SEQUOYAH NUCLEAR PLANT

UNITS 1 AND 2

PUMP AND VALVE
INSERVICE TESTING PROGRAM

INSERVICE TESTING PROGRAM FOR
PUMPS AND VALVES
SEQUOYAH NUCLEAR POWER PLANT

1.0 Introduction

Under the provisions of 10CFR50.55a, inservice testing of safety related pumps and valves will be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. As specified in 10CFR50.55a(b), the effective edition of Section XI with regard to this program is the 1974 edition through the Summer 1975 Addenda (Unit 1) and the 1977 edition through the Summer 1978 Addenda (Unit 2). This program identifies the pump and valve inservice testing that will be performed at the Sequoyah Nuclear Power Plant to comply with the requirements of 10CFR50.55. Where this text refers to specific paragraphs in Section XI, the paragraphs in the 1977 edition through Summer 1978 Addenda is referenced. Refer to the equivalent paragraph in the 1974 edition through Summer 1975 Addenda when required.

2.0 Pump Inservice Testing Program

The pump test program shall be conducted in accordance with Subsection IWP of Section XI of the ASME Boiler and Pressure Vessel Code (applicable edition and Addenda) except for relief requested under the provisions of 10CFR50.55a (g) (5) (iii). Appendix A details the inservice testing progra for all safety related pumps at Sequoyah Nuclear Plant. Table A in Appendix A lists each pump required to be tested in accordance with IWP-1100 of Section XI of the Code. Each parameter to be measured as well as specific notes concerning nonconformance are also listed.

2.1 Pump Testing Frequency

Present regulatory policy requires that all safety related pumps installed in water-cooled nuclear power plants be tested in accordance with the ASME Code, Section XI, Subsection IWP. The purpose of these tests is to collect data to be used in assessing the operational readiness of pumps during their service life.

There are two reasons for conducting periodic pump testing. The first is to record data for assessing operational readiness and the second is to lubricate those bearings of the prime mover and pump which may lose their oil lubrication film due to lack of operation. In order to properly lubricate their bearings, these pumps should be "rolled" or "jogged" for a very short time, in order to supply lubricant to wear surfaces.

Starting and running the pump for the purposes of recording data permits an assessment of operational readiness but also subjects the pump to wear. In determining the most effective and efficient pump test frequency, the benefits of running the pump to record this data must be weighed against the costs in degraded pump integrity and reliability. Pump reliability can be adequately demonstrated (and degradation reduced) by conducting the Section XI pump test quarterly, as is consistent with the operational readiness test for valves as presently endorsed by the ASME Code.

2.1 Pump Testing Frequency (continued)

In addition, while the latest NRC-accepted version of the ASME Code calls for monthly testing of safety-related pumps, all subsequent Editions and Addenda, including the next Addenda to be approved by the NRC, call for quarterly pump testing.

Thus, Sequoyah will fully test each pump quarterly per Section XI.

3.0 Valve Inservice Testing Program

The valve test program shall be conducted in accordance with Subsection IWV of Section XI of the ASME Boiler and Pressure Vessel (applicable Edition and Addenda) except for relief requested under the provisions of 10CFR50.55a (g) (5) (iii). The valve test program is included as Appendix C. The codes and symbols used to abbreviate the tables in Appendix C are explained in Appendix B. The Calculated Maximum Allowable Stroke Times and the Maximum Allowable Stroke Times shall not be <1.0 second due to the eye and hand coordination involved in manually operating a stop watch. Valves identified in Appendix C, Remarks, by the word "cycled" are only cycled and not timed since a response time is of no concern (except Diesel Air Start Valves) and is not specified by the owner.

3.1 Category A Valves

Valves for which seat leakage is important may generally be classified as pressure isolation valves (PSIV), containment isolation valves (CIV), or both pressure and containment isolation valves. Containment isolation valves falling within the scope of ASME Section XI are tested in accordance with the Section XI requirements of IWV-3410, Category A with the exception of the seat leakage tests (IWV-3420). The seat leakage testing of these valves meets the intent of Section XI, but the actual test procedures shall be in accordance with the 10CFR50, Appendix J, Type C, CIV test program. For valves performing a containment isolation function individual valve leak rates are not in themselves significant. The only pertinent leak rate criteria for CIV's is that the total leak rate for all penetrations and valves be less than 0.60 L_a. The Sequoyah plant was designed to perform the Appendix J, Type C tests, not the individual Category A leak test (i.e., some penetration test connections test more than one valve at a time). Accordingly, all CIV seat leak testing shall be performed in accordance with the requirements of 10CFR50, Appendix J, Type C, in lieu of the Category A requirements of Section XI.

3.2 Thermal Relief Valves

Many safety related systems, particularly those with heat exchangers, have been provided with relief valves. Some of these relief valves are thermal relief valves (TRV) of small capacity intended to relieve pressure due to thermal expansion of fluid in a "bottled-up" condition. Experience has shown that failure of these valves will not result in failure of a system to fulfill its safety related function. Thus, the thermal relief valve is not safety related and such valves have not been included in the program.

