

Attachment 2 to
ULNRC-3602
June 23, 1997

REVISION 18
INSERVICE TESTING PROGRAM
CALLAWAY PLANT

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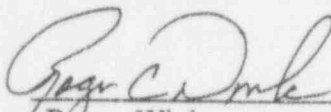
REVISION 18

4/14/97

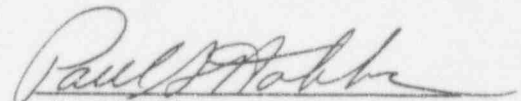
INSERVICE TESTING PROGRAM

CALLAWAY NUCLEAR PLANT

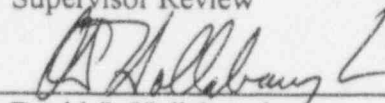
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IST PROGRAM REVISION INDEX ¹

Revision	Description	Reference Docs	Date
18	Change to IST program based on the dispositions of RFR's 17044A and 17705A BULK UPDATE	RFR 17044A, RFR 17705A	4/14/97

¹ Note that the IST Program Revision Descriptions were not maintained prior to and including revision 17.

TABLE OF CONTENTS

INTRODUCTION

	PAGES
1.0 INSERVICE TESTING OF PUMPS	
1.1 General Description	1
1.2 Inservice Testing Program For Pumps	2
1.3 Relief Requests For Pump Testing	6
2.0 INSERVICE TESTING OF VALVES	
2.1 General Description	3
2.2 Inservice Testing Program For Valves	75
2.3 Relief Requests or Test Deferral Justifications For Valve Testing	63

INTRODUCTION

The Second 10-Year Inservice Testing Program for Callaway Plant was developed in compliance with the rules and regulations of 10CFR 50.55a and ASME Boiler and Pressure Vessel Code Section XI 1989 Edition. No Code Cases were utilized in developing Callaway's Inservice Testing Program.

Where ASME XI requirements were determined to be impractical, a relief request has been developed. These relief requests are included in Sections 1.3 and 2.3 of this document.

This submittal of the Inservice Testing Program for pumps and valves will remain in effect through the next 10 year inservice inspection interval ending December 19, 2004.

SECTION 1.0

INSERVICE TESTING OF PUMPS

SECTION 1.1

GENERAL DESCRIPTION

SECTION 1.1 - GENERAL DESCRIPTION

Pumps in the IST Program are tested per the requirements of ASME/ANSI OM-1987 Edition 1988 Addenda Part 6 except as indicated by the referenced relief requests.

Section 1.2 contains the IST Program for pumps with the following information given:

<u>PUMP NUMBER</u>	lists the pump identification number as shown on the P&ID's
<u>PUMP NAME</u>	gives the noun name for the pump
<u>ISI CLASS</u>	classification of the pump per ISI requirements
<u>P&ID</u>	drawing and location of pump
<u>TEST PARAMETERS</u>	indicates the required test parameters per OM-6 Table 2
<u>RELIEF REQUESTS</u>	lists the applicable relief requests for the pump
<u>TEST FREQUENCY</u>	lists the test frequency for the pumps M - Monthly Q - Quarterly RF - Refueling Outage CS - Cold Shutdown 10 - Once every 10 years

SECTION 1.2

INSERVICE TESTING
PROGRAM FOR PUMPS

CALLAWAY NUCLEAR PLANT
INSERVICE TESTING PROGRAM

PUMP NUMBER	PUMP NAME	ISI CLASS	P&ID	TEST PARAMETERS (2)				RELIEF REQUESTS	TEST FREQUENCY
				SPEED(1)	Δ PRESS	FLOW	VIBRATION		
PAL01A	MOTOR DRIVEN AUXILIARY FEEDWATER PUMP A	3	M-22AL01 E-4	N/A	YES	YES	YES	P-05	Q
PAL01B	MOTOR DRIVEN AUXILIARY FEEDWATER PUMP B	3	M-22AL01 G-4	N/A	YES	YES	YES	P-05	Q
PAL02	TURBINE DRIVEN AUXILIARY FEEDWATER PUMP	3	M-22AL01 B-4	YES	YES	YES	YES	P-05	Q
PBG02A	CVCS BORIC ACID TRANSFER PUMP A	3	M-22BG05 B-6	N/A	YES	YES	YES	P-09	Q/CS
PBG02B	CVCS BORIC ACID TRANSFER PUMP B	3	M-22BG05 A-6	N/A	YES	YES	YES	P-09	Q/CS
PBG05A	CENTRIFUGAL CHARGING PUMP A	2	M-22BG03 C-5	N/A	YES	YES	YES	P-03 P-06	Q/RF
PBG05B	CENTRIFUGAL CHARGING PUMP B	2	M-22BG03 B-5	N/A	YES	YES	YES	P-03 P-06	Q/RF
PEF01A	ESSENTIAL SERVICE WATER PUMP A	3	M-U2EF01 G-6	N/A	YES	YES	YES		Q
PEF01B	ESSENTIAL SERVICE WATER PUMP B	3	M-U2EF01 D-6	N/A	YES	YES	YES		Q
PEG01A	COMPONENT COOLING WATER PUMP A	3	M-22EG01 G-4	N/A	YES	YES	YES		Q
PEG01B	COMPONENT COOLING WATER PUMP B	3	M-22EG01 D-4	N/A	YES	YES	YES		Q
PEG01C	COMPONENT COOLING WATER PUMP C	3	M-22EG01 E-4	N/A	YES	YES	YES		Q

CALLAWAY NUCLEAR PLANT
INSERVICE TESTING PROGRAM

PUMP NUMBER	PUMP NAME	ISI CLASS	P&ID	TEST PARAMETERS (2)				RELIEF REQUESTS	TEST FREQUENCY
				SPEED(1)	Δ PRESS	FLOW	VIBRATION		
PEG01D	COMPONENT COOLING WATER PUMP D	3	M-22EG01 B-4	N/A	YES	YES	YES		Q
PEJ01A	RESIDUAL HEAT REMOVAL PUMP A	2	M-22EJ01 G-6	N/A	YES	YES	YES	P-01	Q
PEJ01B	RESIDUAL HEAT REMOVAL PUMP B	2	M-22EJ01 C-6	N/A	YES	YES	YES	P-01	Q
PEM01A	SAFETY INJECTION PUMP A	2	M-22EM01 E-6	N/A	YES	YES	YES		Q
PEM01B	SAFETY INJECTION PUMP B	2	M-22EM01 D-6	N/A	YES	YES	YES		Q
PEN01A	CONTAINMENT SPRAY PUMP A	2	M-22EN01 G-6	N/A	YES	YES	YES		Q
PEN01B	CONTAINMENT SPRAY PUMP B	2	M-22EN01 B-6	N/A	YES	YES	YES		Q
PJE01A	EMERGENCY FUEL OIL TRANSFER PUMP A	3	M-22JE01 E-7	N/A	YES	YES	NO	P-02	Q/10
PJE01B	EMERGENCY FUEL OIL TRANSFER PUMP B	3	M-22JE01 A-7	N/A	YES	YES	NO	P-02	Q/10

(1) For pumps that have N/A for 'Speed' the pump is directly coupled to a constant speed motor.

(2) The test parameter 'Discharge Pressure' was not included in this table as none of the pumps in the IST Program are positive displacement pumps.

SECTION 1.3

RELIEF REQUESTS FOR
PUMP TESTING

P-01

RELIEF REQUEST

SYSTEM: Residual Heat Removal System

COMPONENT: PEJ01A and PEJ01B

CLASS: 2

FUNCTION: To provide low head safety injection and residual heat removal.

TEST REQUIREMENT: The full-scale range of each analog instrument shall not be greater than three times the reference value. Instrument accuracy shall be within the limits of Table 1. Station instruments meeting these requirements shall be acceptable.

BASIS FOR RELIEF: Pump discharge pressure is compared to pump suction pressure to determine pump differential pressure. Reference values for discharge pressure for these pumps are between 200 psig and 300 psig. This would require a discharge pressure gauge of 0-600 psig maximum. The accuracy required for this gauge would be 2% of 600 psig which is ± 12 psig. The permanent discharge pressure gauges we have installed are 0-700 psig with a tolerance less than ± 12 psig. Although the permanent instruments are above the maximum range limits they are within the accuracy requirements and are therefore suitable for the test.

ALTERNATE TESTING: Use permanently installed discharge pressure gauges.

P-02

RELIEF REQUEST

SYSTEM: Emergency Fuel Oil System

COMPONENT: PJE01A and PJE01B

CLASS: 3

FUNCTION: To provide fuel oil to the standby diesel generators

TEST REQUIREMENT: Measure vibration, differential pressure (dp), and pump flow (Q).

BASIS FOR RELIEF: Diesel generator fuel oil transfer pumps are submersible pumps. Vibration cannot be measured on the submersible pumps.

ALTERNATE TESTING: Pump differential pressure and flow measurement will be made quarterly. The pump will be disassembled and the bearings inspected once every 10 years. If the bearing condition is in question, the bearing will be repaired or replaced prior to re-installing the bearing.

P-03

RELIEF REQUEST

SYSTEM: Chemical and Volume Control System

COMPONENT: PBG05A and PBG05B

CLASS: 2

FUNCTION: To provide high head safety injection to the reactor.

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

BASIS FOR RELIEF: Refer to Generic Letter 89-04, Section 9. Technical Specification 4.5.2.f.1 states "Each ECCS Subsystem shall be demonstrated OPERABLE by verifying that each centrifugal charging pump develops a discharge pressure greater than or equal to 2400 psig on recirculation flow when tested pursuant to Specification 4.0.5." Testing of these pumps is performed on the fixed resistance mini-flow path (2500 psid, 60 gpm). At this flow rate, the pump curve for these pumps is relatively flat (25 psid/60 gpm). Flow rate changes of $\pm 50\%$ would result in less than 1% change in pump differential pressure. Based on this, it is not warranted to install additional instrumentation to ensure flow is maintained at the same point ($\pm 2\%$ accuracy) for each quarterly test. Adequate flow is verified for protection of the pumps by monitoring discharge pipe temperature changes. To further verify pump performance and monitor degradation, additional tests will be run, on a refueling frequency, at or above the design flow point for the pumps. Pump flowrate, differential pressure, and vibration will be monitored. The flow measurement to be performed during these outages will be done utilizing an alternate flow path which is only available during outage conditions and has installed flow instrumentation. This flow instrumentation meets the requirements of OM Part 6, Section 4.6.

ALTERNATE TESTING: Pump differential pressure and vibration will be measured and trended quarterly. A second set of reference values will be established at or above the pumps' design flow point. Pump differential pressure, flowrate, and vibration will be measured on a refueling frequency and trended against this second set of reference values.

P-05

RELIEF REQUEST

SYSTEM: Auxiliary Feedwater System

COMPONENT: PAL01A, PAL01B, and PAL02

CLASS: 3

FUNCTION: Provide a means to remove reactor decay heat when the principal heat sinks are unavailable.

TEST REQUIREMENT: The full-scale range of each instrument shall be three times the reference value or less. Instrument accuracy shall be within the limits of Table 1. Station instruments meeting these requirements shall be acceptable.

BASIS FOR RELIEF: Pump suction pressure is compared to pump discharge pressure to determine pump differential pressure. Reference values for suction pressures for these pumps are about 15 psig. This would require suction pressure gauges of 0-45 psig maximum. The accuracy required for these gauges would be 2% of 45 psig which is ± 0.9 psig. The permanent suction pressure gauges we have installed are 0-60 psig ± 0.5 psig. Although the permanent instruments are above the maximum range limits, they are within the accuracy requirements and are therefore suitable for the test.

ALTERNATE TESTING: Use permanently installed suction pressure gauges.

P-06

RELIEF REQUEST

SYSTEM: Chemical and Volume Control System

COMPONENT: PBG05A and PBG05B

CLASS: 2

FUNCTION: To provide high head safety injection to the reactor.

TEST REQUIREMENT: The full-scale range of each instrument shall be three times the reference value or less. Instrument accuracy shall be within limits of Table 1. Station instruments meeting these requirements shall be acceptable.

BASIS FOR RELIEF: Reference values for suction pressures for these pumps are between 30 psig and 40 psig. This would require suction pressure gauges of 0-90 psig maximum. The accuracy required for this gauge would be 2% of 90 psig which is ± 1.8 psig. The permanent suction pressure gauges we have installed are 0-150 psig ± 1.0 psig. Although the permanent instruments are above the maximum range limits, they are within the accuracy requirements and are therefore suitable for the test.

ALTERNATE TESTING: Use permanently installed suction pressure gauges.

P-09

RELIEF REQUEST

SYSTEM: Chemical and Volume Control System

COMPONENT: PBG02A and PBG02B

CLASS: 3

FUNCTION: To provide emergency boration.

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

BASIS FOR RELIEF: See Generic Letter 89-04, Section 9. Quarterly testing of these pumps is performed on the fixed resistance mini-flow path (112 psig, 15 gpm). At this flowrate, the pump curve for these pumps is relatively flat (8 psid/42 gpm). Flowrate changes of $\pm 25\%$ would result in less than a 1% change in pump differential pressure. Based on this, it is not warranted to install additional instrumentation to ensure flow is maintained at the same point ($\pm 2\%$ accuracy) for each quarterly test. To further verify pump performance and monitor degradation, an additional test will be run, on a cold shutdown frequency, at or above the design flow point for the pumps. Pump differential pressure, flowrate, and vibration will be monitored. The flow measurement to be performed during these outages will be done utilizing an alternate flow path which is only available during outage conditions and has installed flow instrumentation. This flow instrumentation meets the requirements of OM Part 6, Section 4.6.

ALTERNATE TESTING: Pump differential pressure and vibration will be measured and trended quarterly. A second set of reference values will be established at or above the pump design flow point. Pump differential pressure, flowrate, and vibration will be measured on a cold shutdown frequency and trended against this second set of reference values.

SECTION 2.0

INSERVICE TESTING OF VALVES

SECTION 2.1

GENERAL DESCRIPTION

SECTION 2.1 - GENERAL DESCRIPTION

Valves in the IST Program are tested per the requirements of ASME/ANSI OM-1987 Edition 1988 Addenda Part 10 except as indicated by the referenced relief requests.

Section 2.2 contains the IST Program for valves sorted by drawing number with the following information given:

VALVE NUMBER lists the valve identification number as shown on the P&ID's

DESCRIPTION gives the noun name for the valve

COOR valve location on drawing

ACT lists the type of valve actuator

MO	motor operated
SO	solenoid operated
AO	air operated
HO	hydraulic operated
SA	self actuated
MA	manual operated

VLV TYPE

GT	gate valve
GB	globe valve
CK	check valve
RV	relief valve
BF	butterfly valve
DI	diaphragm valve
SV	solenoid valve

VLV CAT indicates the category assigned to the valve based on the definitions given in section 1.4 of OM-10

VLV SIZE lists the nominal pipe size of the valve in inches

TESTS PERF / FREQUENCY

lists the tests that will be performed to fulfill the requirements of OM-10 followed by a "f" and then the frequency at which the test will be performed.

TEST PERF

FREQUENCY

FS	full stroke exercise valve to safety position	Q - Quarterly
PS	partial stroke exercise valve	CS - Cold Shutdown
LT	leak-rate test valve to Section XI requirements	RF - Refueling Outage
LJ	leak-rate test valve to Appendix J requirements	RV - # OM-1 - schedule for relief valve test # = (5) for 5 year frequency # = (10) for 10 year frequency 2 = 2-year frequency
FT	observe the fail safe operation of the valve	SD - Disassemble, inspect and manually exercise one valve from specified group each refueling outage.
PI	verify the valve remote position indication	f = Frequency as prescribed by the Appendix J Program
RV	safety and relief valve test	

SFTY POS lists the safety position of the valve - (O)pen or (C)losed

ACTIVE OR PASSIVE valve categorization based on definitions given in section 1.3 of OM-10

RR OR TST DEF JUST. lists the applicable Relief Requests, Cold Shutdown Justifications, or Refueling Justifications in Section 2.3 of the IST Program.

NOTES gives any additional information on valve

NOTE:

1. GTHZ0006, 7, 8, 9 are passive valves during normal power operations; however, these valves become active during refueling operations. These valves will be tested per OM-10 requirements as active components during refueling operations.
2. Listed below are the check valve groups established to verify the full stroke capability of check valves using a sampling plan as discussed in NUREG-1482 Section 4.1.2 and established in RFR-16455A:
 - A. EP8818A and EP8818B
 - B. BB8948A and BB8948B
 - C. EP8818C and EP8818D
 - D. BB8948C and BB8948D
 - E. EJ8841A, EJ8841B, BB8949B and BB8949C
 - F. EMV0001 and EMV0002
 - G. EMV0003 and EMV0004
 - H. EPV0010, EPV0020, EPV0030, and EPV0040
 - I. BB8949A and BB8949D
 - J. BBV0001, BBV0022, BBV0040, and BBV0059

3. APV0033 is not an ASME Code valve; therefore, it is not required to be in the IST Program but it is listed in the IST Program since it is tested during the Auxiliary Feedwater pump surveillances (RFR 15787B).

