEGORY: A

CLASS: 1

FUNCTION: These valves open to allow suction to the RHR pumps from the RCS.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	These valves isolate the low pressure RHR system from the high pressure RCS. They are interlocked to prevent opening when RCS pressure is greater than 425 psig and automatically close before RCS pressure exceeds 750 psig.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-2

SYSTEM: Reactor Coolant-System No. 1201

VALVE(s): 1201-HV0442A, 1201-HV0442B, 1201-HV8095A, 1201-HV8095B, 1201-HV8096A, 1201-HV8096B

CATEGORY: B

CLASS: 1 & 2 (valves 1201-HV0442A and 1201-HV0442B are Class 2)

FUNCTION: Valves open to vent the reactor vessel

QUARTERLY TEST REQUIREMENT:	Exercise, fail, and time
COLD SHUTDOWN TEST JUSTIFICATION:	Operability testing of these normally closed valves during power operation could cause a loss of reactor coolant which would produce unwarranted pressure and level fluctuations in the reactor coolant system. These valves, which are Target Rock solenoid valves, will open if subjected to a pressure surge. With the RCS pressurized, opening one of these valves would cause a pressure surge across the corresponding valve in series which could open it. This allows a direct flow path from the RCS to the pressurizer relief tank.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise, fail, and time

COLD SHUTDOWN JUSTIFICATION

CS-3

SYSTEM: Safety Injection-System No. 1204

VALVE(s): 1204-HV-8806

CATEGORY: B

CLASS: 2

FUNCTION: This valve isolates the refueling water storage tank from the safety injection pumps during post-accident recirculation.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	To close this valve for purposes of testing places the plant in an unsafe condition. Failure of this valve in the closed position would render both safety injection pumps inoperable. In addition, the Technical Specifications require that power be removed from this valve during power operation; therefore, the valve cannot be stroked quarterly.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-4

SYSTEM: Safety Injection-System No. 1204

VALVE(s): 1204-HV-8809A, 1204-HV-8809B

CATEGORY: B

CLASS: 2

FUNCTION: These valves close to isolate the RHR discharge from the SIS cold leg.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	During normal operation these valves are aligned to their accident position which is open. To close these valves for testing purposes unnecessarily places the plant in an unsafe condition. If these valves did not reopen following testing it would render that portion of low head safety injection inoperable. In addition, the Technical Specifications require that power be removed from these valves during power operation; therefore, they cannot be stroked quarterly.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-5

SYSTEM: Safety Injection-System No. 1204

VALVE(s): 1204-HV-8835

CATEGORY: B

CLASS: 2

FUNCTION: This valve closes when Safety Injection is aligned from cold leg injection to hot leg injection.

QUARTERLY TEST REQUIREMENT: Exercise and time

COLD SHUTDOWN TEST JUSTIFICATION: To close this valve for purposes of testing places the plant in an unsafe condition. Failure of this valve in the closed position renders both safety injection pumps incapable of cold leg injection. In addition, the Technical Specifications require that power be removed from this valve during power operation; therefore, the valve cannot be stroked quarterly.

QUARTERLY PARTIAL STROKE TESTING: None

COLD SHUTDOWN TESTING: Exercise and time

DRAFT

COLD SHUTDOWN JUSTIFICATION

CS-6

SYSTEM: Safety Injection-System No. 1204

VALVE(s): 1204-HV-8802A, 1204-HV-8802B

CATEGORY: B

CLASS: 2

FUNCTION: These valves open for hot leg injection.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	During power operation the Technical Specifications require that the power be removed from the valve operators with the valves in the closed position. Therefore, these valves cannot be stroked quarterly. Also, if these valves would not re-close following testing during power operation it would render that portion of safety injection inoperable.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-7

SYSTEM: Safety Injection-System No. 1204

VALVE(s): 1204-U6 147, 1204-U6 148, 1204-U6 149, 1204-U6 150

CATEGORY: AC

CLASS: 1

FUNCTION: These check valves open to allow cold leg injection into the RCS.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

COLD SHUTDOWN TEST JUSTIFICATION: Forward flow operability of these normally closed check valves can be verified only by injecting RHR water into the RCS. During normal operation the RHR pumps cannot overcome RCS operating pressure. The ECCS test line subsystem provides the capability for determination of the integrity of the high pressure boundaries. The subsystem is used to verify that each of the series check valves can independently sustain operational differential pressure and is closed. These are required periodic tests performed at each refueling prior to startup, after the RCS has been pressurized.