3.3 Thermal Relief Check Valves

Several penetrations have been fitted with small check valves designed to relieve pressure due to thermal expansion of fluid in the penetration. These valves will be leak tested in the closed position per Appendix J (10 CFR 50); however, these valves do not have a safety-related function to open. The reasoning is similar to that for the thermal relief valves in that the only occasion that would require the opening function of these valves is when both CIVs are absolutely tight with zero leakage. On that occasion, the thermally-induced pressure increase will be stablilized since only a minute amount of leakage past any barrier would stabilize the penetration pressure. Sequoyah views these valves as safety related only in the closed position to provide containment isolation function. These valves are identified Appendix C with TRCV written in Remarks.

3.4 Corrective Action

Relief is requested from the corrective action requirements of Paragraph IWV-3417, -3427, and -3523 of Section XI. The requirement for corrective action of components in safety systems is adequately covered in the Limiting Conditions for Operation contained in the present Sequoyah technical specifications.

3.5 Systems Out of Service

Relief is requested from the requirements for testing valves in systems which are out of service before returning those systems to operating status, per IWV-3416 of Section XI. These testing requirements are adequately covered in the Sequoyah technical specifications and plant procedures.

3.6 Emergency Diesel Systems

The inservice operability testing of pumps and valves associated with the emergency diesels, except for the fuel oil transfer pumps and air start valves, are excluded from the enclosed test programs. These components are an integral part of the Emergency Diesel System and are functionally tested by the diesel tests. Thus, the functional operability testing of the pumps and valves is performed at a frequency equal to that required by Section XI for either pumps or valves. Additionally, the failure of a pump or valve to perform its intended function will be identified by the failure of the associated emergency diesel to meet its functional requirements. The fuel oil transfer pumps and air start valves are quarterly tested per ASME Section XI and are included in this submittal. The stroke time of the air start valves cannot be measured as there is no visible valve stem movement or indication. The stroke time is verified as acceptable by verifying the diesel comes up to speed in $\leq$10 seconds as required by technical specifications.

3.7 Fail-Safe Actuators

All those valves which have a fail-safe actuator are exercised normally using that actuator. Thus, the fail safe actuator is regularly tested when the valve is tested per IWV-3415.

3.8 Valve Timing and Remote Indication

During each full stroke test of a power operated valve, the full stroke time shall be measured, in accordance with Section XI, Article IWV-3413. In addition, each valve with a remote operator shall be exercised using that operator and position indicator for verification of valve position during refueling, but not less than once every two years in accordance with Section XI, Article IWV-3300.

3.9 Passive Valve

These valves, which have no Section XI testing requirement, are valves in safety related systems which are not required to change position in order to accomplish their required safety function. Sequoyah has included as B-Passive all manually operated valves which are required by procedure to be maintained in their safety related position. Any valves which are locked-open or locked-closed in their safety related position are also considered Category B-Passive. Due to the lack of testing requirements, these valves have been excluded from Appendix C. Therefore, relief is requested from the testing Category E valves per the 1974 Edition through Summer 1975 Addenda on Sequoyah Unit 1.

3.10 Cold Shutdown Testing

Sequoyah will commence testing as soon as the cold shutdown condition is achieved, but no later than 48 hours after cold shutdown, and will continue until all tests are complete or the plant is ready to return to power. Any testing not completed at one cold shutdown will be performed during any subsequent cold shutdowns that may occur before refueling to meet the Code specified testing frequency. For planned cold shutdowns, where Sequoyah will complete all the valves identified in the IST program for testing in the cold shutdown mode, exception to the above 48 hours start time may be taken (refueling, etc.). Therefore, a unit shall not be required to remain in cold shutdown to complete cold shutdown testing provided the testing commenced no later than 48 hours after achieving the cold shutdown condtion.

APPENDIX A

SEQUOYAH PUMP INSERVICE TESTING PROGRAM

Summary of Information Provided

The pump test table (Table A) provides the following information on testing requirements:

1. System
2. Drawing on which the pump is depicted
3. Speed
4. Inlet Pressure
5. Differential Pressure
6. Flow Rate
7. Vibration Amplitude
8. Observation of Lube Oil Level/Pressure
9. Bearing Temperature