SECTION 2.2

INSERVICE TESTING
PROGRAM FOR VALVES

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

MAIN STEAM SYSTEM (AB)
DRAWING M-22AB01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ABPV0001	SG A MS TO ATMS PORV	G-3	AO	GB	B	8	FS/CS FT/CS PI/2	O/C	ACTIVE	AB-01	
ABPV0002	SG B MS TO ATMS PORV	C-3	AO	GB	B	8	FS/CS FT/CS PI/2	O/C	ACTIVE	AB-01	
ABPV0003	SG C MS TO ATMS PORV	C-6	AO	GB	B	8	FS/CS FT/CS PI/2	O/C	ACTIVE	AB-01	
ABPV0004	SG D MS TO ATMS PORV	G-6	AG	GB	B	8	FS/CS FT/CS PI/2	O/C	ACTIVE	AB-01	
ABV0007	SG D MS PORV MAN ISO	G-6	MA	GT	B	10	FS/CS	O/C	ACTIVE	AB-03	
ABV0018	SG A MS PORV MAN ISO	G-3	MA	GT	B	10	FS/CS	O/C	ACTIVE	AB-03	
ABV0029	SG C MS PORV MAN ISO	C-6	MA	GT	B	10	FS/CS	O/C	ACTIVE	AB-03	
ABV0040	SG B MS PORV MAN ISO	C-2	MA	GT	B	10	FS/CS	O/C	ACTIVE	AB-03	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

MAIN STEAM SYSTEM (AB)
DRAWING M-22AB02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ABHV0005	TDAFP STM SPLY FROM MS LOOP 2	D-4	AO	GB	B	4	FS/Q FT/Q PI/2	O	ACTIVE		
ABHV0006	TDAFP STM SPLY FROM MS LOOP 3	C-4	AO	GB	B	4	FS/Q FT/Q PI/2	O	ACTIVE		
ABHV0011	SG D MSIV	G-3	HO	GT	B	28	FS/CS PI/2	C	ACTIVE	AB-02	
ABHV0012	SG D MS LOOP 4 ABHV0011 BYP ISO HV	G-3	AO	GB	B	2	PI/2	C	PASSIVE		
ABHV0014	SG A MSIV	F-3	HO	GT	B	28	FS/CS PI/2	C	ACTIVE	AB-02	
ABHV0015	SG A MS LOOP 1 ABHV0014 BYP ISO HV	F-3	AO	GB	B	2	PI/2	C	PASSIVE		
ABHV0017	SG B MSIV	D-3	HO	GT	B	28	FS/CS PI/2	C	ACTIVE	AB-02	
ABHV0018	SG B MS LOOP 2 ABHV0017 BYP ISO HV	D-3	AO	GB	B	2	PI/2	C	PASSIVE		
ABHV0020	SG C MSIV	C-3	HO	GT	B	28	FS/CS PI/2	C	ACTIVE	AB-02	
ABHV0021	SG C MS LOOP 3 ABHV0020 BYP ISO HV	C-3	AO	GB	B	2	PI/2	C	PASSIVE		
ABHV0048	MS LOOP 2 WARMUP STM SPLY TO TDAFP ISO HV	D-4	AO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

MAIN STEAM SYSTEM (AB)
DRAWING M-22AB02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ABHV0049	MS LOOP 3 WARMUP STM SPLY TO TDAFP ISO HV	C-4	AO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
ABLV0007	MS LOOP 3 LO PNT DRN LCV	B-4	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		
ABLV0008	MS LOOP 2 LO PNT DRN LCV	D-5	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		
ABLV0009	MS LOOP 1 LO PNT DRN LCV	E-4	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		
ABLV0010	MS LOOP 4 LO PNT DRN LCV	G-4	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		
ABV0045	MS LOOP 4 SFTY RLF	H-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0046	MS LOOP 4 SFTY RLF	H-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0047	MS LOOP 4 SFTY RLF	H-6	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0048	MS LOOP 4 SFTY RLF	H-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0049	MS LOOP 4 SFTY RLF	H-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

MAIN STEAM SYSTEM (AB)
DRAWING M-22AB02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ABV0055	MS LOOP 1 SFTY RLF	F-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0056	MS LOOP 1 SFTY RLF	F-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0057	MS LOOP 1 SFTY RLF	F-6	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0058	MS LOOP 1 SFTY RLF	F-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0059	MS LOOP 1 SFTY RLF	F-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0065	MS LOOP 2 SFTY RLF	D-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0066	MS LOOP 2 SFTY RLF	D-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0067	MS LOOP 2 SFTY RLF	D-6	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0068	MS LOOP 2 SFTY RLF	D-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0069	MS LOOP 2 SFTY RLF	D-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0075	MS LOOP 3 SFTY RLF	C-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0076	MS LOOP 3 SFTY RLF	C-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

MAIN STEAM SYSTEM (AB)
DRAWING M-22AB02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ABV0077	MS LOOP 3 SFTY RLF	C-6	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0078	MS LOOP 3 SFTY RLF	C-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0079	MS LOOP 3 SFTY RLF	C-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
ABV0085	TDAFP STM SPLY FROM MS LOOP 2 MAN ISO	D-4	MA	GT	B	4	FS/CS	C	ACTIVE	AB-03	
ABV0087	TDAFP ST 4 SPLY FROM MS LOOP 3 MAN ISO	C-4	MA	GT	B	4	FS/CS	C	ACTIVE	AB-03	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

FEEDWATER SYSTEM (AE)
DRAWING M-22AE02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
AEFV0039	SG A FW SPLY ISO FV	G-3	HO	GT	B	14	FS/CS FT/CS PI/2	C	ACTIVE	AE-04	
AEFV0040	SG B FW SPLY ISO FV	C-3	HO	GT	B	14	FS/CS FT/CS PI/2	C	ACTIVE	AE-04	
AEFV0041	SG C FW SPLY ISO FV	C-6	HO	GT	B	14	FS/CS FT/CS PI/2	C	ACTIVE	AE-04	
AEFV0042	SG D FW SPLY ISO FV	G-6	HO	GT	B	14	FS/CS FT/CS PI/2	C	ACTIVE	AE-04	
AEFV0043	SG A FW CHEM INJ FV	G-4	AO	GB	B	1	PI/2	C	PASSIVE		
AEFV0044	SG B FW CHEM INJ FV	C-4	AO	GB	B	1	PI/2	C	PASSIVE		
AEFV0045	SG C FW CHEM INJ FV	C-7	AO	GB	B	1	PI/2	C	PASSIVE		
AEFV0046	SG D FW CHEM INJ FV	G-7	AO	GB	B	1	PI/2	C	PASSIVE		
AEV0120	SG B FW SPLY CHECK	C-4	SA	CK	C	14	FS/RF	C	ACTIVE	AE-01	
AEV0121	SG A FW SPLY CHECK	F-4	SA	CK	C	14	FS/RF	C	ACTIVE	AE-01	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

FEEDWATER SYSTEM (AE)
DRAWING M-22AE02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
AEV0122	SG D FW SPLY CHECK	F-7	SA	CK	C	14	FS/RF	C	ACTIVE	AE-01	
AEV0123	SG C FW SPLY CHECK	C-7	SA	CK	C	14	FS/RF	C	ACTIVE	AE-01	
AEV0124	SG B AUX FW SPLY CHECK	C-3	SA	CK	C	4	FS/CS	O	ACTIVE	AE-03	
AEV0125	SG A AUX FW SPLY CHECK	F-3	SA	CK	C	4	FS/CS	O	ACTIVE	AE-03	
AEV0126	SG D AUX FW SPLY CHECK	F-6	SA	CK	C	4	FS/CS	O	ACTIVE	AE-03	
AEV0127	SG C AUX FW SPLY CHECK	C-6	SA	CK	C	4	FS/CS	O	ACTIVE	AE-03	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

AUXILIARY FEEDWATER SYSTEM (AL)
DRAWING M-22AL01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ALHV0005	MDAFP B TO S/G D HV	H-6	MO	GB	B	4	FS/Q PI/2	O/C	ACTIVE		
ALHV0006	TDAFP TO S/G D HV	G-6	AO	GB	B	4	FS/Q FT/Q P. 2	O/C	ACTIVE		
ALHV0007	MDAFP B TO S/G A HV	F-6	MO	GB	B	4	FS/Q PI/2	O/C	ACTIVE		
ALHV0008	TDAFP TO S/G A HV	E-6	AO	GB	B	4	FS/Q FT/Q PI/2	O/C	ACTIVE		
ALHV0009	MDAFP TO S/G B HV	D-6	MO	GB	B	4	FS/Q PI/2	O/C	ACTIVE		
ALHV0010	TDAFP TO S/G B HV	D-6	AO	GB	B	4	FS/Q FT/Q PI/2	O/C	ACTIVE		
ALHV0011	MDAFP TO S/G C HV	C-6	MO	GB	B	4	FS/Q PI/2	O/C	ACTIVE		
ALHV0012	TD AFP TO S/G C HV	B-6	AO	GB	B	4	FS/Q FT/Q PI/2	O/C	ACTIVE		
ALHV0030	ESW TO MD AFP B HV	F-3	MO	BF	B	6	FS/Q PI/2	O	ACTIVE		
ALHV0031	ESW TO MD AFP A HV	E-3	MO	BF	B	6	FS/Q PI/2	O	ACTIVE		
ALHV0032	ESW TO TD AFP HV	C-3	MO	BF	B	8	FS/Q PI/2	O	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

AUXILIARY FEEDWATER SYSTEM (AL)
DRAWING M-22AL01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ALHV0033	ESW TO TD AFP HV	B-3	MO	BF	B	8	FS/Q PI/2	O	ACTIVE		
ALHV0034	CST TO MD AFP B HV	H-3	MO	GT	B	8	FS/Q PI/2	C	ACTIVE		
ALHV0035	CST TO MD AFP A HV	D-3	MO	GT	B	8	FS/Q PI/2	C	ACTIVE		
ALHV0036	CST TO TD AFP HV	B-3	MO	GT	B	10	FS/Q PI/2	C	ACTIVE		
ALV0001	CST TO TD AFP CHECK VLV	B-4	SA	CK	C	10	FS/CS PS/Q	O/C	ACTIVE	AL-01	
ALV0002	CST TO MD AFP A CHECK VLV	D-4	SA	CK	C	8	FS/CS PS/Q	O	ACTIVE	AL-01	
ALV0003	CST TO MD AFP B CHECK VLV	H-4	SA	CK	C	8	FS/CS PS/Q	O	ACTIVE	AL-01	
ALV0006	ESW TO MD AFP B CHECK VLV	F-4	SA	CK	C	6	FS/Q	O	ACTIVE		
ALV0009	ESW TO MD AFP A CHECK VLV	E-4	SA	CK	C	6	FS/Q	O	ACTIVE		
ALV0012	ESW TO TD AFP CHK VLV	C-4	SA	CK	C	8	FS/Q	O	ACTIVE		
ALV0015	ESW TO TD AFP CHECK VLV	B-4	SA	CK	C	8	FS/Q	O	ACTIVE		
ALV0029	MD AFP B DISCH TO CST CHECK VLV	G-5	SA	CK	C	2	FS/Q	O	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

AUXILIARY FEEDWATER SYSTEM (AL)
DRAWING M-22AL01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ALV0030	MD AFP B DISCH CHECK VLV	H-5	SA	CK	C	6	FS/CS	O/C	ACTIVE	AL-01	
ALV0033	MDAFP B TO S/G A CHECK VLV	F-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	
ALV0036	MDAFP B TO S/G D CHECK VLV	H-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	
ALV0041	MD AFP A DISCH TO CST CHECK VLV	F-5	SA	CK	C	2	FS/Q	O	ACTIVE		
ALV0042	MD AFP A DISCH CHECK VLV	D-5	SA	CK	C	6	FS/CS	O/C	ACTIVE	AL-01	
ALV0045	MDAFP A TO S/G C CHECK VLV	C-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	
ALV0048	MDAFP A TO S/G B CHECK VLV	D-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	
ALV0053	TD AFP DISCH TO CST CHECK VLV	B-5	SA	CK	C	3	FS/Q	O	ACTIVE		
ALV0054	TD AFP DISCH CHECK VLV	B-5	SA	CK	C	8	FS/CS	O/C	ACTIVE	AL-01	
ALV0057	TDAFP TO S/G A CHECK VLV	E-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	
ALV0062	TDAFP TO S/G D CHECK VLV	G-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

AUXILIARY FEEDWATER SYSTEM (AL)
DRAWING M-22AL01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ALV0067	TDAFP TO S/G B CHECK VLV	D-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	
ALV0072	TDAFP TO S/G C CHECK VLV	B-7	SA	CK	C	4	FS/CS	O	ACTIVE	AL-01	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CONDENSATE STORAGE AND TRANSFER SYSTEM (AP)
DRAWING M-22AP01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
APV0033	AFP TO CST CHECK	F-4	SA	CK	C	3	FS/Q	O	ACTIVE		3

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BB8378A	RCS LOOP 1 COLD LEG CVCS REGEN HX CHG LINE DNSTRM CHECK	E-4	SA	CK	C	3	FS/RF	C	ACTIVE	BB-12	
BB8378B	RCS LOOP 1 COLD LEG CVCS REGEN HX CHG LINE UPSTRM CHECK	E-4	SA	CK	C	3	FS/RF	C	ACTIVE	BB-12	
BB8379A	RCS LOOP 4 COLD LEG CVCS REGEN HX CHG LINE DNSTRM CHECK	E-7	SA	CK	C	3	FS/RF	C	ACTIVE	BB-12	
BB8379B	RCS LOOP 4 COLD LEG CVCS REGEN HX CHG LINE UPSTRM CHECK	E-7	SA	CK	C	3	FS/RF	C	ACTIVE	BB-12	
BB8948A	RCS LOOP 1 COLD LEG SI ACC CHECK	E-4	SA	CK	A,C	10	FS/RF LT/RF	O/C	ACTIVE	BB-01	2
BB8948B	RCS LOOP 2 COLD LEG SI ACC CHECK	D-4	SA	CK	A,C	10	FS/RF LT/RF	O/C	ACTIVE	BB-01	2
BB8948C	RCS LOOP 3 COLD LEG SI ACC CHECK	D-6	SA	CK	A,C	10	FS/RF LT/RF	O/C	ACTIVE	BB-01	2
BB8948D	RCS LOOP 4 COLD LEG SI ACC CHECK	E-6	SA	CK	A,C	10	FS/RF LT/RF	O/C	ACTIVE	BB-01	2
BB8949A	RCS LOOP 1 HOT LEG SI PMPS CHECK	E-5	SA	CK	A,C	6	FS/RF LT/RF	O/C	ACTIVE	BB-02	2
BB8949B	RCS LOOP 2 HOT LEG SI/RHR PMPS CHECK	C-5	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	BB-03	2

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BB8949C	RCS LOOP 3 HOT LEG SI/RHR PMPS CHECK	C-6	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	BB-03	2
BB8949D	RCS LOOP 4 HOT LEG SI PMPS CHECK	G-6	SA	CK	A,C	6	FS/RF LT/RF	O/C	ACTIVE	BB-02	2
BBPV8702A	RCS LOOP 1 HOT LEG TO RHR PMPS PCV ISO	E-4	MO	GT	A	12	FS/CS PI/2 LT/RF	O/C	ACTIVE	BB-06	
BBPV8702B	RCS LOOP 4 HOT LEG TO RHR PMPS PCV ISO	H-6	MO	GT	A	12	FS/CS PI/2 LT/RF	O/C	ACTIVE	BB-06	
BBV0001	RCS LOOP 1 COLD LEG SI BIT CHECK	D-5	SA	CK	A,C	1.50	FS/RF LT/RF	O/C	ACTIVE	BB-04	2
BBV0022	RCS LOOP 2 COLD LEG SI BIT CHECK	D-4	SA	CK	A,C	1.50	FS/RF LT/RF	O/C	ACTIVE	BB-04	2
BBV0040	RCS LOOP 3 COLD LEG SI BIT CHECK	D-6	SA	CK	A,C	1.50	FS/RF LT/RF	O/C	ACTIVE	BB-04	2
BBV0059	RCS LOOP 4 COLD LEG SI BIT CHECK	E-6	SA	CK	A,C	1.50	FS/RF LT/RF	O/C	ACTIVE	BB-04	2

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BB8010A	RCS PZR SFTY RLF A	G-7	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
BB8010B	RCS PZR SFTY RLF B	G-6	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
BB8010C	RCS PZR SFTY RLF C	G-5	SA	RV	C	6	RV/RV-5	O/C	ACTIVE		
BBHV8000A	RCS PZR CAUT PWR OPER RLF HV	E-7	MO	GT	B	3	FS/Q PI/2	O/C	ACTIVE		
BBHV8000B	RCS PZR OUT PWR OPER RLF HV	E-7	MO	GT	B	3	FS/Q PI/2	O/C	ACTIVE		
BBHV8026	RCS PRT N2/SERV GAS SPLY DNSTRM ISO HV	E-3	AO	DI	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
BBHV8027	RCS PRT N2/SERV GAS SPLY UPSTRM ISO HV	E-3	AO	DI	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
BBHV8157A	PRT TO EX LTDN HX PROT A ISO HV	E-1	SO	GB	B	1	FS/Q PI/2 FT/Q	O/C	ACTIVE		
BBHV8157B	PRT TO EX LTDN HX PROT B ISO HV	D-1	SO	GB	B	1	FS/Q PI/2 FT/Q	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BBPCV0455A	RCS PRESSURIZER POWER OPERATED RELIEF VALVE	E-7	SO	GB	B	3	FS/CS FT/CS PI/2	O/C	ACTIVE	BB-10	
BBPCV0456A	RCS PRESSURIZER POWER OPERATED RELIEF VALVE	E-8	SO	GB	B	3	FS/CS FT/CS PI/2	O/C	ACTIVE	BB-10	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BBHV0013	RCP A THRM BAR COOL COIL COOL WTR OUT HV	C-2	MO	GT	B	3	FS/RF PI/2	C	ACTIVE	BB-08	
BBHV0014	RCP B THRM BAR COOL COIL COOL WTR OUT HV	C-2	MO	GT	B	3	FS/RF PI/2	C	ACTIVE	BB-08	
BBHV0015	RCP C THRM BAR COOL COIL COOL WTR OUT HV	C-2	MO	GT	B	3	FS/RF PI/2	C	ACTIVE	BB-08	
BBHV0016	RCP D THRM BAR COOL COIL COOL WTR OUT HV	C-2	MO	GT	B	3	FS/RF PI/2	C	ACTIVE	BB-08	
BBHV8141A	RCP A SEAL # 1 SEAL WTR OUT ISO HV	D-3	AO	GB	B	0.75	PI/2	O	PASSIVE		
BBHV8141B	RCP B SEAL # 1 SEAL WTR OUT ISO HV	D-3	AO	GB	B	0.75	PI/2	O	PASSIVE		
BBHV8141C	RCP C SEAL # 1 SEAL WTR OUT ISO HV	D-3	AO	GB	B	0.75	PI/2	O	PASSIVE		
BBHV8141D	RCP D SEAL # 1 SEAL WTR OUT ISO HV	D-3	AO	GB	B	0.75	PI/2	O	PASSIVE		
BBHV8351A	RCP A SEAL WTR SPLY ISO HV	C-5	MO	GB	A	2	PI/2 LJ/J	O	PASSIVE		
BBHV8351B	RCP B SEAL WTR SPLY ISO HV	C-5	MO	GB	A	2	PI/2 LJ/J	O	PASSIVE		
BBHV8351C	RCP C SEAL WTR SPLY ISO HV	C-5	MO	GB	A	2	PI/2 LJ/J	O	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BBHV8351D	RCP D SEAL WTR SPLY ISO HV	C-5	MO	GB	A	2	PI/2 LJ/J	O	PASSIVE		
BBV0118	RCP A SEAL WTR SPLY ISO BBV0119 UPSTRM CHECK	C-5	SA	CK	A,C	2	LJ/J	O	PASSIVE	BB-07	
BBV0120	RCP A SEAL WTR SPLY ISO BBV0119 DNSTRM CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	
BBV0121	RCP A SEAL WTR SPLY CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	
BBV0122	CCW TO RCP A THERMAL BARRIER SPLY CK VLV	C-4	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	
BBV0148	RCP B SEAL WTR SPLY ISO BBV0149 UPSTRM CHECK	C-5	SA	CK	A,C	2	LJ/J	O	PASSIVE	BB-07	
BBV0150	RCP B SEAL WTR SPLY ISO BBV0149 DNSTRM CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	
BBV0151	RCP B SEAL WTR SPLY CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	
BBV0152	CCW TO RCP B THERMAL BARRIER SPLY CK VLV	C-4	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	
BBV0178	RCP C SEAL WTR SPLY ISO BBV0179 UPSTRM CHECK	C-5	SA	CK	A,C	2	LJ/J	O	PASSIVE	BB-07	
BBV0180	RCP C SEAL WTR SPLY ISO BBV0179 DNSTRM CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BBV0181	RCP C SEAL WTR SPLY CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	
BBV0182	CCW TO RCP C THERMAL BARRIER SPLY CK VLV	C-4	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	
BBV0208	RCP D SEAL WTR SPLY ISO BBV0209 UPSTRM CHECK	C-5	SA	CK	A,C	2	LJ/J	O	PASSIVE	BB-07	
BBV0210	RCP D SEAL WTR SPLY ISO BBV0209 DNSTRM CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	
BBV0211	RCP D SEAL WTR SPLY CHECK	C-4	SA	CK	C	2	FS/RF	C	ACTIVE	BB-13	
BBV0212	CCW TO RCP D THERMAL BARRIER SPLY CK VLV	C-4	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	
BBV0474	CCW TO RCP A THERMAL BARRIER SPLY CK VLV	C-5	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	
BBV0476	CCW TO RCP B THERMAL BARRIER SPLY CK VLV	C-5	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	
BBV0479	CCW TO RCP C THERMAL BARRIER SPLY CK VLV	C-5	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	
BBV0480	CCW TO RCP D THERMAL BARRIER SPLY CK VLV	C-5	SA	CK	C	1.50	FS/RF	C	ACTIVE	BB-11	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR COOLANT SYSTEM (BB)
DRAWING M-22BB04