QUARTERLY PARTIAL STROKE TESTING: None

COLD SHUTDOWN TESTING: The total flow from one RHR pump will be compared to the system flow balance requirements of the Technical Specifications to verify that these valves open to perform their function. Inoperability of these check valves to pass their required flow would be seen as reduced total flow.

COLD SHUTDOWN JUSTIFICATION

CS-8

SYSTEM: Safety Injection-System No. 1204

VALVE(s): 1204-U6-125, 1204-U6-126, 1204-U6-128, 1204-U6-129

CATEGORY: AC

CLASS: 1

FUNCTION: These valves open to allow hot leg injection into the RCS.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability.

COLD SHUTDOWN TEST JUSTIFICATION: The only possible way to verify full flow operability of these check valves is by using the RHR pumps to inject into the RCS. During normal operation the RHR pumps cannot overcome RCS operating pressure.

QUARTERLY PARTIAL STROKE TESTING: None

COLD SHUTDOWN TESTING: These valves will be tested with flow from the RHR pumps. The maximum required flowrate through each valve will be verified.

COLD SHUTDOWN JUSTIFICATION

CS-9

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE(s): 1208-HV-8100, 1208-HV-8112

CATEGORY: A

CLASS: 2

FUNCTION: These valves close to isolate containment penetration 49.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	These valves isolate seal water flow from the reactor coolant pumps. Closing these valves during normal operation could damage the reactor coolant pump seals, resulting in a plant shutdown.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time when reactor coolant pumps are stopped during cold shutdown.

COLD SHUTDOWN JUSTIFICATION

CS-10

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE(s): 1208-HV-8105, 1208-HV-8106

CATEGORY: A (HV 8105)
B (HV 8106)

CLASS: 2

FUNCTION: These valves close to isolate the charging pumps from the regenerative heat exchanger.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	Closing either of these valves during operation stops normal charging water flow to the reactor coolant system. Interruption of normal charging water could result in loss of pressurizer water level control and could result in a plant shutdown.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-11

SYSTEM: Reactor Coolant-System No. 1201

VALVE(s): 1201-PV-0455A, 1201-PV-0456A

CATEGORY: B

CLASS: 1

FUNCTION: These valves open to prevent low-temperature overpressurization of the RCS.

QUARTERLY TEST REQUIREMENT:	Exercise, time and fail test
COLD SHUTDOWN TEST JUSTIFICATION:	The NRC staff's position is that the PORV's function is to protect the reactor vessel and coolant system from low-temperature overpressurization conditions and should be exercised prior to initiation of system conditions for which vessel protection is needed (prior to cold shutdown). Routine quarterly exercising of the PORV's during power operation is not required.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise, time and fail test. These valves will be tested prior to them being required for cold overpressurization protection as determined by the Technical Specifications.

COLD SHUTDOWN JUSTIFICATION

CS-12

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE(s): 1208-HV-8152, 1208-HV-8160, 1208-HV-15214

CATEGORY: A (HV-8152, HV-8160)
B (HV-15214)

CLASS: 2

FUNCTION: These valves close to isolate CVCS Letdown.

QUARTERLY TEST REQUIREMENT:	Exercise, time, and fail test
COLD SHUTDOWN TEST JUSTIFICATION:	Failure of either of these valves to open after exercising could cause a loss of control of the pressurizer water level. Loss of pressurizer water level control could require shutting the plant down. Closing any of these valves at power causes thermal shock to the regenerative heat exchanger and associated piping.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise, time, and fail test

COLD SHUTDOWN JUSTIFICATION

CS-13

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE(s): 1208-LV-0112B, 1208-LV-0112C

CATEGORY: B

CLASS: 2

FUNCTION: These valves close to isolate the volume control tank.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	The volume control tank provides the normal charging water and seal water flow to the RCS and RCS pumps. Because the VCT acts as a head tank for the charging pump an alternate source of water would be required during valve testing. Injection into the RCS of any available alternate source of water would cause changes in RCS boron concentration and could result in a plant shutdown.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-14

SYSTEM: Chemical and Volume Control-System No. 1208

VALVE(s): 1208-LV-0112D, 1208-LV-0112E

CATEGORY: B

CLASS: 2

FUNCTION: These valves open to allow flow from the RWST to the centrifugal charging pumps and re-close during post-accident recirculation.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	Exercising these valves during normal operation could introduce refueling water into the RCS through the normally operating charging pump. RCS boron concentration could be adversely affected and could cause a plant shutdown.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-15

SYSTEM: Auxiliary Component Cooling Water-System No. 1217

VALVE(s): 1217-HV-1974, 1217-HV-1975, 1217-HV-1978, 1217-HV-1979

CATEGORY: A

CLASS: 2

FUNCTION: These valves close to perform a containment isolation function.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	Auxiliary component cooling water is used to maintain cooling of the reactor coolant pump bearing oil coolers and thermal barriers. A loss of cooling water to the thermal barriers could result in a temperature increase of the oil and motor bearing metal. Any extended loss of cooling water could result in extensive damage to the reactor coolant pumps.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time during cold shutdown when reactor coolant pumps are stopped.