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BBHV8001A	RCS RV HEAD VENT PROT A UPSTRM HV	F-4	SO	GB	B	1	FS/CS FT/CS PI/2	O/C	ACTIVE	BB-05	
BBHV8001B	RCS RV HEAD VENT PROT B UPSTRM HV	E-4	SO	GB	B	1	FS/CS FT/CS PI/2	O/C	ACTIVE	BB-05	
BBHV8002A	RCS RV HEAD VENT PROT A UPSTRM HV	F-3	SO	GB	B	1	FS/CS FT/CS PI/2	O/C	ACTIVE	BB-05	
BBHV8002B	RCS RV HEAD VENT PROT B UPSTRM HV	E-3	SO	GB	B	1	FS/CS FT/CS PI/2	O/C	ACTIVE	BB-05	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CHEMICAL AND VOLUME CONTROL SYSTEM (BG)
DRAWING M-22BG01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BG8381	CCP A & B TO REGEN HX CHECK	F-4	SA	CK	A,C	3	FS/RF LJ/J	C	ACTIVE	BG-01	
BGHV8100	SEAL WTR RTN OUTER CTMT ISO	D-2	MO	GB	A	2	FS/RF PI/2 LJ/J	C	ACTIVE	BG-02	
BGHV8112	SEAL WTR RTN INNER CTMT ISO HV	D-2	MO	GB	A	2	FS/RF PI/2 LJ/J	C	ACTIVE	BG-02	
BGHV8152	CVCS LTDN SYS OUT CTMT ISO HV	F-2	AO	GB	A	3	FS/CS FT/CS PI/2 LJ/J	C	ACTIVE	BG-03	
BGHV8153A	RCS TO CVCS EX LTDN HX DNSTRM ISO PROT A HV	D-7	SO	GB	B	1	FS/Q PI/2	O	ACTIVE		
BGHV8153B	RCS TO CVCS EX LTDN HX DNSTRM ISO PROT B HV	D-7	SO	GB	B	1	FS/Q PI/2	O	ACTIVE		
BGHV8154A	RCS TO CVCS EX LTDN HX UPSTRM ISO PROT A HV	D-8	SO	GB	B	1	FS/Q PI/2	O	ACTIVE		
BGHV8154B	RCS TO CVCS EX LTDN HX UPSTRM ISO PROT B HV	D-8	SO	GB	B	1	FS/Q PI/2	O	ACTIVE		
BGHV8160	CVCS LTDN SYS INNER CTMT ISO HV	F-3	AO	GB	A	3	FS/CS FT/CS PI/2 LJ/J	C	ACTIVE	BG-03	
BGLCV0459	RCS LOOP 3 LTDN TO REGEN HX DNSTRM LCV	G-7	AO	GB	B	3	FS/CS FT/CS PI/2	C	ACTIVE	BG-09	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CHEMICAL AND VOLUME CONTROL SYSTEM (BG)
DRAWING M-22BG01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BGLCV0460	RCS LOOP 3 LTDN TO REGEN HX UPSTRM LCV	G-7	AO	GB	B	3	FS/CS FT/CS PI/2	C	ACTIVE	BG-09	
BGV0135	SEAL WTR RTN INNER CTMT BGHV8112 DRN CHECK	D-3	SA	CK	A,C	0.75	LJ/J PS/RF	C O	PASSIVE ACTIVE	BG-02	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CHEMICAL AND VOLUME CONTROL SYSTEM (BG)
DRAWING M-22BG03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BG8481A	CVCS CCP A DISCH CHECK	C-4	SA	CK	C	4	FS/RF PS/Q	O/C	ACTIVE	BG-04	
BG8481B	CVCS CCP B DISCH CHECK	B-4	SA	CK	C	4	FS/RF PS/Q	O/C	ACTIVE	BG-04	
BG8497	CVCS NCP DISCH CHECK	E-4	SA	CK	C	3	FS/Q	C	ACTIVE		
BG8546A	RWST TO CCP A SUCT CHECK	C-7	SA	CK	C	8	FS/RF	O/C	ACTIVE	BG-05	
BG8546B	RWST TO CCP B SUCT CHECK	B-7	SA	CK	C	8	FS/RF	O/C	ACTIVE	BG-05	
BGHV8105	CVCS CHARGING HDR TO REGEN HX OUTER CTMT ISO VLV	E-2	MO	GT	A	3	FS/CS PI/2 LJ/J	C	ACTIVE	BG-06	
BGHV8106	CVCS CHARGING HDR TO REGEN HX OUTER CTMT ISO VLV	E-2	MO	GT	B	3	FS/CS PI/2	C	ACTIVE	BG-06	
BGHV8110	A CCP DISCH MINIFLOW TO SEAL WTR HX ISO	E-3	MO	GB	B	2	FS/Q PI/2	O/C	ACTIVE		
BGHV8111	CCP B DISCH MINIFLOW ISO VLV	E-4	MO	GB	B	2	FS/Q PI/2	O/C	ACTIVE		
BGHV8357A	CVCS CCP A DISCH TO RCP SEALS THROTTLE VLV	C-4	MO	GB	B	1	FS/Q PI/2	O/C	ACTIVE		
BGHV8357B	CVCS CCP B DISCH TO RCP SEALS THROTTLE VLV	B-4	MO	GB	B	1	FS/Q PI/2	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CHEMICAL AND VOLUME CONTROL SYSTEM (BG)
DRAWING M-22BG03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERK/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BGLCV0112B	CVCS VCT OUT UPSTRM ISO	F-6	MO	GT	B	4	FS/CS PI/2	C	ACTIVE	BG-07	
BGLCV0112C	CVCS VCT OUT DNSTRM ISO	F-6	MO	GT	B	4	FS/CS PI/2	C	ACTIVE	BG-07	
BGV0091	CCP A DISCH TO SEAL WTR HX CHECK	E-4	SA	CK	C	2	FS/Q	O	ACTIVE		
BGV0095	CCP B DISCH TO SEAL WTR HX CHECK	E-4	SA	CK	C	2	FS/Q	O	ACTIVE		
BGV0589	CCP B DISCH TO SEAL WTR INJ FLTRS HDR CHECK	B-4	SA	CK	C	1	FS/Q	O	ACTIVE		
BGV0590	CCP A DISCH TO SEAL WTR INJ FLTRS HDR CHECK	C-4	SA	CK	C	1	FS/Q	O	ACTIVE		
BGV0605	CCP B DISCH BGFCV0121 UPSTREAM CHECK	C-3	SA	CK	C	3	FS/Q	C	ACTIVE		
BGV0606	CCP A DISCH BGFCV0121 UPSTREAM CHECK	D-3	SA	CK	C	3	FS/Q	C	ACTIVE		
BGV0645	CVCS NCP DISCH UPSTRM CHECK	D-4	SA	CK	C	3	FS/Q	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CHEMICAL AND VOLUME CONTROL SYSTEM (BG)
DRAWING M-22BG05

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BGHV8104	EMERG BORATE TO CCP A & B HDR ISO HV	A-4	MO	GB	B	2	FS/Q PI/2	O	ACTIVE		
BGV0147	CVCS BA XFR PMP A DISCH CHECK	B-6	SA	CK	C	3	FS/CS	O	ACTIVE	BG-08	
BGV0155	CVCS BA XFR PMP A DISCH TO BAT A CHECK	B-6	SA	CK	C	0.75	FS/Q	O	ACTIVE		
BGV0165	CVCS PA XFR PMP B DISCH CHECK	A-6	SA	CK	C	3	FS/CS	O	ACTIVE	BG-08	
BGV0167	CVCS BA XFR PMP B DISCH TO BAT B CHECK	B-6	SA	CK	C	0.75	FS/Q	O	ACTIVE		
BGV0174	CVCS EMERG BORATE TO CCP A & B HDR CHECK	A-4	SA	CK	C	3	FS/CS	O	ACTIVE	BG-08	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR MAKEUP WATER SYSTEM (BL)
DRAWING M-22BL01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BL8046	RX M/U WTR SPLY INNER CTMT CHECK	B-3	SA	CK	A,C	3	FS/RF LJ/J	C	ACTIVE	BL-01	
BLHV8047	RX M/U WTR OUTER CTMT HV ISO	B-4	AO	DI	A	3	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

STEAM GENERATOR BLOWDOWN SYSTEM (BM)
DRAWING M-22BM01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BMHV0001	SG A B/D ISO VLV	F-5	AO	GB	B	4	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0002	SG B B/D ISO VLV	E-5	AO	GB	B	4	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0003	SG C B/D ISO VLV	C-5	AO	GB	B	4	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0004	SG D B/D ISO VLV	A-5	AO	GB	B	4	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0019	SG A B/D NUC SAMP SYS UP LINE ISO CTRL VLV	G-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0020	SG B B/D NUC SAMP SYS UP LINE ISO CTRL VLV	E-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0021	SG C B/D NUC SAMP SYS UP LINE ISO CTRL VLV	D-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0022	SG D B/D NUC SAMP SYS UP LINE ISO CTRL VLV	B-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0035	SG A B/D NUC SAMP SYS LWR LINE ISO CTRL VLV	G-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0036	SG B B/D NUC SAMP SYS LWR LINE ISO CTRL VLV	E-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

STEAM GENERATOR BLOWDOWN SYSTEM (BM)
DRAWING M-22BM01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BMHV0037	SG C B/D NUC SAMP SYS LWR LINE ISO CTRL VLV	C-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0038	SG D B/D NUC SAMP SYS LWR LINE ISO CTRL VLV	B-7	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0065	SG A B/D NUC SAMP SYS LINE ISO UPSTRM HV	G-6	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0066	SG B B/D NUC SAMP SYS LINE ISO UPSTRM HV	E-6	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0067	SG C B/D NUC SAMP SYS LINE ISO UPSTRM HV	C-6	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMHV0068	SG D B/D NUC SAMP SYS LINE ISO UPSTRM HV	B-6	SO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
BMV0045	SG DRN PMPs SUCT HDR INNER CTMT ISO	A-4	MA	GT	A	3	LJ/J	C	PASSIVE		
BMV0046	SG DRN PMPs SUCT HDR OUTER CTMT ISO	A-3	MA	GT	A	3	LJ/J	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

BORATED REFUELING WATER
STORAGE SYSTEM (BN)
DRAWING M-22BN01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BN8717	RHR SPLY TO RWST ISO (3.0.3)	B-5	MA	GT	B	8	PI/2	C	PASSIVE		
BNV0011	RWST OUT ISO (3.0.3)	F-4	MA	GT	B	24	PI/2	O	PASSIVE		
BNHCV8800A	RWST TO RFP DNSTRM HV	E-5	AO	GB	B	3	FS/Q FT/Q PI/2	C	ACTIVE		
BNHCV8800B	RWST TO RFP UPSTRM HV	E-5	AO	GB	B	3	FS/Q FT/Q PI/2	C	ACTIVE		
BNHV0003	RWST TO CTMT SPRY PMP B HV	C-3	MO	GT	B	12	FS/Q PI/2	C/O	ACTIVE		
BNHV0004	RWST TO CTMT SPRY PMP A HV	A-3	MO	GT	B	12	FS/Q PI/2	C/O	ACTIVE		
BNHV8806A	SI PMP A SUCT FROM RWST ISO	B-5	MO	GT	B	8	FS/Q PI/2	C O	ACTIVE PASSIVE		
BNHV8806B	SI PMP B SUCT FROM RWST ISO	E-3	MO	GT	B	8	FS/Q PI/2	C O	ACTIVE PASSIVE		
BNHV8812A	RWST TO RHR PMP A SUCT ISO VLV	B-3	MO	GT	B	14	FS/Q PI/2	C O	ACTIVE PASSIVE		
BNHV8812B	RWST TO RHR PMP B SUCT ISO VLV	D-3	MO	GT	B	14	FS/Q PI/2	C O	ACTIVE PASSIVE		
BNHV8813	SI PMPS MINIFLOW TO RWST ISO VLV (3.0.3)	B-7	MO	GB	B	2	FS/CS PI/2	C	ACTIVE	BN-02	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

BORATED REFUELING WATER
STORAGE SYSTEM (BN)
DRAWING M-22BN01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
BNLCV0112D	CCP A SUCT FROM RWST ISO VLV	A-5	MO	GT	B	8	FS/CS PI/2	O/C	ACTIVE	BN-01	
BNLCV0112E	CCP B SUCT FROM RWST ISO VLV	E-3	MO	GT	B	8	FS/CS PI/2	O/C	ACTIVE	BN-01	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

FUEL POOL COOLING AND CLEANUP (EC)
DRAWING M-22EC01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ECHV0011	FUEL POOL HX A SHELL SIDE CCW OUT ISO	H-5	MO	BF	B	12	FS/Q PI/2	O/C	ACTIVE		
ECHV0012	FUEL POOL HX B SHELL SIDE CCW OUT ISO	F-5	MO	BF	B	12	FS/Q PI/2	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

FUEL POOL COOLING AND CLEANUP (EC)
DRAWING M-22EC02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ECV0083	FUEL POOL CLEAN-UP DEMIN TO REFUEL POOL OUTER CTMT ISO	C-5	MA	GT	A	6	LJ/J	C	PASSIVE		
ECV0084	FUEL POOL CLN/U DEMIN TO RFP INNER CTMT ISO	C-6	MA	GT	A	6	LJ/J	C	PASSIVE		
ECV0087	RFP TO SFP INNER CTMT ISO	D-7	MA	GT	A	6	LJ/J	C	PASSIVE		
ECV0088	REFUEL POOL TO SFP OUTER CTMT ISO	D-7	MA	GT	A	6	LJ/J	C	PASSIVE		
ECV0095	FUEL POOL SKIMMER PUMP SUCT INNER CTMT ISO	B-5	MA	GT	A	3	LJ/J	C	PASSIVE		
ECV0096	REFUEL POOL SKIMMER PMP SUCT OUTER CTMT ISO	B-5	MA	GT	A	3	LJ/J	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ESSENTIAL SERVICE WATER SYSTEM (EF)
DRAWING M-22EF01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS FERF/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NGTES
EFHV0023	SERV WTR TO ESW TRN A UPSTRM HV	F-7	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0024	SERV WTR TO ESW TRN B UPSTRM HV	E-7	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0025	SERV WTR TO ESW TRN A DNSTRM HV	F-7	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0026	SERV WTR TO ESW TRN B DNSTRM HV	E-7	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0044	ESW TRN B TO SERV AIR CMPSR B ISO	B-7	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		
EFV0076	ESW TRN B FROM SERV AIR CMPSR CHECK VLV	B-6	SA	CK	C	2.50	FS/Q	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ESSENTIAL SERVICE WATER SYSTEM (EF)
DRAWING M-22EF02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EFHV0031	ESW TRN A TO CTMT AIR CLRS OUTER CTMT HV	G-7	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0032	ESW TRN B TO CTMT AIR CLRS OUTER CTMT HV	B-7	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0033	ESW TRN A TO CTMT AIR CLRS INNER CTMT HV	G-7	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0034	ESW TRN B TO CTMT AIR CLRS INNER CTMT HV	B-7	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0037	ESW TRN A TO UHS HV	G-2	MO	BF	B	30	FS/Q PI/2	O	ACTIVE		
EFHV0038	ESW TRN B TO UHS HV	C-2	MO	BF	B	30	FS/Q PI/2	O	ACTIVE		
EFHV0039	ESW TRN A TO SERV WTR UPSTRM HV	F-2	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0040	ESW TRN B TO SERV WTR UPSTRM HV	D-2	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0041	ESW TRN A TO SERV WTR DNSTRM HV	E-2	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0042	ESW TRN B TO SERV WTR DNSTRM HV	D-2	MO	BF	B	30	FS/Q PI/2	C	ACTIVE		
EFHV0043	ESW TRN A TO SERV AIR CMPSR A ISO	E-7	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ESSENTIAL SERVICE WATER SYSTEM (EF)
DRAWING M-22EF02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EFHV0045	ESW TRN A FROM CTMT AIR CLRS INNER CTMT HV	G-6	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0046	ESW TRN B FROM CTMT AIR CLRS INNER CTMT HV	B-6	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0047	ESW TRN A FROM CTMT AIR CLRS BYP ISO HV	G-6	MO	BF	A	10	FS/Q PI/2 LJ/J	C	ACTIVE		
EFHV0048	ESW TRN B FROM CTMT AIR CLRS BYP ISO HV	C-6	MO	BF	A	10	FS/Q PI/2 LJ/J	C	ACTIVE		
EFHV0049	ESW TRN A FROM CTMT AIR CLRS OUTER CTMT HV	G-6	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0050	ESW TRN B FROM CTMT AIR CLRS OUTER CTMT HV	B-6	MO	BF	A	14	FS/Q PI/2 LJ/J	O/C	ACTIVE		
EFHV0051	ESW TRN A TO CCW HX A HV	G-4	MO	BF	B	24	FS/Q PI/2	O	ACTIVE		
EFHV0052	ESW TRN B TO CCW HX B HV	C-4	MO	BF	B	24	FS/Q PI/2	O	ACTIVE		
EFHV0059	ESW TRN A FROM CCW HX A HV	G-3	MO	BF	B	24	FS/Q PI/2	C	ACTIVE		
EFHV0060	ESW TRN B FROM CCW HX B HV	C-3	MO	BF	B	24	FS/Q PI/2	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ESSENTIAL SERVICE WATER SYSTEM (EF)
DRAWING M-22EF02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EFV0046	ESW TRN A FROM SERV AIR CMPSR CHECK VALVE	E-6	SA	CK	C	2.50	FS/Q	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ESSENTIAL SERVICE WATER SYSTEM (EF)
DRAWING M-U2EF01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EFHV0065	ESW UHS COOL-TWR TRN A BYP HV	B-6	MO	BF	B	30	FS/Q PI/2	O/C	ACTIVE		
EFHV0066	ESW UHS COOL-TWR TRN B BYP HV	B-3	MO	BF	B	30	FS/Q PI/2	O/C	ACTIVE		
EFHV0097	ESW PMP A DISCH RECIRC HV	F-6	MO	GT	B	3	FS/Q PI/2	C	ACTIVE		
EFHV0098	ESW PMP B DISCH RECIRC HV	D-6	MO	GT	B	3	FS/Q PI/2	C	ACTIVE		
EFPDV0019	ESW S-C STR A DRN DP CTRL VLV	F-4	MO	GT	B	3	FS/Q PI/2	O/C	ACTIVE		
EFPDV0020	ESW S-C STR B DRN DP CTRL VLV	D-4	MO	GT	B	3	FS/Q PI/2	O/C	ACTIVE		
EFV0001	ESW PMP A DISCH CHECK	G-5	SA	CK	C	30	FS/Q	O	ACTIVE		
EFV0004	ESW PMP B DISCH CHECK	D-5	SA	CK	C	30	FS/Q	O	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPONENT COOLING WATER SYSTEM (EG)
DRAWING M-22EG01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EGHV0011	ESW TO CCW TRN A UPSTRM HV	F-8	MO	GB	B	1.50	FS/Q PI/2	O	ACTIVE		
EGHV0012	ESW TO CCW TRN B UPSTRM HV	C-8	MO	GB	B	1.50	FS/Q PI/2	O	ACTIVE		
EGHV0013	ESW TO CCW TRN A DNSTRM HV	F-7	MO	GB	B	1.50	FS/Q PI/2	O	ACTIVE		
EGHV0014	ESW TO CCW TRN B DNSTRM HV	C-7	MO	GB	B	1.50	FS/Q PI/2	O	ACTIVE		
EGHV0015	CCW TRN A SPLY/RTN ISO HV	D-6	MO	BF	B	18	FS/Q PI/2	O/C	ACTIVE		
EGHV0016	CCW TRN B SPLY/RTN ISO HV	D-6	MO	BF	B	18	FS/Q PI/2	O/C	ACTIVE		
EGLV0001	DI WTR TO CCW SRG TK A LV	G-7	AO	GB	B	3	PI/2	C	PASSIVE		
EGLV0002	DI WTR TO CCW SRG TK B LV	C-7	AO	GB	B	3	PI/2	C	PASSIVE		
EGRV0009	CCW SRG TK A VENT CTRL VLV	G-6	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		
EGRV0010	CCW SRG TK B VENT CTRL VLV	C-6	AO	GB	B	2	FS/Q FT/Q PI/2	C	ACTIVE		
EGV0003	CCW PMP A DISCH CHECK	G-3	SA	CK	C	20	FS/Q	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPONENT COOLING WATER SYSTEM (EG)
DRAWING M-22EG01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EGV0007	CCW PMP C DISCH CHECK	E-3	SA	CK	C	20	FS/Q	O/C	ACTIVE		
EGV0012	CCW PMP B DISCH CHECK	D-3	SA	CK	C	20	FS/Q	O/C	ACTIVE		
EGV0016	CCW PMP D DISCH CHECK	C-3	SA	CK	C	20	FS/Q	O/C	ACTIVE		
EGV0130	CCW TRN A SPLY/RTN CHECK	D-6	SA	CK	C	18	FS/Q	O	ACTIVE		
EGV0131	CCW TRN B SPLY/RTN CHECK	D-6	SA	CK	C	18	FS/Q	O	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPONENT COOLING WATER SYSTEM (EG)
DRAWING M-22EG02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EGHV0053	CCW TRN A SPLY ISO HV	G-5	MO	BF	B	18	FS/Q PI/2	O/C	ACTIVE		
EGHV0054	CCW TRN B SPLY ISO HV	E-5	MO	BF	B	18	FS/Q PI/2	O/C	ACTIVE		
EGHV0072	CCW TO PASS UPSTRM ISO HV	G-2	MO	GB	B	2	FS/Q PI/2	C	ACTIVE		
EGHV0073	CCW TO PASS DNSTRM ISO HV	G-2	MO	GB	B	2	FS/Q PI/2	C	ACTIVE		
EGHV0074	CCW FROM PASS UPSTRM ISO HV	G-1	MO	GB	B	2	FS/Q PI/2	C	ACTIVE		
EGHV0075	CCW FROM PASS DNSTRM ISO HV	G-1	MO	GB	B	2	FS/Q PI/2	C	ACTIVE		
EGHV0101	CCW TO RHR HX A ISO	G-4	MO	BF	B	18	FS/Q PI/2	O/C	ACTIVE		
EGHV0102	CCW TO RHR HX B ISO	C-4	MO	BF	B	18	FS/Q PI/2	O/C	ACTIVE		
EGTV0029	CCW HX A CCW BYP TV	G-6	AO	BF	B	20	FS/Q FT/Q PI/2	C	ACTIVE		
EGTV0030	CCW HX B CCW BYP TV	C-6	AO	BF	B	20	FS/Q FT/Q PI/2	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPONENT COOLING WATER SYSTEM (EG)
DRAWING M-22EG03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EGHV0058	CCW TO CTMT OUTER ISO HV	H-5	MO	GT	A	12	FS/Q PI/2 LJ/J	C	ACTIVE		
EGHV0059	CCW FROM CTMT OUTER ISO VLV	C-5	MO	GT	A	12	FS/Q PI/2 LJ/J	C	ACTIVE		
EGHV0060	CCW FROM RCS IN CTMT ISO HV	B-5	MO	GT	A	12	FS/Q PI/2 LJ/J	C	ACTIVE		
EGHV0061	CCW FROM RCP THRM BAR OUTER CTMT ISO	C-4	MO	GT	A	4	FS/Q PI/2 LJ/J	C	ACTIVE		
EGHV0062	CCW FROM RCS IN CTMT ISO HV	B-4	MO	GT	A	4	FS/Q PI/2 LJ/J	C	ACTIVE		
EGHV0069A	CCW TO RW PROT A SPLY ISO HV	F-8	AO	BF	B	14	FS/Q FT/Q PI/2	C	ACTIVE		
EGHV0069B	CCW FROM RW PROT A RTN ISO HV	F-6	AO	BF	B	14	FS/Q FT/Q PI/2	C	ACTIVE		
EGHV0070A	CCW TO RW PROT B SPLY ISO HV	F-8	AO	BF	B	14	FS/Q FT/Q PI/2	C	ACTIVE		
EGHV0070B	CCW FROM RW PROT B RTN ISO HV	F-6	AO	BF	B	14	FS/Q FT/Q PI/2	C	ACTIVE		
EGHV0071	CCW TO CTMT OUTER ISO VLV	H-5	MO	GT	B	12	PI/2	O	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPONENT COOLING WATER SYSTEM (EG)
DRAWING M-22EG03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EGHV0126	CCW TO CTMT BYP VLV	G-5	MO	GT	B	12	PI/2	C	PASSIVE		
EGHV0127	CCW TO CTMT BYP ISO HV	G-5	MO	GT	A	12	LJ/J PI/2	C	PASSIVE		
EGHV0130	CCW FROM RCS CTMT EGHV0060 BYP ISO HV	B-5	MO	GT	A	12	LJ/J PI/2	C	PASSIVE		
EGHV0131	CCW FROM CTMT EGHV0059 BYP ISO	C-5	MO	GT	A	12	LJ/J PI/2	C	PASSIVE		
EGHV0132	CCW FROM RCS CTMT EGHV0062 BYP ISO HV	B-4	MO	GT	A	4	LJ/J PI/2	C	PASSIVE		
EGHV0133	CCW FROM RCP THRM BAR EGHV0061 BYP ISO	C-5	MO	GT	A	4	LJ/J PI/2	C	PASSIVE		
EGV0204	CCW TO RCS IN CTMT CHECK	H-4	SA	CK	A,C	12	FS/RF LJ/J	C	ACTIVE	EG-01	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

RESIDUAL HEAT REMOVAL SYSTEM (EJ)
DRAWING M-22EJ01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EJ8708A	RHR PUMP A SUCT PRESS RLF	F-7	SA	RV	C	3	RV/RV-10	O/C	ACTIVE		
EJ8708B	RHR PUMP B SUCT PRESS RLF	C-7	SA	RV	C	3	RV/RV-10	O/C	ACTIVE		
EJ8730A	RHR HX A OUTLET CHECK VLV	G-4	SA	CK	C	10	FS/CS PS/Q	O/C	ACTIVE	EJ-10	
EJ8730B	RHR HX B OUTLET CHECK VLV	C-4	SA	CK	C	10	FS/CS PS/Q	O/C	ACTIVE	EJ-10	
EJ8841A	RHR TRNS SIS HOT LEG LOOP 2 RECIRC SPLY HDR CHECK	E-2	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	EJ-01	2
EJ8841B	RHR TRNS SIS HOT LEG LOOP 3 RECIRC SPLY HDR CHECK	D-2	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	EJ-01	2
EJ8958A	RHR PUMP A SUCT FROM RWST CHECK VLV	F-6	SA	CK	C	14	FS/RF PS/Q	O/C	ACTIVE	EJ-08	
EJ8958B	RHR PUMP B SUCT FROM RWST CHECK VLV	B-6	SA	CK	C	14	FS/RF PS/Q	O/C	ACTIVE	EJ-08	
EJ8969A	RHR TRN A CHARGING PUMPS SPLY HDR CHECK VLV	G-3	SA	CK	C	8	FS/RF	O	ACTIVE	EJ-09	
EJ8969B	RHR TRN B SAFETY INJ PUMPS SPLY HDR CHECK VLV	A-4	SA	CK	C	8	FS/RF	O	ACTIVE	EJ-02	
EJFCV0610	A RHR PMP MINI FLOW RECIRC FLOW CTRL VLV	H-6	MO	GT	B	3	FS/Q PI/2	O/C	ACTIVE		
EJFCV0611	RHR PUMP B MINIMUM FLOW CTRL VLV	A-5	MO	GT	B	3	FS/Q PI/2	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

RESIDUAL HEAT REMOVAL SYSTEM (EJ)
DRAWING M-22EJ01

VALVE NUMBER	DESCRIPTION	COORD	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EJFCV0618	RHR HX A BYP FLOW CTRL VLV	F-5	AO	BF	B	8	PI/2	C	PASSIVE		
EJFCV0619	RHR HX B BYP FLOW CTRL VLV	B-5	AO	BF	B	8	PI/2	C	PASSIVE		
EJHCV0606	RHR HX A OUTLET FLOW CTRL VLV	G-4	AO	BF	B	10	PI/2	O	PASSIVE		
EJHCV0607	RHR HX B OUTLET FLOW CTRL VLV	C-4	AO	BF	B	10	PI/2	O	PASSIVE		
EJHCV8825	RHR TRN A&B SIS HOT LEG RECIRC SIS TEST LINE ISO	E-2	AO	GB	B	0.75	FS/Q FT/Q PI/2	C	ACTIVE		
EJHCV8890A	RHR TRN A ACC INJ SIS TEST LINE ISO	F-2	AO	GB	B	0.75	FS/Q FT/Q PI/2	C	ACTIVE		
EJHCV8890B	RHR TRN B ACC INJ SIS TEST LINE ISO	C-2	AO	GB	B	0.75	FS/Q FT/Q PI/2	C	ACTIVE		
EJHV0014	RHR PMP A MINIMUM FLOW TO NUC SAMP SYS ISO	H-5	SO	GB	B	1	PI	C	PASSIVE		
EJHV0015	RHR PMP B MIN FLOW TO NUCLEAR SAMP SYS ISO	A-5	SO	GB	B	1	PI	C	PASSIVE		
EJHV0023	CTMT RECIRC SUMP A TO PASS UPSTRM ISO	E-7	SO	GT	A	1	LJ/J PI/2	C	PASSIVE		
EJHV0024	CTMT RECIRC SUMP B TO PASS UPSTRM ISO	D-6	SO	GT	A	1	LJ/J PI/2	C	PASSIVE		
EJHV0025	CTMT RECIRC SUMP A TO PASS DNSTRM ISO	E-6	SO	GT	A	1	LJ/J PI/2	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

RESIDUAL HEAT REMOVAL SYSTEM (EJ)
DRAWING M-22EJ01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EJHV0026	CTMT RECIRC SUMP B TO PASS DNSTRM ISO	D-6	SO	GB	A	1	LJ/J PI/2	C	PASSIVE		
EJHV8701A	RHR PUMP A SUCT ISO	F-8	MO	GT	A	12	FS/CS PI/2 LT/RF	O/C	ACTIVE	EJ-03	
EJHV8701B	RHR PUMP B SUCT ISO	B-8	MO	GT	A	12	FS/CS PI/2 LT/RF	O/C	ACTIVE	EJ-03	
EJHV8716A	RHR TRN A SI SYS HOT LEG RECIRC ISO (3.0.3)	E-4	MO	GT	B	10	FS/CS PI/2	O/C	ACTIVE	EJ-07	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

RESIDUAL HEAT REMOVAL SYSTEM (EJ)
DRAWING M-22EJ01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EJHV8716B	RHR TRN E SI SYS HOT LEG RECIRC ISO (3.0.3)	D-4	MO	GT	B	10	FS/CS PI/2	O/C	ACTIVE	EJ-07	
EJHV8804A	RHR TRN A CHARGING PUMPS SPLY ISO	G-4	MO	GT	B	8	FS/CS PI/2	O	ACTIVE	EJ-04	
EJHV8804B	RHR TRN B SI PUMPS SPLY ISO	A-4	MO	GT	B	8	FS/CS PI/2	O	ACTIVE	EJ-04	
EJHV8809A	RHR TRN A ACC INJ SPLY ISO (3.0.3)	G-3	MO	GT	B	10	FS/CS PI/2	C	ACTIVE	EJ-05	
EJHV8809B	RHR TRN B ACC INJ SPLY ISO (3.0.3)	C-3	MO	GT	B	10	FS/CS PI/2	C	ACTIVE	EJ-05	
EJHV8811A	CTMT RECIRC SUMP A TO RHR PUMP A SUCT ISO	E-7	MO	GT	B	14	FS/CS PI/2	O/C	ACTIVE	EJ-06	
EJHV8811B	CTMT RECIRC SUMP B TO RHR PUMP B SUCT ISO	D-7	MO	GT	B	14	FS/CS PI/2	O/C	ACTIVE	EJ-06	
EJHV8840	RHR TRAIN A & B SI SYS HOT LEG RECIRC ISO (3.0.3)	E-3	MO	GT	B	10	FS/CS PI/2	O	ACTIVE	EJ-05	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

HIGH PRESSURE COOLANT INJECTION SYSTEM (EM)
DRAWING M-22EM01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TEST S PERF/FREQ	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EM8922A	SI PMP A DISCH CHECK	E-5	SA	CK	C	4	FS/RF	O/C	ACTIVE	EM-01	
EM8922B	SI PMP B DISCH CHECK	D-5	SA	CK	C	4	FS/RF	O/C	ACTIVE	EM-01	
EM8926A	SI PMPS SUCT CHECK A	E-7	SA	CK	C	8	FS/RF PS/Q	O/C	ACTIVE	EM-05	
EM8926B	SI PMPS SUCT CHECK B	D-7	SA	CK	C	8	FS/RF PS/Q	O/C	ACTIVE	EM-05	
EMHV8802A	SI PMP A DISCH TO HOT LEG INJ ISO (3.0.3)	E-4	MO	GT	B	4	FS/Q PI/2	O	ACTIVE		
EMHV8802B	SI PMP B DISCH TO HOT LEG INJ ISO (3.0.3)	D-4	MO	GT	B	4	FS/Q PI/2	O	ACTIVE		
EMHV8807A	RHR HX A TO SI PMPS SUCT DNSTRM ISO VLV A	G-7	MO	GT	B	6	FS/Q PI/2	O	ACTIVE		
EMHV8807B	RHR HX A TO SI PMPS SUCT DNSTRM ISO VLV B	F-7	MO	GT	B	6	FS/Q PI/2	O	ACTIVE		
EMHV8814A	SI PMP A RECIRC TO RWST ISO	B-6	MO	GB	B	1.50	FS/Q PI/2	C	ACTIVE		
EMHV8814B	SI PMP B RECIRC TO RWST ISO	B-5	MO	GB	B	1.50	FS/Q PI/2	C	ACTIVE		
EMHV8821A	SI PMP A DISCH TO COLD LEG INJ ISO	E-4	MO	GT	B	4	FS/Q PI/2	C	ACTIVE		
EMHV8821B	SI PMP B DISCH TO COLD LEG INJ ISO	D-4	MO	GT	B	4	FS/Q PI/2	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