COLD SHUTDOWN JUSTIFICATION

CS-16

SYSTEM: Main Steam-System No. 1301

VALVE(s): 1301-HV-3006A, 1301-HV-3006B, 1301-HV-3016A, 1301-HV-3016B, 1301-HV-3026A, 1301-HV-3026B, 1301-HV-3036A, 1301-HV-3036B

CATEGORY: B

CLASS: 2

FUNCTION: These valves close to isolate main steam.

QUARTERLY TEST REQUIREMENT:	Exercise, time, and fail
COLD SHUTDOWN TEST JUSTIFICATION:	Exercising these valves during normal operation would cause a severe pressure transient in the main steam lines which would cause a plant shutdown. Reducing power level to perform testing without causing a transient would significantly impact plant operations and power production.
QUARTERLY PARTIAL STROKE TESTING:	Partial exercise test (10%) performed quarterly
COLD SHUTDOWN TESTING:	Exercise, time, and fail

COLD SHUTDOWN JUSTIFICATION

CS-17

DRAFT

SYSTEM: Main Steam-System No. 1301

VALVE(s): 1301-PV-3000, 1301-PV-3010, 1301-PV-3020, 1301-PV-3030

CATEGORY: B

CLASS: 2

FUNCTION: These main steam power operated relief valves open to perform a safety grade cold shutdown function.

QUARTERLY TEST REQUIREMENT:	Exercise, time, and fail
COLD SHUTDOWN TEST JUSTIFICATION:	Exercising these valves during normal operation would cause a decrease in main steam line pressure and would cause a pressure transient. Failure in an open position would result in a plant shutdown due to a mismatch between feedwater and mainsteam flow.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise, time, and fail

COLD SHUTDOWN JUSTIFICATION

CS-18

SYSTEM: Auxiliary Feedwater - System No. 1302

VALVE(s): 1302-HV-15196, 1302-HV-15197, 1302-HV-15198, 1302-HV-15199

CATEGORY: B

CLASS: 2

FUNCTION: These valves close to stop flow if a feedwater line ruptures.

QUARTERLY TEST REQUIREMENT:	Exercise, time, and fail
COLD SHUTDOWN TEST JUSTIFICATION:	Exercising these valves during normal operation partially isolates normal feedwater flow to the steam generators. This isolation of the bypass line could cause a feedwater transient resulting in a reactor trip due to steam generator water level oscillation during the opening and closing of the valves.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercising, time, and fail

DRAFT

COLD SHUTDOWN JUSTIFICATION

CS-19

SYSTEM: Auxiliary Feedwater - System No. 1302

VALVE(s): 1302-U4-001, 1302-U4-002, 1302-U4-014, 1302-U4-017, 1302-U4-020, 1302-U4-023, 1302-U4-026, 1302-U4-037, 1302-U4-040, 1302-U4-043, 1302-U4-046,

CATEGORY: C

CLASS: 2 and 3

FUNCTION: These valves open to allow auxiliary feedwater flow to the steam generators.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability

COLD SHUTDOWN TEST JUSTIFICATION: The only way to verify forward flow operability of these valves is by operating the auxiliary feedwater pumps and injecting relatively cold condensate water directly into the steam generators. The introduction of cold water into the hot steam generators during operation would result in large thermal shock to the feedwater nozzles and could cause cracking of the nozzles.

QUARTERLY PARTIAL STROKE TESTING: None

COLD SHUTDOWN TESTING: This test will be performed by verifying required flow through each valve during cold shutdown.

COLD SHUTDOWN JUSTIFICATION

CS-20

DRAFT

SYSTEM: Condensate and Feedwater - System No. 1305

VALVE(s): 1305-HV-5227, 1305-HV-5228, 1305-HV-5229, 1305-HV-5230

CATEGORY: B

CLASS: 2

FUNCTION: These valves close to stop flow if a feedwater line ruptures.