HIGH PRESSURE COOLANT INJECTION SYSTEM (EM)
DRAWING M-22EM01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF/ JUST.	NOTES
EMHV8823	SI/ACC INJ TEST LINE ISO HV	C-4	AO	GB	B	0.75	FS/Q FT/Q PI/2	C	ACTIVE		
EMHV8824	SI PMP B DISCH TEST LINE ISO HV	D-3	AO	GB	B	0.75	FS/Q FT/Q PI/2	C	ACTIVE		
EMHV8835	SI PMPS DISCH TO COLD LEG INJ ISO (3.0.3)	B-4	MO	GT	B	4	FS/CS PI/2	C	ACTIVE	EM-07	
EMHV8871	SI SYS IN CTM1 TEST LINE ISO HV	G-5	AO	GB	A	0.75	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
EMHV8881	SI PMP A DISCH TEST LINE ISO HV	G-4	AO	GB	B	0.75	FS/Q FT/Q PI/2	C	ACTIVE		
EMHV8888	ACC TKS FILL LINE FROM SI PMPS ISO	F-6	AO	GB	A	1	FSQ FT/Q PI/2 LJ/J	C	ACTIVE		
EMHV8889A	SI PMP B LOOP 1 HOT LEG TEST LINE ISO NV	G-2	AO	GB	B	0.75	PI/2	C	PASSIVE		
EMHV8889B	SI PMP A LOOP 2 HOT LEG TEST LINE ISO HV	G-3	AO	GB	B	0.75	PI/2	C	PASSIVE		
EMHV8889C	SI PMP A LOOP 3 HOT LEG TEST LINE ISO HV	G-2	AO	GB	B	0.75	PI/2	C	PASSIVE		
EMHV8889D	SI PMP B LOOP 4 HOT LEG TEST LINE ISO HV	G-2	AO	GB	B	0.75	PI/2	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

HIGH PRESSURE COOLANT INJECTION SYSTEM (EM)
DRAWING M-22EM01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EMHV8923A	RWST TO SI PMP A SUCT ISO HV (3.0.3)	E-7	MO	GT	B	6	PI/2	O/C	PASSIVE		
EMHV8923B	RWST TO SI PMP B SUCT ISO HV	D-7	MO	GT	B	6	PI/2	O/C	PASSIVE		
EMHV8924	RHR HX A TO SI PMPS SUCT UP STRM ISO (3.0.3)	F-8	MO	GT	B	6	PI/2	O	PASSIVE		
EMHV8964	SI SYS OUT CTMT TEST LINE ISO	G-6	AO	GB	A	0.75	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
EMV0001	SI PMP A DISCH TO HOT LEG LOOP 2 UPSTRM CHECK	F-3	SA	CK	A,C	2	FS/RF LT/RF	O/C	ACTIVE	EM-02	2
EMV0002	SI PMP A DISCH TO HOT LEG LOOP 3 UPSTRM CHECK	E-3	SA	CK	A,C	2	FS/RF LT/RF	O/C	ACTIVE	EM-02	2
EMV0003	SI PMP B DISCH TO HOT LEG LOOP 1 UPSTRM CHECK	D-3	SA	CK	A,C	2	FS/RF LT	O/C	ACTIVE	EM-02	2
EMV0004	SI PMP B DISCH TO HOT LEG LOOP 4 UPSTRM CHECK	C-3	SA	CK	A,C	2	FS/RF LT/RF	O/C	ACTIVE	EM-02	2
EMV0005	SI PMP A DISCH TO RWST CHECK	A-6	SA	CK	C	1.50	FS/Q	O	ACTIVE		
EMV0006	SI PMPS ACC TKS FILL LINE CHECK	F-6	SA	CK	A,C	1	LJ/J FS/RF	C	ACTIVE	EM-08	
EMV0007	SI PMP B DISCH TO RWST CHECK	A-5	SA	CK	C	1.50	FS/Q	O	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

HIGH PRESSURE COOLANT INJECTION SYSTEM (EM)
DRAWING M-22EM02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EM8815	BORON INJ HDR OUT CHECK	D-3	SA	CK	A,C	3	FS/RF LT/RF	O/C	ACTIVE	EM-03	
EMHV8801A	BORON INJ HDR TRAIN A OUT TO COLD LEGS ISO	D-4	MO	GT	B	4	FS/Q PI/2	O	ACTIVE		
EMHV8801B	BORON INJ HDR TRAIN B OUT TO COLD LEGS ISO	D-4	MO	GT	B	4	FS/Q PI/2	O	ACTIVE		
EMHV8803A	BORON INJ HDR SPLY FROM CCP A ISO	C-7	MO	GT	B	4	FS/Q PI/2	O	ACTIVE		
EMHV8803B	BORON INJ HDR SPLY FROM CCP B ISO	A-7	MO	GT	B	4	FS/Q PI/2	O	ACTIVE		
EMHV8843	BORON INJ HDR OUT UPSTRM TEST LINE ISO HV	C-4	AO	GB	B	0.75	FS/Q FT/Q PI/2	C	ACTIVE		
EMHV8882	BORON INJ HDR OUT DNSTRM TEST LINE ISO HV	C-3	AO	GB	B	0.75	PI/2	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CONTAINMENT SPRAY SYSTEM (EN)
DRAWING M-22EN01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ENHV0001	CTMT RECIRC SMP TO CTMT SPRY PMP A HV	G-7	MO	GT	B	12	FS/CS PI/2	O/C	ACTIVE	EN-04	
ENPV0006	CTMT SPRY PMP A DISCH HV	G-4	MO	GT	B	10	FS/Q PI/2	O	ACTIVE		
ENHV0007	CTMT RECIRC SMP TO CTMT SPRY PMP B HV	B-7	MO	GT	B	12	FS/CS PI/2	O/C	ACTIVE	EN-04	
ENHV0012	CTMT SPRY PMP B DISCH HV	B-4	MO	GT	B	10	FS/Q PI/2	O	ACTIVE		
ENV0002	CTMT SPRY ISO VLV ENCAP A OUT CHECK	G-7	SA	CK	C	12	FS/SD	O	ACTIVE	EN-01	
ENV0003	RWST TO CTMT SPRY PMP A CHECK	G-7	SA	CK	C	12	FS/SD PS/Q	O/C	ACTIVE	EN-02	
ENV0004	CTMT SPRY PMP A DISCH CHECK	G-5	SA	CK	C	10	FS/SD PS/Q	O	ACTIVE	EN-05	
ENV0008	CTMT SPRY ISO VLV ENCAP B OUT CHECK	B-7	SA	CK	C	12	FS/SD	O	ACTIVE	EN-01	
ENV0009	RWST TO CTMT SPRAY PMP B CHECK	B-7	SA	CK	C	12	FS/SD PS/Q	O/C	ACTIVE	EN-02	
ENV0010	CTMT SPRY PMP B DISCH CHECK	B-5	SA	CK	C	10	FS/SD PS/Q	O	ACTIVE	EN-05	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CONTAINMENT SPRAY SYSTEM (EN)
DRAWING M-22EN01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
ENV0013	CTMT SPRY PMP A DISCH IN CTMT CHECK	G-4	SA	CK	C	10	FS/SD	O/C	ACTIVE	EN-03	
ENV0017	CTMT SPRY PMP B DISCH IN CTMT CHECK	B-4	SA	CK	C	10	FS/SD	O/C	ACTIVE	EN-03	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ACCUMULATOR SAFETY INJECTION SYSTEM (EP)
DRAWING M-22EP01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EP8818A	RHR PMPS TO RCS COLD LEG LOOP 1 CHECK	G-3	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	EP-01	2
EP8818B	RHR PMPS TO RCS COLD LEG LOOP 2 CHECK	F-3	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	EP-01	2
EP8818C	RHR PMPS TO RCS COLD LEG LOOP 3 CHECK	D-3	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	EP-01	2
EP8818D	RHR PMPS TO RCS COLD LEG LOOP 4 CHECK	C-3	SA	CK	A,C	6	FS/CS LT/RF	O/C	ACTIVE	EP-01	2
EP8956A	SI ACC TK A OUT UPSTRM CHECK	G-4	SA	CK	A,C	10	FS/SD LT/RF	O/C	ACTIVE	EP-02	
EP8956B	SI ACC TK B OUT UPSTRM CHECK	E-4	SA	CK	A,C	10	FS/SD LT/RF	O/C	ACTIVE	EP-02	
EP8956C	SI ACC TK C OUT UPSTRM CHECK	C-4	SA	CK	A,C	10	FS/SD LT/RF	O/C	ACTIVE	EP-02	
EP8956D	SI ACC TK D OUT UPSTRM CHECK	B-4	SA	CK	A,C	10	FS/SD LT/RF	O/C	ACTIVE	EP-02	
EPHV8808A	SI ACC TK A OUT ISO	G-5	MO	GT	B	10	FS/CS PI/2	C O	ACTIVE PASSIVE	EP-05	
EPHV8808B	SI ACC TK B OUT ISO	E-5	MO	GT	B	10	PI/2	O	PASSIVE		
EPHV8808C	SI ACC TK C OUT ISO	C-5	MO	GT	B	10	PI/2	O	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ACCUMULATOR SAFETY INJECTION SYSTEM (EP)
DRAWING M-22EP01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EPHV8808D	SI ACC TK D OUT ISO	B-5	MO	GT	B	10	FS/CS PI/2	C O	ACTIVE PASSIVE	EP-05	
EPHV8875A	SI ACC TK A N2 SPLY HV	G-6	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8875B	SI ACC TK A N2 SPLY HV	F-6	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8875C	SI ACC TK A N2 SPLY HV	D-6	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8875D	SI ACC TK A N2 SPLY HV	B-6	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8877A	SI ACC A OUT UPSTRM CHECK TEST LINE ISO	F-4	AO	GB	B	0.75	PI/2	C	PASSIVE		
EPHV8877B	SI ACC B OUT UPSTRM CHECK TEST LINE ISO	E-4	AO	GB	B	0.75	PI/2	C	PASSIVE		
EPHV8877C	SI ACC C OUT UPSTRM CHECK TEST LINE ISO	C-4	AO	GB	B	0.75	PI/2	C	PASSIVE		
EPHV8877D	SI ACC D OUT UPSTRM CHECK TEST LINE ISO	A-4	AO	GB	B	0.75	PI/2	C	PASSIVE		
EPHV8878A	SI ACC TK A FILL LINE ISO HV	G-5	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8878B	SI ACC TK B FILL LINE ISO HV	E-5	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8878C	SI ACC TK C FILL LINE ISO HV	D-5	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8878D	SI ACC TK D FILL LINE ISO HV	B-5	AO	GB	B	1	PI/2	C	PASSIVE		
EPHV8879A	SI ACC A OUT DNSTRM CHECK TEST LINE ISO	G-4	AO	GB	B	0.75	PI/2	C	PASSIVE		
EPHV8879B	SI ACC B OUT DNSTRM CHECK TEST LINE ISO	E-4	AO	GB	B	0.75	PI/2	C	PASSIVE		
EPHV8879C	SI ACC C OUT DNSTRM CHECK TEST LINE ISO	D-4	AO	GB	B	0.75	PI/2	C	PASSIVE		
EPHV8879D	SI ACC D OUT DNSTRM CHECK TEST LINE ISO	C-2	AO	GB	B	0.75	PI/2	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

ACCUMULATOR SAFETY INJECTION SYSTEM (EP)
DRAWING M-22EP01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
EPHV8880	SI ACC TKS N2 SPLY HV	A-4	AO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
EPHV8950A	SI ACC TK A VENT HV	H-8	SO	GB	B	1	FS/CS PI/2	O	ACTIVE	EP-04	
EPHV8950B	SI ACC TK B VENT HV	F-8	SO	GB	B	1	FS/CS PI/2	O	ACTIVE	EP-04	
EPHV8950C	SI ACC TK B VENT HV	F-7	SO	GB	B	1	FS/CS PI/2	O	ACTIVE	EP-04	
EPHV8950D	SI ACC TK C VENT HV	D-8	SO	GB	B	1	FS/CS PI/2	O	ACTIVE	EP-04	
EPHV8950E	SI ACC TK C VENT HV	D-7	SO	GB	B	1	FS/CS PI/2	O	ACTIVE	EP-04	
EPHV8950F	SI ACC TK D VENT HV	C-8	SO	GB	B	1	FS/CS PI/2	O	ACTIVE	EP-04	
EPV0010	SI PMPS TO RCS COLD LEG LOOP 1 CHECK	G-3	SA	CK	A,C	2	FS/RF LT/RF	O/C	ACTIVE	EP-03	2
EPV0020	SI PMPS TO RCS COLD LEG LOOP 2 CHECK	F-3	SA	CK	A,C	2	FS/RF LT/RF	O/C	ACTIVE	EP-03	2
EPV0030	SI PMPS TO RCS COLD LEG LOOP 3 CHECK	D-3	SA	CK	A,C	2	FS/RF LT/RF	O/C	ACTIVE	EP-03	2
EPV0040	SI PMPS TO RCS COLD LEG LOOP 4 CHECK	C-3	SA	CK	A,C	2	FS/RF LT/RF	O/C	ACTIVE	EP-03	2
EPV0046	SI ACC TKS N2 SPLY CHECK	A-5	SA	CK	A,C	1	LJ/J FS/RF	C	ACTIVE	EP-06	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

AUXILIARY TURBINES -
AUXILIARY FEEDWATER PUMP TURBINE SYSTEM (FC)
DRAWING M-22FC02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
FCV0310	AFP TURB STMLINE DRN FLOW VLV	D-7	AO	GB	B	1	FS/Q FT/Q PI/2	C	ACTIVE		
FCHV0312	AFP TURB MECH TRIP/THROT HV	F-5	MO	GB	B	4	FS/Q PI/2	O	ACTIVE		
FCV0001	MS LOOP 2 TO AFP TURB UFSTRM CHECK	G-6	SA	CK	C	4	FS/CS FS/SD PS/Q	O/C	ACTIVE	FC-01	
FCV0002	MS LOOP 3 TO AFP TURB UPSTRM CHECK	G-6	SA	CK	C	4	FS/CS FS/SD PS/Q	O/C	ACTIVE	FC-01	
FCV0024	MS LOOP 2 TO AFP TURB DNSTRM CHECK	G-6	SA	CK	C	4	FS/CS FS/SD PS/Q	O/C	ACTIVE	FC-01	
FCV0025	MS LOOP 3 TO AFP TURB DNSTRM CHECK	G-6	SA	CK	C	4	FS/CS FS/SD PS/Q	O/C	ACTIVE	FC-01	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CONTAINMENT HYDROGEN CONTROL SYSTEM (GS)
DRAWING M-22GS01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
GSHV0003	H2 ANALYZER B SPLY OUTER CTMT ISO HV	E-6	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0004	H2 ANLZ B SPLY IN CTMT ISO HV	E-5	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0005	H2 ANALYZER B SPLY INNER CTMT ISO HV	D-5	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0008	H2 ANALYZER B RTN OUTER CTMT ISO HV	B-6	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0009	H2 ANLZ B RTN IN CTMT ISO HV	B-6	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0012	H2 ANALYZER A SPLY OUTER CTMT ISO HV	E-4	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0013	H2 ANLZ A SPLY IN CTMT ISO HV	E-5	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CONTAINMENT HYDROGEN CONTROL SYSTEM (GS)
DRAWING M-22GS01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
GSHV0014	H2 ANLZ A SPLY IN CTMT ISO HV	D-5	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0017	H2 ANALYZER A RTN OUTER CTMT ISO HV	B-4	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0018	H2 ANLZ A RTN IN CTMT ISO HV	B-5	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0020	H2 PURGE IN CTMT ISO HV	F-5	MO	BF	A	6	FS/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0021	H2 PURGE OUTER CTMT ISO HV	F-4	MO	BF	A	6	FS/Q PI/2 LJ/J	O/C	ACTIVE		
GSHV0030	CTMT ATMS PASS SPLY ISO HV	E-2	SO	GT	B	1	FS/Q FT/Q PI/2	O/C	ACTIVE		
GSHV0031	CTMT ATMS MON SPLY IN CTMT ISO HV	D-4	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GSHV0032	CTMT ATMS MON SPLY OUTER CTMT ISO HV	D-3	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CONTAINMENT HYDROGEN CONTROL SYSTEM (GS)
DRAWING M-22GS01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PER/ FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
GSHV0033	CTMT ATMS MON RTN OUTER CTMT ISO HV	C-4	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GSHV0034	CTMT ATMS MON RTN IN CTMT ISO HV	C-4	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GSHV0035	CTMT ATMS PASS SPLY ISO NV	E-8	SO	GT	B	1	FS/Q FT/Q FI/2	O/C	ACTIVE		
GSHV0036	CTMT ATMS MON SPLY IN CTMT ISO HV	D-6	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GSHV0037	CTMT ATMS MON SPLY OUTER CTMT ISO HV	D-7	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GSHV0038	CTMT ATMS MON RTN OUTER CTMT ISO HV	C-6	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GSHV0039	CTMT ATMS MON RTN IN CTMT ISO HV	C-6	SO	GT	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