QUARTERLY TEST REQUIREMENT:	Exercise, time, and fail
COLD SHUTDOWN TEST JUSTIFICATION:	Exercising these valves during normal operation isolates primary normal feedwater flow to the steam generators. Isolation of the primary normal feedwater flow would cause a steam generator transient and could cause a plant shutdown.
QUARTERLY PARTIAL STROKE TESTING:	Partial exercise test (10%) performed quarterly
COLD SHUTDOWN TESTING:	Exercise, time, and fail

COLD SHUTDOWN JUSTIFICATION

CS-21

SYSTEM: Containment Air Purification and Cleanup - System No. 1505

VALVE(s): 1505-HV-2626A, 1505-HV-2627A

CATEGORY: A

CLASS: 2

FUNCTION: These valves close to perform their containment isolation function.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	The Plant Technical Specifications preclude opening of these valves during modes 1, 2, 3, and 4.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-22

SYSTEM: Containment Air Purification and Cleanup System No. 1506

VALVE(s): 1506-HV-2628A, 1506-HV-2629A

CATEGORY: A

CLASS: 2

FUNCTION: These valves close to perform their containment isolation function.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	The Plant Technical Specifications preclude opening of these valves during modes 1, 2, 3, and 4.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

DRAFT

COLD SHUTDOWN JUSTIFICATION

CS-23

SYSTEM: Fire Protection Water - System No. 2301

VALVE(s): 2301-HV-27901

CATEGORY: A

CLASS: 2

FUNCTION: This valve closes to perform its containment isolation function.

QUARTERLY TEST REQUIREMENT:	Exercise, time, and fail test
COLD SHUTDOWN TEST JUSTIFICATION:	This valve is normally closed during power operation. It is opened during refueling and possibly cold shutdown to support fire protection requirements. To open this valve for testing purposes unnecessarily compromises the containment boundary.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise, time, and fail test

DRAFT

COLD SHUTDOWN JUSTIFICATION

CS-24

SYSTEM: Auxiliary Feedwater - System No. 1302

VALVE(s): 1302-U4-013, 1302-U4-033, 1302-U4-051, 1302-U4-052, 1302-U4-058, 1302-U4-061

CATEGORY: C

CLASS: 3

FUNCTION: These check valves open to allow flow from the condensate storage tanks to the suction of the AFW pumps.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability

COLD SHUTDOWN TEST JUSTIFICATION: The only way to full-stroke exercise these valves is by operating the auxiliary feedwater pumps and injecting relatively cold condensate water directly into the steam generators. The introduction of cold water into the hot steam generators during power operation would result in large thermal shock to the feedwater nozzles and could cause cracking of the nozzles.

QUARTERLY PARTIAL STROKE TESTING: These valves will be partial-stroke exercised during quarterly pump testing.

COLD SHUTDOWN TESTING: These valves will be verified capable of opening to their required safety position during cold shutdown. This test will be performed by taking pump suction from each condensate storage tank and verifying the required flow to the steam generators.

DRAFT

COLD SHUTDOWN JUSTIFICATION

CS-25

SYSTEM: Instrument Air - System No. 2420

VALVE(s): 2420-HV-9378

CATEGORY: A

CLASS: 2

FUNCTION: This valve closes to perform its containment isolation function.

QUARTERLY TEST REQUIREMENT:	Exercise, time, and fail
COLD SHUTDOWN TEST JUSTIFICATION:	The operability testing of this valve during normal operation would cause an interruption of instrument air supply to instruments and equipment within containment. Also, a failure in a nonconservative position during a cycling test would cause a complete loss of instrument air supply to the containment. The loss of instrument air to containment would cause the letdown isolation valves (1208-HV-15214, 1208-HV-8160 and 1208-HV-8152) to fail closed. These CVC valves are not stroked closed during power operation, as explained in Cold Shutdown Justification CS-12. Therefore, this instrument air isolation valve cannot be stroked closed at power.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise, time, and fail

COLD SHUTDOWN JUSTIFICATION

CS-26

SYSTEM: Safety Injection - System No. 1204

VALVE(s): 1204-HV-8813

CATEGORY: B

CLASS: 2

FUNCTION: Safety injection pump miniflow. Valve closes during hot leg recirculation.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	During power operation the Technical Specifications require that the power be removed from the valve operator with the valve in the open position. Therefore, this valve cannot be stroked quarterly. Also, if this valve would not re-open following testing during power operation it would render both trains of safety injection inoperable.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-27

SYSTEM: Safety Injection - System No. 1204

VALVE(s): 1204-HV-8840

CATEGORY: B

CLASS: 2

FUNCTION: This valve opens for hot leg recirculation

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	During power operation the Technical Specifications require that the power be removed from the valve operator with the valve in the closed position. Therefore, this valve cannot be stroked quarterly. Also, if this valve would not re-close following testing during power operation it would misalign the low head safety injection from the cold legs.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time

COLD SHUTDOWN JUSTIFICATION

CS-28

SYSTEM: Containment Spray - System No. 1206

VALVE(s): 1206-HV-8994A and 1206-HV-8994B

CATEGORY: B

CLASS: 3

FUNCTION: These valves open to discharge NaOH into the containment spray system

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	During normal operation these valves are closed to confine NaOH to the spray additive tank. To minimize the amount of NaOH which could leave the spray additive tank, valve 029 would need to be closed when valves HV-8994A or HV-8994B were opened. Closing valve 029 isolates the spray additive tank thus making it unable to perform its safety function.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	Exercise and time. These valves will be tested with the spray additive tank isolated.