CONTAINMENTPURGE SYSTEM (GT)
DRAWING M-22GT01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (In)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
GTHZ0004	CTMT MINI PURGE AIR SPLY OUTER CTMT DMPR	D-4	AO	BF	A	18	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GTHZ0005	CTMT MINI PURGE AIR SPLY INNER CTMT UPSTRM DMPR	A-5	AO	BF	A	18	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GTHZ0006	CTMT S/D PURGE AIR SPLY OUTER CTMT DMPR	C-4	AO	BF	A	36	PI/2 FS/Q FT/Q LJ/J	C	ACTIVE (SEE NOTE 1)		1
GTHZ0007	CTMT S/D PURGE AIR SPLY INNER CTMT DMPR	C-5	AO	BF	A	36	PI/2 FS/Q FT/Q LJ/J	C	ACTIVE (SEE NOTE 1)		1
GTHZ0008	CTMT S/D PURGE EXH INNER CTMT DMPR	C-6	AO	BF	A	36	PI/2 FS/Q FT/Q LJ/J	C	ACTIVE (SEE NOTE 1)		1
GTHZ0009	CTMT S/D PURGE EXH OUTER CTMT DMPR	C-7	AO	BF	A	36	PI/2 FS/Q FT/Q LJ/J	C	ACTIVE (SEE NOTE 1)		
GTHZ0011	CTMT MINI PURGE EXH INNER CTMT DNSTRM DMPR	A-6	AO	BF	A	18	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
GTHZ0012	CTMT MINI PURGE EXH OUTER CTMT DMPR	A-7	AO	BF	A	18	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

LIQUID RADWASTE SYSTEM (HB)
DRAWING M-22HB01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
HBHV7126	RCDT TO GRW CMPSR IN CTMT HV	G-6	AO	DI	A	0.75	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
HBHV7136	RCDT HX OUT HDR OUTER CTMT HV	F-3	AO	DI	A	3	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
HBHV7150	RCDT OUT TO GRW SYS OUTER CTMT HV	G-6	AO	DI	A	0.75	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
HBHV7176	RCDT HX OUT HDR IN CTMT ISO HV	F-3	AO	DI	A	3	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

DECONTAMINATION SYTEM (HD)
DRAWING M-22HD01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
HDV0016	RX HEAD DECON AUX STM SPLY OUTER CTMT ISO	B-7	MA	GB	A	2	L/J	C	PASSIVE		
HDV0017	RX HEAD DCON AUX STEAM SPLY IN CTMT ISO	B-7	MA	GE	A	2	L/J	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

EMERGENCY FUEL OIL SYSTEM
DRAWING M-22JE01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
JEV0085	EMERG F.O. DAY TK A IN CHECK	H-5	SA	CK	C	2	FS/Q	O	ACTIVE		
JEV0086	EMERG F.O. DAY TK B IN CHECK	D-5	SA	CK	C	2	FS/Q	O	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPRESSED AIR SYSTEM (KA)
DRAWING M-22KA01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
KAFV0029	RX BLD INST AIR SPLY FLOW CTRL VLV	B-1	AO	GB	A	2	FS/CS FT/CS PI/2 LJ/J	C	ACTIVE	KA-01	
KAV0204	RX BLD INST AIR SPLY CHECK	B-1	SA	CK	A,C	1.50	FS/RF LJ/J	C	ACTIVE	KA-02	

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPRESSED AIR SYSTEM (KA)
DRAWING M-22KA02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
KAV0039	RX BLD SERV AIR HDR SPLY CHECK	D-6	SA	CK	A,C	4	LJ/J	C	PASSIVE		
KAV0118	RX BLD SERV AIR HDR SPLY OUTER CTMT ISO	D-6	MA	GB	A	4	LJ/J	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

COMPRESSED AIR SYSTEM (KA)
DRAWING M-22KA05

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
KAV0648	SG A AFW CTRL/MS ATMS RELIEF VLVS N2 SPLY ACC IN	G-6	SA	CK	A,C	0.75	LT/RF	C	PASSIVE		
KAV0649	SG C AFW CTRL/MS ATMS RELIEF VLVS N2 SPLY ACC IN	F-5	SA	CK	A,C	0.75	LT/RF	C	PASSIVE		
KAV0650	SG B AFW CTRL/MS ATMS RELIEF VLVS N2 SPLY ACC IN	D-6	SA	CK	A,C	0.75	LT/RF	C	PASSIVE		
KAV0651	SG D AFW CTRL/MS ATMS RELIEF VLVS N2 SPLY ACC IN	B-5	SA	CK	A,C	0.75	LT/RF	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

BREATHING AIR FOR TASKS (KB)
DRAWING M-22KB01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
KBV0001	BRTH AIR SYS IN CTMT ISO	A-1	MA	GB	A	2	LJ/J	C	PASSIVE		
KBV0002	BRTH AIR SYS OUT CTMT ISO	A-2	MA	GB	A	2	LJ/J	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

FIRE PROTECTION SYSTEM (KC)
DRAWING M-22KC02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
KCHV0253	F-PROT LOOP TO RX BLD OUTER CTMT DNSTRM ISO	B-6	MO	GT	A	4	LJ/J PI/2	C	PASSIVE		
KCV0478	FIRE PROT LOOP TO RX BLD IN CTMT CHECK	B-6	SA	CK	A,C	4	LJ/J	C	PASSIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

STANDBY DIESEL GENERATOR SYSTEM (KJ)
DRAWING M-22KJ02

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
KJPV0001A	DG A STARTING AIR SPLY PRESS CTRL VLV A	F-3	SO	SV	B	0.375	FS/Q PI/2	O	ACTIVE	KJ-01	
KJPV0001B	DG A STARTING AIR SPLY PRESS CTRL VLV B	F-3	SO	SV	B	0.375	FS/Q PI/2	O	ACTIVE	KJ-01	
KJV0711A	DG STARTING AIR TK A AIR SPLY CHECK	C-2	SA	CK	C	0.75	FS/Q	C	ACTIVE		
KJV0712A	DG STARTING AIR TK B AIR SPLY CHECK	D-5	SA	CK	C	0.75	FS/Q	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

STANDBY DIESEL GENERATOR SYSTEM (KJ)
DRAWING M-22KJ05

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
KJPV0101A	DG B STARTING AIR SPLY PRESS CTRL VLV A	F-3	SO	SV	B	0.375	FS/Q PI/2	O	ACTIVE	KJ-01	
KJPV0101B	DG B STARTING AIR SPLY PRESS CTRL VLV B	F-3	SO	SV	B	0.375	FS/Q PI/2	O	ACTIVE	KJ-01	
KJV0711B	DG STARTING AIR TK C AIR SPLY CHECK	B-2	SA	CK	C	0.75	FS/Q	C	ACTIVE		
KJV0712B	DG STARTING AIR TK D AIR SPLY CHECK	D-5	SA	CK	C	0.75	FS/Q	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR BUILDING AND HOT MACHINE SHOP
FLOOR AND EQUIPMENT DRAIN SYSTEM (LF)
DRAWING M-22LF03

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
LFHV0105	DRW SMPS DISCH HDR DNSTRM HV	C-5	MO	GT	B	6	FS/Q PI/2	C	ACTIVE		
LFHV0106	DRW SMPS DISCH HDR UPSTRM HV	C-5	MO	GT	B	6	FS/Q PI/2	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

REACTOR BUILDING AND HOT MACHINE SHOP
FLOOR AND EQUIPMENT DRAIN SYSTEM (LF)
DRAWING M-22LF09

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
LFFV0095	CTMT NORM SMP PMPS DISCH HDR CTMT FV	F-2	MO	GT	A	6	FS/Q PI/2 LJ/J	C	ACTIVE		
LFFV0096	CTMT NORM SMP PMPS DISCH HDR AUX BLD FCV	F-2	AO	GB	A	6	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

NUCLEAR SAMPLING SYSTEM (SJ)
DRAWING M-22SJ01

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
SJHV0012	PZR VAPOR SAMP IN CTMT ISO HV	F-7	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0013	PZR VAPOR SAMP OUT CTMT ISO HV	E-7	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0018	ACC SAMP IN CTMT ISO HV	G-3	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0019	ACC SAMP OUT CTMT ISO HV	F-3	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

NUCLEAR SAMPLING SYSTEM (SJ)
DRAWING M-22SJ04

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
SJHV0005	PASS HOT LEG 1 SAMP IN CTMT DNSTRM ISO HV	F-6	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0006	PASS HOT LEG 1 SAMP OUT CTMT ISO TRN A HV	F-6	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0127	PASS HOT LEG 1 SAMP OUT CTMT ISO TRN B HV	F-6	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0128	PASS PZR & RCS SAMP IN CTMT ISO HV	H-6	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0129	PASS PZR & RCS SAMP OUT CTMT ISO TRN B HV	H-5	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0130	PASS PZR & RCS SAMP OUT CTMT ISO TRN A HV	G-5	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJHV0131	PASS TO RCDT OUT CTMT ISO PROT A HV	B-6	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		

CALLAWAY NUCLEAR PLANT
INSERVICE TEST PROGRAM

NUCLEAR SAMPLING SYSTEM (SJ)
DRAWING M-22SJ04

VALVE NUMBER	DESCRIPTION	COOR	ACT.	VLV TYPE	VLV CAT.	VLV SIZE (in)	TESTS PERF/FREQ.	SFTY POS	ACTIVE OR PASSIVE	RR OR TST DEF JUST.	NOTES
SJHV0132	PASS TO RCDT OUT CTMT ISO PROT B HV	A-6	SO	GB	A	1	FS/Q FT/Q PI/2 LJ/J	C	ACTIVE		
SJV0111	PASS TO RCDT IN CTMT CHECK	A-7	SA	CK	A,C	1	LJ/J	C	ACTIVE		

SECTION 2.3

RELIEF REQUESTS
OR
TEST DEFERRAL JUSTIFICATIONS
FOR
VALVE TESTING

AB-01

COLD SHUTDOWN JUSTIFICATION

VALVE: ABPV00001, 2, 3, 4

CATEGORY: B

CLASS: 2

FUNCTION: Steam generator power operated relief valve.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function, stroke time, and verify fail safe actuation every 3 months.

BASIS FOR RELIEF: Exercising (full or partial stroke) these valves during power operation would cause a decrease in pressure in the respective main steam header. This would introduce a severe transient in the main steam header which is unacceptable from an operational viewpoint.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function, stroke timed and fail safe actuation verified during cold shutdown.

AB-02

COLD SHUTDOWN JUSTIFICATION

VALVE: ABHV0011, 14, 17, 20

CATEGORY: B

CLASS: 2

FUNCTION: Main steam isolation valves

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function, stroke time, and verify fail safe actuation every 3 months.

BASIS FOR RELIEF: Closure (full stroke) of these valves during power operation would introduce a severe transient in the main steam lines which is unacceptable from an operational viewpoint. Testing by isolating each main steam header is also possible but would cause a power reduction which is also unacceptable from an operational viewpoint. Partial stroke exercising these valves is also impracticable because 'even a part-stroke exercise increases the risk of a valve closure when the unit is generating power' per NUREG-1482 Section 4.2.4.

ALTERNATE TESTING: This valve will be exercised (full stroke) to the position required to fulfill its function, stroke timed, and fail safe actuation verified at cold shutdown.

AB-03

REFUELING JUSTIFICATION

VALVE: ABV0007, 18, 29, 40,
ABV0085, 87

CATEGORY: B

CLASS: 2

FUNCTION: Remain open in the absence of a steam generator tube rupture. To be manually closed following a steam generator tube rupture to mitigate offsite radiological dose.

TEST REQUIREMENT: The subject valves are manual valves that do not have remote position indication; therefore, the only required test is to manually stroke the valves closed. This is impracticable to perform on a quarterly basis as no trendable data is obtained with this test so no value is gained by stroking the valves quarterly - the direction of the OM committee at this time is to stroke manual valves no more than on a cold shutdown frequency. Additionally, since the probability of these valves failing is so low, they are not even modeled in Callaway's PRA. Also, closing ABV0085 or ABV0087 makes the Turbine Driven Auxiliary Feedwater Pump inoperable, causing entry into a T.S. LCO, incurring additional safety system unavailability.

ALTERNATE TESTING: These valves will be stroked to the closed position during refueling outages.

AE-01

REFUELING JUSTIFICATION

VALVE: AEV0120, 121, 122, 123

CATEGORY: C

CLASS: 2

FUNCTION: Close to prevent blowdown of steam generators following Feedwater Pipe Rupture.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Exercising these valves (full or partial stroke) during power operation would require isolation of Feedwater to the steam generator which would result in a severe transient in the steam generator, possibly causing a unit trip.

ALTERNATE TESTING: Each valve of this group will be tested at refueling to prove valve closure capabilities.

AE-03

COLD SHUTDOWN JUSTIFICATION

VALVE: AEV0124, 125, 126, 127

CATEGORY: C

CLASS: 2

FUNCTION: Open to pass flow from motor driven and turbine driven auxiliary feedwater pumps to steam generators.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Exercising these valves (full or partial stroke) would result in feeding cold water into the steam generators. This is not desirable during power operation since flow through these valves would unnecessarily thermally shock the steam generator feedwater nozzles.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at cold shutdown.

AE-04

COLD SHUTDOWN JUSTIFICATION

VALVE: AEFV0039, 40, 41, 42

CATEGORY: B

CLASS: 2

FUNCTION: Isolates main feedwater piping from the steam generators upon receipt of a feedwater isolation signal.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function, stroke time, and verify fail safe actuation every 3 months.

BASIS FOR RELIEF: Closing (full stroke) these valves during power operation is considered impractical from an operating viewpoint. Closure would isolate feedwater to the steam generator which may result in a severe transient in the steam generator, possible causing a unit trip. Partial stroke exercising these valves is also impracticable because 'even a part-stroke exercise increases the risk of a valve closure when the unit is generating power' as stated in NUREG-1482 Section 4.2.4 for the Main Steam Isolation Valves, but this same justification applies for these valves as well.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function, stroke timed, and fail safe actuation verified at cold shutdown.

AL-01

COLD SHUTDOWN JUSTIFICATION

VALVE: ALV0001, V0002, V0003, V0030, V0033*, V0036*, V0042, V0045*,
V0048*, V0054, V0057*, V0062*, V0067*, V0072
* - Class 2

CATEGORY: C

CLASS: 2 and 3

FUNCTION: Opens on flow from the auxiliary feedwater pumps to provide flow to the Steam Generators. ALV0030, 42, 54 close to prevent reverse flow through parallel pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Exercising these valves open (full or partial stroke) would result in feeding cold water into the steam generators. This is not desirable during power operation since flow through these valves would unnecessarily thermally shock the steam generator feedwater nozzles. In regards to closure testing of ALV0030, 42, 54, per NUREG-1482 response to question group 24, 'If a valve performs a safety function in both the open and closed positions, however, the code requires that the valve be exercised to the open position and then verified to close'. As discussed above, since ALV0030, 42, 54 are exercised open only on a cold shutdown frequency, the closure test of these valves will be performed on a cold shutdown frequency as well.

ALTERNATE TESTING: Exercise check valve (full stroke) to the positions required to fulfill its function at cold shutdown.

V2, 3, 30, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

BB-01

REFUELING JUSTIFICATION

VALVE: BB8948A, B, C, D

CATEGORY: A, C

CLASS: 1

FUNCTION: Opens on flow from the cold leg accumulators, safety injection pumps or residual heat removal pumps to provide flow to the reactor coolant system cold legs.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: These valves cannot be full or partial stroke exercised during power operations since safety injection pump discharge pressure cannot overcome reactor coolant system pressure.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

BB-02

REFUELING JUSTIFICATION

VALVE: BB8949A, D

CATEGORY: A, C

CLASS: 1

FUNCTION: These valves open to provide hot leg recirculation flow from the safety injection pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full or partial stroke exercised during power operation since the only flow path discharges into the reactor coolant system. Safety injection pump discharge pressure cannot overcome reactor coolant system pressure. During cold shutdown these valves cannot be full or partial stroke exercised since this could result in a low temperature overpressurization of the reactor coolant system.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

BB-03

COLD SHUTDOWN JUSTIFICATION

VALVE:	BB8949B, C
CATEGORY:	A, C
CLASS:	1
FUNCTION:	Open on flow from the residual heat removal pumps to the reactor coolant hot legs.
TEST REQUIREMENT:	Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.
BASIS FOR RELIEF:	Valves cannot be full or partial stroke exercised during power operation since the only flowpath discharges into the reactor coolant system. Residual Heat Removal Pump Discharge Pressure or Safety Injection Pump Discharge Pressure cannot overcome reactor coolant system pressure.
ALTERNATE TESTING:	Exercise check valve (full stroke) to the position required to fulfill its function at cold shutdown.

BB-04

REFUELING JUSTIFICATION

VALVE: BBV0001, 22, 40, 59

CATEGORY: A,C

CLASS: 1

FUNCTION: These valves open on flow from the Centrifugal Charging Pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Exercising these valves (full or partial stroke) would require using a centrifugal charging pump to provide flow which would result in injection of borated water into the Reactor Coolant System thereby causing a power decrease and thermal shock to the reactor coolant piping. During cold shutdowns exercising (full or partial stroke) this valve could result in a low temperature overpressurization of the reactor coolant system.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

BB-05

COLD SHUTDOWN JUSTIFICATION

VALVE: BBHV8001A, B, and BBHV8002A, B

COMPONENT: B

CLASS: 2

FUNCTION: High Point Vents on the RCS

TEST REQUIREMENT: Exercise valve to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: If stroked (full or partial stroke) during plant operation, failure of a valve in the open position would put the reactor in a potential small break LOCA situation. Stroking one of these valves open would result in relying on one valve for RCS pressure boundary. Also, no matter what sequence of testing is used, exercising these valves would result in venting out some RCS water directly to the containment atmosphere. This would necessitate installation of a vent rig to control the effluent. The vent is not accessible for installation of a vent rig due to radiation concerns during operation.

ALTERNATE TESTING: Valves will be exercised and stroke timed during cold shutdown.

BB-06

COLD SHUTDOWN JUSTIFICATION

VALVE: BBPV8702A, B

CATEGORY: A

CLASS: 1

FUNCTION: Valves open to provide suction to Residual Heat Removal Pumps during normal unit cooldown.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: These valves have an interlock which prevents their opening (full or partial stroke) when Reactor Coolant System pressure is above approximately 360 PSIG to prevent over-pressurization of the RHR system.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

BB-07

REFUELING JUSTIFICATION

VALVE: BBV0118, 148, 178, 208

CATEGORY: A, C

CLASS: 2

FUNCTION: Provides containment isolation.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Closure testing (full or partial stroke) requires isolation of RCP seal injection which could cause RCP seal failure and a subsequent LOCA.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

BB-08

REFUELING JUSTIFICATION

VALVE: BBHV0013, 14, 15, 16

CATEGORY: B

CLASS: 3

FUNCTION: Isolates flow to the reactor coolant pump thermal barriers.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Failure of this valve in the closed position (full or partial stroke) during testing would inhibit flow to the reactor coolant pump thermal barriers. This could result in unit shutdown and possible damage to the reactor coolant pump seals and pump radial bearings.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during reactor refueling outages.

BB-10

COLD SHUTDOWN JUSTIFICATION

VALVE: BBPCV0455A, 456A

CATEGORY: B

CLASS: 1

FUNCTION: Pressurizer Power Operated Relief Valve

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: The PORVs, BBPCV0455A and BBPCV0456A, should not be opened (full or partial stroke) during normal operation. If they are opened, it could cause depressurization of the RCS and too rapid of a pressure transient. If the PORV block valves are closed, there is not enough pressure to open the PORVs.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

BB-11

REFUELING JUSTIFICATION

VALVE: BBV0122, 152, 182, 212
BBV0474, 476, 479, 480

CATEGORY: C

CLASS: 3

FUNCTION: Close on reverse flow to isolate flow during Reactor Coolant Pump Thermal Barrier Cooling Coil rupture accident.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Testing these check valves in the safety-related closed direction (full or partial stroke) requires isolating cooling water to the Reactor Coolant Pumps' (RCP) Thermal Barrier Cooling Coils and Motor Coolers. This function is required when the RCPs are operating. Loss of RCP seal injection without Thermal Barrier Coolant would cause catastrophic RCP seal failure and a subsequent Small Break Loss of Coolant Accident. Loss of RCP motor cooling would result in catastrophic motor failure which would cause a loss of forced RCS flow. The cooling water to the RCPs is provided by a common header, therefore testing cannot be performed until all four RCPs are off, which does not occur except during reactor refueling outages.

ALTERNATE TESTING: Valves will be exercised (full stroke) to their safety-related closed position during reactor refueling outages.

BB-12

REFUELING JUSTIFICATION

VALVE: BB8378A, B
BB8379A, B

CATEGORY: C

CLASS: 1

FUNCTION: Close to maintain RCS pressure boundary

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its safety-related function every 3 months.

BASIS FOR RELIEF: Testing these check valves in the safety-related direction (full or partial stroke) requires access to the valves and isolation of the normal or alternate charging paths. The normal charging path is in continuous operation with the alternate charging line as a backup. These valves are located behind the bioshield and entry behind the bioshield during power operation would cause unnecessary radiation exposure and would not support ALARA. Furthermore, in order to reduce high area radiation levels check valves BBV0001, 22, 40, and 59 must be flushed to eliminate crud traps. As stated in Refueling Justification #BB-04 it is not desirable to flow (full or partial stroke) through BBV0001, 22, 40, or 59 during cold shutdowns due to low temperature overpressurization concerns.

ALTERNATE TESTING: Valves will be exercised (full stroke) to their safety-related closed position during reactor refueling outages.

BB-13

REFUELING JUSTIFICATION

VALVE: BBV0120, 121, 150, 151, 180, 181, 210, 211

CATEGORY: C

CLASS: 1

FUNCTION: Close to maintain RCS pressure boundary

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its safety-related function every 3 months.

BASIS FOR RELIEF: Testing these check valves in the safety-related direction (full or partial stroke) requires isolation of RCP seal injection which could cause RCP seal failure and a subsequent LOCA.

ALTERNATE TESTING: Valves will be exercised (full stroke) to their safety-related closed position during reactor refueling outages.

BG-01

REFUELING JUSTIFICATION

VALVE: BG8381

CATEGORY: A, C

CLASS: 2

FUNCTION: Provides containment isolation.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Testing this valve closed (full or partial stroke) would require isolation of charging flow to the RCS which is undesirable from a plant operational perspective.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

BG-02

REFUELING JUSTIFICATION

VALVE: BGHV8112, 8100
BGHV0135

CATEGORY: A; BGHV8112, 8100
A, C; BGV0135

CLASS: 2

FUNCTION: BGHV8112 and 8100 are containment isolation valves in the return flow path from the reactor coolant pump seal water supply. BGV0135 is a check valve located in between these two isolation valves that is used for pressure relief and also functions as a containment isolation valve.

TEST REQUIREMENT: Exercise BGHV8112 and 8100 (full stroke) to the position required to fulfill their function and record stroke time every 3 months.

Exercise BGV0135 in a manner which verifies obturator travel to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Closure of BGHV8112 or BGHV8100 (full or partial stroke) during power operation isolates reactor coolant pump #1 seal leak off flow. This could result in damage to the reactor coolant pump seals and excessive RCS leakage.

Exercising BGV0135 at power would require a containment entry and breach of a contaminated system to verify valve performance. Opening BGV0135 with the RCP's in operation could adversely affect RCP seal leakoff flow thereby potentially causing RCP seal damage or failure. In addition, the opening function of this 3/4" check valve can be achieved with marginal valve performance (pressure relief of an isolated containment penetration). Failure of this check valve to adequately perform as a pressure relief is highly unlikely.

ALTERNATE TESTING: BGHV8112 AND BGHV8100 will be exercised (full stroke) to the position required to fulfill its function and stroke timed during reactor refueling outages.

BGV0135 will be verified to be capable of relieving pressure (partial open position) from this penetration during reactor refueling outages by verifying flow through the valve.

Testing these valves during reactor refueling outages is consistent with FSAR Section 7.1.2.5.2.

BG-03

COLD SHUTDOWN JUSTIFICATION

VALVE: BGHV8160, 8152

CATEGORY: A

CLASS: 2

FUNCTION: Provides containment isolation.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Failure of this valve in the closed position during testing (full or partial stroke) would result in loss of pressurizer level control and could result in plant shutdown.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

BG-04

REFUELING JUSTIFICATION

VALVE: BG8481A, B

CATEGORY: C

CLASS: 2

FUNCTION: Open to provide flow from the centrifugal charging pumps to the normal charging line or boron injection header and close to prevent flow through parallel pump.

TEST REQUIREMENT: Exercise check valve (full stroke) the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be exercised open (full stroke) during power operation. The only full flow flowpath is through the Boron Injection header into the reactor coolant system. This would cause an increase in reactor coolant system boron inventory and possibly cause plant shutdown. Valves cannot be exercised open (full stroke) during cold shutdown since this could result in a cold overpressurization of the reactor coolant system. In regards to closure testing of these valves, per NUREG-1482 response to question group #24, 'If a valve performs a safety function in both the open and closed positions; however, the Code requires that the valve be exercised to the open position and then verified to close'. As discussed above, since these valves are exercised full open only on a reactor refueling frequency the closure test of these valves will be performed on a reactor refueling frequency as well.

ALTERNATE TESTING: Exercise check valve open (partial stroke) quarterly during plant operation. Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

BG-05

REFUELING JUSTIFICATION

VALVE: BG8546A, B

CATEGORY: C

CLASS: 2

FUNCTION: Valve opens on flow from the refueling water storage tank to suction of the centrifugal charging pumps and closes to prevent back flow to the RWST.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valve cannot be full or partial stroke exercised open during power operation as this would increase the reactor coolant system boron inventory and possibly cause plant shutdown. This valve cannot be exercised open during cold shutdown since this could result in a cold over-pressurization of the reactor coolant system. In regards to closure testing of these valves, per NUREG-1482 response to question group #24, 'If a valve performs a safety function in both the open and closed positions; however, the Code requires that the valve be exercised to the open position and then verified to close'. As discussed above, since these valves are exercised full open only on a reactor refueling frequency, the closure test of these valves will be performed on a reactor refueling frequency as well.

ALTERNATE TESTING: Exercise check valve to the positions required to fulfill its function at refueling.

BG-06

COLD SHUTDOWN JUSTIFICATION

VALVE: BGHV8105, 8106

CATEGORY: A (BGHV8105), B (BGHV8106)

CLASS: 2

FUNCTION: Valves close to isolate the charging line to the Reactor Coolant System upon receipt of a safety injection signal.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Closure (full or partial stroke) of one of these valves during power operation would isolate charging flow to the Reactor Coolant System. This could result in loss of pressurizer level control and cause plant shutdown.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

BG-07

COLD SHUTDOWN JUSTIFICATION

VALVE:	BGLCV0112B, C
CATEGORY:	B
CLASS:	2
FUNCTION:	Valves close to isolate the volume control tank (normal charging supply) upon receipt of a safety injection signal.
TEST REQUIREMENT:	Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.
BASIS FOR RELIEF:	Closure (full or partial stroke) of one of these valves during normal unit operation would isolate the normal suction for the charging pumps. Alternate suction paths would result in increasing the reactor coolant system boron inventory and could result in plant shutdown.
ALTERNATE TESTING:	Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

BG-08

COLD SHUTDOWN JUSTIFICATION

VALVE: BGV0147, 165, 174

CATEGORY: C

CLASS: 3

FUNCTION: Open to provide emergency boration flowpath.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Exercising these valves (full or partial stroke) requires substantial boration of the Reactor Coolant System which is unacceptable from an operational viewpoint. This boration would cause unwanted negative reactivity addition and result in reactor power fluctuations.

ALTERNATE TESTING: Exercise check valves (full stroke) to position required to fulfill the function at cold shutdown.

BG-09

COLD SHUTDOWN JUSTIFICATION

VALVE: BGLCV0459, BGLCV0460

CATEGORY: B

CLASS: 1

FUNCTION: Close to maintain the RCS pressure boundary at the ASME Class 1 to Class 2 piping class break.

TEST REQUIREMENT: Exercise valve from the open to closed position while measuring stroke time and fail safe test every 3 months.

BASIS FOR RELIEF: BGLCV0459 and BGLCV0460 are isolation valves in the normal RCS letdown flowpath. The isolation of normal letdown flow at power can cause voiding in the system piping resulting in conditions conducive to water hammer. In addition, isolation of these valves at power could adversely affect pressurizer level control resulting in a reactor trip. These valves are located inside the bioshield. Failure of either of these valves at power would require a plant shutdown to allow access for repairs. The risks associated with valve testing at power are not compensated by the added assurance of satisfactory valve performance gained by quarterly testing.

ALTERNATE TESTING: The valve will be exercised (full stroke in the closed position and fail safe tested) to fulfill its function and stroke timed during cold shutdown.

BL-01

REFUELING JUSTIFICATION

VALVE: BL8046

CATEGORY: A, C

CLASS: 2

FUNCTION: Provides containment isolation.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: System design does not provide any indication for verifying valve closure (full or partial stroke) upon flow reversal and would require a Containment entry at power.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

BN-01

COLD SHUTDOWN JUSTIFICATION

VALVE: BNLCV0112D, E

CATEGORY: B

CLASS: 2

FUNCTION: Open to provide flowpath from RWST to Centrifugal Charging Pumps upon Safety Injection Signal or VCT low-low signal.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Failure of these valves in the open position (full or partial stroke) would result in introduction of borated water into the RCS, resulting in possible unit shutdown.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

BN-02

COLD SHUTDOWN JUSTIFICATION

VALVE: BNHV8813

CATEGORY: B

CLASS: 2

FUNCTION: Valve is normally open to provide miniflow path to the refueling water storage tank.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Failure of this valve in the closed position (full or partial stroke) during testing would result in loss of miniflow path for both trains of safety injection pumps which renders both SI pumps inoperable. This would result in pump damage due to dead heading the safety injection pumps in the event of a safety injection signal with reactor coolant pressure above safety injection pump discharge pressure. Additionally, BNHV8813 is a T.S. 3.0.3 valve.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

EG-01

REFUELING JUSTIFICATION

VALVE: EGV0204

CATEGORY: A, C

CLASS: 2

FUNCTION: Valve closes to provide containment isolation.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function once every 3 months.

BASIS FOR RELIEF: Testing this valve for closure (full or partial stroke) during normal plant operation would require isolation of flow to the RCP's and thermal barrier cooling coils which could result in damage to the RCP seals and pump radial bearings and a subsequent LOCA.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

EJ-01

COLD SHUTDOWN JUSTIFICATION

VALVE: EJ8841A, B

CATEGORY: A, C

CLASS: 1

FUNCTION: Open on flow from the residual heat removal pumps to the reactor coolant hot legs.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full or partial stroke exercised during power operation since the only flowpath discharges into the reactor coolant system. Residual Heat Removal Pump Discharge Pressure or Safety Injection Pump Discharge Pressure cannot overcome reactor coolant system pressure.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at cold shutdown.

EJ-02

REFUELING JUSTIFICATION

VALVE: EJ8969B

CATEGORY: C

CLASS: 2

FUNCTION: Opens to provide suction to the safety injection pumps from Residual Heat Removal Pump B discharge during the recirculation phase following Safety Injection actuations.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valve cannot be full or partial stroke exercised during power operation since the only full flow flowpath discharges into the Reactor Coolant System. Safety injection pump discharge pressure cannot overcome Reactor Coolant System pressure.

Valve cannot be full or partial stroke exercised during cold shutdown since this could result in a cold over pressurization of the Reactor Coolant System.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

EJ-03

COLD SHUTDOWN JUSTIFICATION

VALVE: EJHV8701A, B

CATEGORY: A

CLASS: 1

FUNCTION: Valves open to provide suction to Residual Heat Removal Pump A during normal unit cooldown.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: These valves have an interlock which prevents their opening (full or partial stroke) when Reactor Coolant System pressure is above approximately 360 psig to prevent over-pressurization of the RHR system.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function and stroke timed during cold shutdown.

EJ-04

COLD SHUTDOWN JUSTIFICATION

VALVE: EJHV8804A, B

CATEGORY: B

CLASS: 2

FUNCTION: Valves open to provide flowpath from discharge of the RHR pumps to the suction of the Safety Injection and Centrifugal Charging Pumps.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Valves cannot be opened (full or partial stroke) during operation due to control interlocks with other ECCS valves. EJHV8804A & B are interlocked with EMHV8814A & B as well as BNHV8813. The latter valves are safety injection miniflow isolation valves which must be closed in order to open the 8804 valves which makes the Safety Injection Pumps inoperable. If a SI would occur during testing, the SI pumps could be damaged due to a "dead headed" condition (i.e. loss of required miniflow).

ALTERNATE TESTING: Valves will be exercised (full stroke) and stroke timed during cold shutdown.

EJ-05

COLD SHUTDOWN JUSTIFICATION

VALVE: EJHV8840 and EJHV8809A, B

CATEGORY: B

CLASS: 2

FUNCTION: Valves would be cycled to put the RHR system in hot leg recirc mode during post accident conditions.

TEST REQUIREMENT: Exercise valves (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Valves have power removed during plant operation to prevent mispositioning these valves (full or partial stroke) which would result in entry into Technical Specification 3.0.3.

ALTERNATE TESTING: Valves will be exercised (full stroke) and stroke timed during cold shutdown.

EJ-06

COLD SHUTDOWN JUSTIFICATION

VALVE: EJHV8811A, B

CATEGORY: B

CLASS: 2

FUNCTION: Provides containment isolation. Opens to provide flow path from containment recirculation sump to suction of RHR pump.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Opening valve (full or partial stroke) during operation would drain the RHR suction header into the containment sump rendering the RHR pumps inoperable. Current procedures isolate and drain the suction header prior to stroking. This requires significant time. An alternative is to allow the water to go into the sumps which then would require removal to decrease containment humidity. Another concern is the additional risk of not getting the system fully vented. Requirements currently exist requiring ECCS systems be vented monthly due to problems encountered. The additional risks encountered and amount of time to perform testing do not justify the small amount of additional assurance gained by the testing.

ALTERNATE TESTING: Valves will be exercised (full stroke) and stroke timed during cold shutdown when the proper precautions may be taken without impacting operation.

EJ-07

COLD SHUTDOWN JUSTIFICATION

VALVE: EJHV8716A, B

CATEGORY: B

CLASS: 2

FUNCTION: Provide Low Head Safety Injection/Residual Heat Removal train separation for recirculation of fluid to cold legs of Reactor Coolant System (RCS).

TEST REQUIREMENT: Exercise valves (full stroke) to the position required to fulfill its function and stroke time every three months.

BASIS FOR RELIEF: Closing either EJHV8716A or EJHV8716B (full or partial stroke) isolates each Residual Heat Removal (RHR) pump from two RCS cold legs. This renders both trains of Emergency Core Cooling System (ECCS) inoperable, which is in violation of Technical Specifications during operation. If either EJHV8716A or B is failed in a closed position, 2 of the 4 cold leg injection pathways are isolated from the assumed single operating RHR pump. Additionally, these valves are T.S. 3.0.3 valves.

ALTERNATE TESTING: Valves will be exercised (full stroke) and stroke-timed at cold shutdown.

EJ-08

REFUELING JUSTIFICATION

VALVE: EJ8958A, B

CATEGORY: C

CLASS: 2

FUNCTION: Open to provide flow from the Refueling Water Storage Tank to the suction of the Residual Heat Removal pumps and close to prevent back flow to the RWST.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: These valves cannot be full stroke exercised during power operations since the full flow path discharges into the Reactor Coolant System. Residual heat removal pump discharge pressure cannot overcome Reactor Coolant System pressure during full power operations.

EJ-8958A and EJ-8958B cannot be full stroke exercised during cold shutdown due to insufficient expansion volume for injection during cold shutdown.

ALTERNATE TESTING: Exercise check valves (partial stroke) every 3 months. Exercise check valves (full stroke) to the position required to fulfill its function at refueling.

EJ-09

REFUELING JUSTIFICATION

VALVE: EJ8969A

CATEGORY: C

CLASS: 2

FUNCTION: Opens to provide suction to the Centrifugal Charging Pumps from Residual Heat Removal Pump A discharge during the recirculation phase following safety injection actuation.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: The valve cannot be full stroke exercised during power operation since the CCPs do not full-flow into the RCS during normal operation. Partial stroke exercising would require starting up the RHR pump, aligning it to the RWST, opening EJ-HV-8804A (See Cold Shutdown Justification #EJ-04), and as a result, boration of the RCS with 2000 ppm water. This is undesirable from a plant operational perspective.