DRAFT

COLD SHUTDOWN JUSTIFICATION

CS-29

SYSTEM: Chemical and Volume Control - System No. 1208

VALVE(s): 1208-U4-185 and 1208-U4-499

CATEGORY: C

CLASS: 2

FUNCTION: These valves open to allow flow of boric acid from the boric acid transfer pumps to the suction of the charging pumps.

QUARTERLY TEST REQUIREMENT:	Verify forward flow operability
COLD SHUTDOWN TEST JUSTIFICATION:	These check valves are tested with flow. Testing these check valves with flow during power operation would adversely affect the boric acid concentrations in the RCS and potentially cause a plant shutdown.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	These valves will be exercised during cold shutdown with flow from the boric acid transfer pumps to the RCS. The maximum required flow rate through these valves will be verified.

COLD SHUTDOWN JUSTIFICATION

CS-30

SYSTEM: Auxiliary Component Cooling Water - System No. 1217

VALVE(s): 1217-HV-2041, 1217-HV-19051, 1217-HV-19053, 1217-HV-19055, 1217-HV-19057

CATEGORY: B

CLASS: 3

FUNCTION: These valves isolate if a thermal barrier rupture occurs.

QUARTERLY TEST REQUIREMENT:	Exercise and time
COLD SHUTDOWN TEST JUSTIFICATION:	These valves are normally open to allow cooling water to the thermal barriers. To close these valves during normal operation would stop cooling water to the thermal barriers which could potentially damage the reactor coolant pumps.
QUARTERLY PARTIAL STROKE TESTING:	None
COLD SHUTDOWN TESTING:	These valves will be tested during cold shutdown with the reactor coolant pumps stopped.

COLD SHUTDOWN JUSTIFICATION

DRAFT

CS-31

SYSTEM: Main Steam - System No. 1301

VALVE(s): 1301-U4-006, 1301-U4-404

CATEGORY: C

CLASS: 3

FUNCTION: These valves open to allow steam to the AFW pump turbine. Valve 1301-U4-404 closes to prevent reverse flow.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability and reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION: These valves are partial-stroke exercised quarterly during the turbine-driven AFW pump test. Full-stroke exercising during power operation cannot be performed because the turbine-driven AFW pump is not delivering full flow to the steam generators. Valve 1301-U4-404 is verified capable of closing quarterly by closing valve HV-3009 and listening for steam to stop flowing through the AFW drain to the condenser. This is performed quarterly while the AFW pump turbine is being supplied steam through valve U4-008. Valve U4-006 is not required to be capable of closing.

QUARTERLY PARTIAL STROKE TESTING: Partial-stroke exercising is performed during the turbine-driven AFW pump test.

COLD SHUTDOWN TESTING: Testing of valves 1302-U4-014, 1302-U4-017, 1302-U4-020, 1302-U4-023, and 1302-U4-026 as discussed in CS-19 verifies that valves 1301-U4-006 and 1301-U4-404 open to perform their safety related function by ensuring that the AFW pump is delivering required flow.

COLD SHUTDOWN JUSTIFICATION

CS-32

SYSTEM: Auxiliary Feedwater - System No. 1302

VALVE(s): 1302-U4-113, 1302-U4-114, 1302-U4-115, 1302-U4-116,

CATEGORY: C

CLASS: 2

FUNCTION: These valves open to allow auxiliary feedwater flow to the steam generators.

QUARTERLY TEST REQUIREMENT: Verify forward flow operability and reverse flow closure

COLD SHUTDOWN TEST JUSTIFICATION: The only way to verify forward flow operability of these valves is by operating the auxiliary feedwater pumps and injecting relatively cold condensate water directly into the steam generators. The introduction of cold water into the hot steam generators during operation would result in large thermal shock to the feedwater nozzles and could cause cracking of the nozzles. The pressure gauges upstream of these valves will be monitored quarterly to verify these valves are closed.

QUARTERLY PARTIAL STROKE TESTING: None

COLD SHUTDOWN TESTING: This test will be performed by verifying required flow through each valve during cold shutdown.