Valve cannot be full or partial stroke exercised during cold shutdown since this could result in a cold over pressurization of the Reactor Coolant System.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

EJ-10

COLD SHUTDOWN JUSTIFICATION

VALVE: EJ8730A, B

CATEGORY: C

CLASS: 2

FUNCTION: Open to provide flow from residual heat removal pumps to the Reactor Coolant System and close to prevent reverse flow through the RHR pump in the opposite train.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: These valves cannot be full stroke exercised during power operations since the full flow path discharges into the Reactor Coolant System. Residual heat removal pump discharge pressure cannot overcome Reactor Coolant System pressure during full power operations.

ALTERNATE TESTING: Exercise check valves (partial stroke) every 3 months. Exercise check valves (full stroke) to the position required to fulfill its function at cold shutdown.

EM-01

REFUELING JUSTIFICATION

VALVE: EM8922A, B

CATEGORY: C

CLASS: 2

FUNCTION: Opens on flow from the Safety Injection pumps to the reactor coolant cold legs or hot legs and closes to prevent reverse flow through the opposite train Safety Injection pump.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full or partial stroke exercised open during power operation since the only flowpath discharges into the reactor coolant system. Safety injection pump discharge pressure cannot overcome reactor coolant system pressure. During cold shutdown these valves cannot be full or partial stroke exercised open since this could result in a low temperature overpressurization of the reactor coolant system. In regards to closure testing of these valves, per NUREG-1482 response to question group #24, 'If a valve performs a safety function in both the open and closed positions; however, the Code requires that the valve be exercised to the open position and then verified to close'. As discussed above, since these valves are exercised full open only on a reactor refueling frequency, the closure test of these valves will be performed on a reactor refueling frequency as well.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

EM-02

REFUELING JUSTIFICATION

VALVE: EMV0001, 2, 3, 4

CATEGORY: A, C

CLASS: 1

FUNCTION: These valves open to provide hot leg recirculation flow from the safety injection pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full or partial stroke exercised during power operation since the only flow path discharges into the reactor coolant system. Safety injection pump discharge pressure cannot overcome reactor coolant system pressure. During cold shutdown these valves cannot be full or partial stroke exercised since this could result in a low temperature overpressurization of the reactor coolant system.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

EM-03

REFUELING JUSTIFICATION

VALVE: EM8815

CATEGORY: A,C

CLASS: 2

FUNCTION: Opens on flow from the Centrifugal Charging Pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Using a Centrifugal Charging Pump to provide flow (full or partial stroke) would result in injecting borated water into the Reactor Coolant System through the cold leg injection lines. This would result in a decrease in reactor power and thermal shock to the reactor coolant piping. During cold shutdowns exercising this valve (full or partial stroke) could result in a low temperature overpressurization of the reactor coolant system.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

EM-05

REFUELING JUSTIFICATION

VALVE: EM8926A, B

CATEGORY: C

CLASS: 2

FUNCTION: Open on flow from the Refueling Water Storage Tank to the suction of the Safety Injection Pumps and closes to prevent backleakage to the RWST.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full stroke exercised open during power operation since the only full flow path discharges into the reactor coolant system. Safety injection pump discharge pressure cannot overcome reactor coolant system pressure. During cold shutdown these valves cannot be full stroke exercised open since this could result in a low temperature overpressurization of the reactor coolant system. In regards to closure testing of these valves, per NUREG-1482 response to question group #24, 'If a valve performs a safety function in both the open and closed positions; however, the Code requires that the valve be exercised to the open position and then verified to close'. As discussed above, since these valves are exercised full open only on a reactor refueling frequency, the closure test of these valves will be performed on a reactor refueling frequency as well.

ALTERNATE TESTING: Exercise check valve open (partial stroke) every 3 months. Exercise check valve (full stroke) to the positions required to fulfill its function at refueling.

EM-07

COLD SHUTDOWN JUSTIFICATION

VALVE: EMHV8835

CATEGORY: B

CLASS: 2

FUNCTION: Provide isolation between the Safety Injection Pumps discharge and the Reactor Coolant System Cold Legs.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Valve must remain open (cannot be full or part stroke exercised) to satisfy the flowpath from the Safety Injection Pumps to the Reactor Coolant System per T.S. 3.0.3.

ALTERNATE TESTING: Valve will be exercised (full stroke) and stroke timed during cold shutdown outages

EM-08

REFUELING JUSTIFICATION

EMV0006

CATEGORY:

A,C

CLASS:

2

FUNCTION:

Provides containment isolation.

TEST REQUIREMENTS

Exercise check valve in a manner which verifies obturator travel to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF:

This valve functions as a containment isolation valve and is subject to 10CFR50, Appendix J, leak rate testing. This penetration is normally isolated by an upstream isolation valve (EMHV8888) which is only opened when it becomes necessary to adjust level in the SI Accumulators. EMV0006 is required to be leak rate tested in accordance with 10CFR50 Appendix J requirements. This requires a containment entry and setup of the necessary test equipment. However, this valve could also be verified capable of closure during normal operation by unisolating an SI Accumulator to pressurize the downstream side of this check valve with SI accumulator pressure; then venting the upstream side to verify obturator closure. However, failure of EMV0006 could result in rapid de-pressurization of the SI Accumulator rendering it inoperable. Requiring closure testing during cold shutdowns is not practical because installation and removal of the test equipment coupled with the required system lineup could delay plant startup.

ALTERNATE TESTING:

This valve will be subject to closure testing during reactor refueling outages. This is consistent with the guidance provided in NUREG 1482 paragraph 4.1.4.

EN-01

RELIEF REQUEST

VALVE: ENV0002, 8

CATEGORY: C

CLASS: 2

FUNCTION: Valves open to provide flow from the Containment Sump to the Containment Spray Pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: These valves cannot be full or partial stroke exercised since the only full flowpath is from the Containment Sump which is normally dry. Also, testing would require spraying containment which would result in damage to lagging, non EQ electrical equipment, etc.

ALTERNATE TESTING: ENV0002 and ENV0008 are Walworth Company Model 12-N-376-SP, 12" stainless steel check valves installed in a horizontal orientation that have the same service conditions as they are corresponding valves in the 'A' and 'B' trains of the Containment Spray System.

A different valve of this group will be disassembled, inspected, and manually full stroked at each refueling until the entire group has been tested. If the full-stroke capability of the disassembled valve is in question, the remainder of the valves in this group will also be disassembled, inspected, and manually full stroked during the same refuel outage.

EN-02

RELIEF REQUEST

VALVE: ENV0003, 9

CATEGORY: C

CLASS: 2

FUNCTION: Valves open to provide flow from the refueling water storage tank to the spray headers. Valves close to prevent reverse flow from containment spray pumps.

TEST REQUIREMENT: Exercise check valve (full stroke open and closed) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: These valves cannot be full stroke exercised since the only full flow flowpath is to the spray headers which would result in spraying containment resulting in damage to lagging, non EQ electrical equipment, etc.

ALTERNATE TESTING: ENV0003 and ENV0009 are Walworth Company Model 12-N-376-SP, 12" stainless steel check valves installed in a horizontal orientation that have the same service conditions as they are corresponding valves in the 'A' and 'B' trains of the Containment Spray System.

Exercise check valve (partial stroke) every 3 months. A different valve of this group will be disassembled, inspected, and manually full stroked at each refueling, until the entire group has been tested. If the full-stroke capability of the disassembled valve is in question, the remainder of the valves in this group will also be disassembled, inspected, and manually full stroked during the same refuel outage.

EN-03

RELIEF REQUEST

VALVE: ENV0013, 17

CATEGORY: C

CLASS: 2

FUNCTION: Opens on flow from the Containment Spray Pump to the containment spray headers.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: To full or partial stroke these valves, flow from the containment spray pump would have to be initiated. This would result in spraying water through the spray nozzles into containment resulting in damage to lagging, non EQ electrical equipment, etc.

ALTERNATE TESTING: ENV0013 and ENV0017 are Walworth Company Model 10-N-376-SP, 10" stainless steel check valves installed in a horizontal orientation that have the same service conditions as they are corresponding valves in the 'A' and 'B' trains of the Containment Spray System.

A different valve of this group will be disassembled, inspected and manually full stroked at each refueling, until the entire group has been tested. If the full-stroke capability of the disassembled valve is in question, the remainder of the valves in this group will also be disassembled, inspected, and manually full stroked during the same refuel outage.

EN-04

COLD SHUTDOWN JUSTIFICATION

VALVE: ENHV0001, 7

CATEGORY: B

CLASS: 2

FUNCTION: Provides containment isolation. Opens to provide flow path from containment recirculation sump to suction of the Containment Spray Pumps.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Opening valve (full or partial stroke) during operation would run the risk of draining the Containment Spray Pumps suction headers into the containment sump which could cause severe damage to the pumps and render them inoperable. Refueling Water Storage Tank must be isolated to prevent flooding containment should the single check valve not hold when these valves are stroked open. Current procedures isolate and drain the suction header prior to stroking. This requires significant time. An alternative is to allow the water to go into the sumps which then would require removal to decrease containment humidity. Another concern is the additional risk of not getting the system fully vented. Requirements currently exist requiring ECCS systems be vented monthly due to problems which were encountered. The additional risks encountered and amount of time to perform testing do not justify the small amount of additional assurance gained by the testing.

ALTERNATE TESTING: Valves will be exercised (full stroke) and stroke timed during cold shutdown when the proper precautions may be taken without impacting operation.

EN-05

RELIEF REQUEST

VALVE: ENV0004, 10

CATEGORY: C

CLASS: 2

FUNCTION: Valves open to provide flow from the refueling water storage tank to the spray headers.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: These valves cannot be full stroke exercised since the only full flow flowpath is to the spray headers which would result in spraying containment resulting in damage to lagging, non EQ electrical equipment, etc.

ALTERNATE TESTING: ENV0004 and ENV0010 are Walworth Company 10-N-2376-S, 10" stainless steel check valves installed in a horizontal orientation that have the same service conditions as they are corresponding valves in the 'A' and 'B' trains of the Containment Spray System.

Exercise check valve (partial stroke) every 3 months. A different valve of this group will be disassembled, inspected, and manually full stroked at each refueling, until the entire group has been tested. If the full-stroke capability of the disassembled valve is in question, the remainder of the valves in this group will also be disassembled, inspected, and manually full stroked at the same outage.

EP-01

COLD SHUTDOWN JUSTIFICATION

VALVE: EP8818A, B, C, D

CATEGORY: A, C

CLASS: 1

FUNCTION: Valves open on cold leg injection flow from the residual heat removal pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full or partial stroke exercised during power operation since the only flow path discharges into the reactor coolant system. Residual Heat Removal Pump Discharge Pressure cannot overcome reactor coolant system pressure.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at cold shutdown.

EP-02

RELIEF REQUEST

VALVE: EP8956A, B, C, D

CATEGORY: A, C

CLASS: 1

FUNCTION: Opens on flow from the cold leg accumulators to provide flow to the reactor coolant system cold legs.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: These valves cannot be full or part stroke exercised during power operation since cold leg accumulator pressure cannot overcome reactor coolant system pressure. During cold shutdown exercising these valves (full or partial stroke) could result in a low temperature overpressurization of the reactor coolant system.

ALTERNATE TESTING: EP8956A, B, C, D are Westinghouse Electric Corporation Model 10001CS990000DO, 10" stainless steel check valves installed in a horizontal orientation that have the same service conditions as they are corresponding valves in loops A, B, C, D of the Accumulator Safety Injection System.

A different valve of this group will be disassembled, inspected, and manually stroked at each refueling, until the entire group has been tested. If the full-stroke capability of the disassembled valve is in question, the remainder of the valves in this group will also be disassembled, inspected, and manually full stroked at the same refuel outage.

EP-03

REFUELING JUSTIFICATION

VALVE: EPV0010, 20, 30, 40

CATEGORY: A, C

CLASS: 1

FUNCTION: Valves open on cold leg injection flow from the safety injection pumps.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full or partial stroke exercised during power operation since the only flowpath discharges into the reactor coolant system. Safety Injection Pump Discharge Pressure cannot overcome reactor coolant system pressure. During cold shutdown these valves cannot be full or partial stroke exercised since this could result in a low temperature overpressurization of the reactor coolant system.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

EP-04

COLD SHUTDOWN JUSTIFICATION

VALVE: EPHV8950A, B, C, D, E, F

CATEGORY: B

CLASS: 2

FUNCTION: Valves are provided to depressurize the accumulator tanks during emergency cold shutdown conditions.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Opening valve (full or partial stroke) during plant operation could render an accumulator inoperable. The Technical Specification action statement may not allow adequate time to test and restore an accumulator. Additionally, if one valve were to fail, insufficient time is allowed for repair and therefore the plant would be required to shut down.

ALTERNATE TESTING: Valves will be exercised (full stroke) and stroke timed at cold shutdown.

EP-05

COLD SHUTDOWN JUSTIFICATION

VALVE: EPHV8808A, D

CATEGORY: B

CLASS: 2

FUNCTION: Valves are provided to isolate the accumulator tanks during certain emergency cold shutdown conditions.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function every three months.

BASIS FOR RELIEF: See NUREG-1482, Section 3.1.1-1 (cannot full or partial stroke).

ALTERNATE TESTING: Valves will be exercised (full stroke) and stroke timed at cold shutdown.

EP-06

COLD SHUTDOWN JUSTIFICATION

VALVE	EPV0046
CATEGORY:	A,C
CLASS:	2
FUNCTION:	Provides containment isolation.
TEST REQUIREMENTS:	Exercise check valve in a manner which verifies obturator travel to the position required to fulfill its function every 3 months.
BASIS FOR RELIEF:	This valve functions as a containment isolation valve and is subject to 10CFR50, Appendix J leak rate testing. This penetration is normally isolated by an upstream isolation valve (EPHV8880) which is only opened when it becomes necessary to pressurize the SI Accumulators with nitrogen. 10CFR50, Appendix J Leak Rate Testing, requires a containment entry and setup of the necessary test equipment. However, this valve could also be verified capable of closure during normal operation by unisolating an SI Accumulator to pressurize the downstream side of this check valve with nitrogen; then venting the upstream side to verify obturator closure. However, failure of EPV0046 could result in an oxygen deficient atmosphere for personnel should the leakage not be properly vented. In addition, failure of EPV0046 could result in rapid depressurization of the SI Accumulator rendering it inoperable.
ALTERNATE TESTING:	This valve will be subject to closure testing during Cold Shutdown Outages when the SI Accumulators are not required operable. 10CFR50, Appendix J Leak Rate Testing will satisfy this closure verification when performed during the same surveillance interval.

FC-01

RELIEF REQUEST

VALVE: FCV0001, 2, 24, 25

CATEGORY: C

CLASS: 3

FUNCTION: Valves open to provide steam flow to the Turbine Driven Auxiliary Feedwater Pump. Valves close to provide redundant steam line separation.

TEST REQUIREMENT: Exercise check valves (full stroke open and closed) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: Valves cannot be full stroke opened during power operation since this would require full flow of cool water from the turbine driven auxiliary feedwater pump to the steam generators. This is undesirable since this would unnecessarily thermally shock steam generator feedwater nozzles.

These valves cannot be full or partial stroke tested closed since there are no lines coming off between the two valves on a line to allow for pressurization and depressurization.

ALTERNATE TESTING: Check valves will be partial stroke tested open quarterly. Valves will be full stroke exercised open at cold shutdown frequency. Valves will be tested for closure capability by disassembling, inspecting, and manually full stroking a different valve of this group at each refueling.

FCV0001, FCV0002, FCV0024, and FCV0025 are Velan Valve Corporation 4" pressure seal swing carbon steel check valves installed in a horizontal orientation that have the same service conditions as they are corresponding valves in main steam loops 2 and 3 supply to the turbine of the Turbine Driven Auxiliary Feedwater Pump.

A different valve of this group will be disassembled, inspected, and manually full stroked at each refueling, until the entire group has been tested. If the full -stroke capability of the disassembled valve is in question, the remainder of the valves in this group will also be disassembled, inspected, and manually full stroked at the same outage.

KA-01

COLD SHUTDOWN JUSTIFICATION

VALVE: KAFV0029

CATEGORY: A

CLASS: 2

FUNCTION: Valve closes to provide containment isolation.

TEST REQUIREMENT: Exercise valve (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: Failure of this valve in the closed direction or stroking this valve (full or partial stroke) during normal plant operation would interrupt the instrument air supply to valves and equipment necessary for system control and operation (i.e. loss of the normal letdown path and loss of pressurizer spray). These losses would put the plant in an off-normal situation and possibly cause a reactor trip.

ALTERNATE TESTING: Valve will be exercised (full stroke) to the position required to fulfill its function, stroke time tested, and fail-safe tested during cold shutdown.

KA-02

REFUELING JUSTIFICATION

VALVE: KAV0204

CATEGORY: A, C

CLASS: 2

FUNCTION: Provides containment isolation.

TEST REQUIREMENT: Exercise check valve (full stroke) to the position required to fulfill its function every 3 months.

BASIS FOR RELIEF: System design does not provide any indication for verifying valve closure (full or partial stroke) upon flow reversal. Also see Cold Shutdown Justification KA-01 for not exercising valve during normal plant operation.

ALTERNATE TESTING: Exercise check valve (full stroke) to the position required to fulfill its function at refueling.

KJ-01

RELIEF REQUEST

VALVE: KJPV0001A&B, 0101A&B

CATEGORY: B

CLASS: 3

FUNCTION: Valves open to provide starting air to the emergency diesel generator.

TEST REQUIREMENT: Exercise valves (full stroke) to the position required to fulfill its function and stroke time every 3 months.

BASIS FOR RELIEF: These are totally enclosed solenoid valves. The valves are controlled by the start-stop switch for the diesel. Therefore, stroke time for the valves (full or partial stroke) themselves cannot be measured. Valve stroke time affects diesel start time. Diesel start time will be used to monitor valve performance. Maximum stroke time of 12 seconds will be used since this is the limit for diesel start time. Since both valves actuate when the diesel is started, changes in starting air tank pressures will be monitored to ensure approximately equal pressure decreases to verify both valves actuated properly.

ALTERNATE TESTING: Diesel starting times and starting air tank pressure changes will be measured.