SEQUOYAH NUCLEAR POWER PLANT

TABLE A--PUMP TEST PROGRAM

Pump	Drawing Number	Speed	Inlet Pressure	Differential Pressure	Flow Rate	Vibration Amplitude[8]	Bearing Temperature	Observe Lube Oil Level/Pressure
		n	P_i	Δ_p	Q	V	T_b	
Auxiliary Feed Water (Motor)	47W803-2	Note 1	Q	Q	Note 2	Q	Note 9	Yes
Auxiliary Feed Water (Steam)	47W803-2	Q	Q	Q	Note 2	Q	Note 9	Yes
Centrifugal Charging	47W811-1 47W809-1	Note 1	Q	Q	Note 2	Q	Q	Yes
Safety Injection System	47W811-1	Note 1	Q	Q	Q	Q	Q	Yes
Essential Raw Cooling Water	47W845-5	Note 1	Q, Note 11	Note 4	Note 4	Note 5	Note 9	Note 3
Component Cooling	47W859-1	Note 1	Q	Note 4	Note 4	Q	Note 6	Yes
Containment Spray	47W812-1	Note 1	Q	Q	Q	Q	Note 6	Yes
Residual Heat Removal	47W810-1	Note 1	Q	Q	Q	Q	Note 10	Yes
Diesel Fuel Oil Transfer	47W840-1	Note 1	Note 12	Note 12	Q	Q	Note 9	Note 12
Boric Acid Transfer	47N809-5	Note 1	Q	Q	Note 2	Q	Note 6	Yes

NOTES

1. Synchronous or induction motor driven pumps do not require speed check per IWP-4400.

2. Flow rate is not required since this pump is tested in a fixed resistance pathway. Relief is requested from the 1977 Edition through Summer 1978 Addenda for Unit 2 since flow indication is not available.

3. This pump uses water lubricated bearings and thus lubrication level measurements cannot be taken.

4. These pumps are not equipped with recirculation/test lines. The nature of the system they feed makes it impossible to specify a particular flow path that can always be repeated. Various components which they feed will sometimes require cooling water and sometimes not. Sequoyah will initially establish an in situ pump curve which establishes the relationship between flow and differential pressure in a band around the pump design point. Subsequent inservice tests would then compare test data to this curve using the allowable test ranges per IWP3210.

5. The pump bearings are inaccessible as the pump is submerged in a pit.

6. These pumps have no installed instrumentation to measure bearing temperature. A bearing cap temperature measurement is not considered indicative of bearing temperature due to temperature gradient caused by operation of space coolers, pump location, etc.

7. The Auxiliary ERCW pumps are only required for Sequoyah Unit 1. Section XI testing requirements will be deleted when Sequoyah's Technical Specifications are revised to delete those pumps.

8. Vibration amplitude cannot be measured to the +5% accuracy required. The "out of tolerance" accuracy of the Licensee vibration test equipment shall be +11%.

9. Bearings are cooled by pumped fluid and bearing temperature measurements are not required per ASME XI.

10. This is a closed coupled pump and does not have a bearing in the pump and, therefore, does not require bearing temperature measurements per ASME XI.

11. The inlet pressure is calculated for this pump by measurement of lake level.

12. No instrumentation exists to measure inlet or outlet pressure or to determine differential pressure. The pump bearings are lubricated by the pumped fluid; therefore, lube oil level or pressure is not measured.

APPENDIX B

EXPLANATION OF CODES AND SYMBOLS USED IN THE SEQUOYAH VALVE INSERVICE TESTING PROGRAM

This Appendix defines the meaning of all codes and symbols used in the valve test program presented in Appendix C.

TABLE B-1

SYMBOLS USED TO DESIGNATE VALVE TYPE

VALVE TYPES	
SYMBOL	Meaning
BUT	Butterfly
BAL	Ball
CK	Check
DIA	Diaphragm
GA	Gate
GL	Globe
ND	Needle
AN	Angle
PLG	Plug
RD	Rupture Disk
REL	Relief
SC	Stop Check
SK	Spring Check

TABLE B-2

SYMBOLS USED TO DESIGNATE VALVE ACTUATOR TYPE

VALVE ACTUATOR TYPES	
SYMBOL	Meaning
DIA	Diaphragm Air Operator
M	Manual Operator
MO	Motor Operator
SA	Self Actuated
SO	Solenoid Operator
CYL	Cylinder/Hydraulic Operator
RD	Rupture Disc

TABLE B-3

SYMBOLS USED TO DESIGNATE VALVE POSITION

VALVE POSITIONS	
SYMBOL	Meaning
O	Open
C	Closed
LO	Locked Open
LC	Locked Closed
TH	Throttled
-	Valve position determined by other system parameters as in the case of any check valve.

TABLE

SYMBOLS USED TO DESIGNATE TESTING REQUIREMENT

CATEGORY A OR B VALVES	
QT-1	Exercise valve (full stroke) for operability every 3 months, in accordance with Section XI, Article IWV-3411.
QT-2	Exercise valve (part stroke) for operability every 3 months and full stroke at cold shutdown, in accordance with Section XI, Article IWV-3412(a).
CS	These valves have been specifically identified in Appendix D as valves which cannot be tested during power operation. These valves shall be full stroke tested during cold shutdowns only, in accordance with Section XI, Article IWV-3412(a).
SLT	Perform a Seat Leak Test during refueling, but not less than once every 2 years. Leak rate limits will be established by the licensee in accordance with 10CFR50 Appendix J.
SLTP	Perform a Seat Leak Test for pressure isolation function as required by Technical Specifications.
ER	Exercise full stroke at refueling only.

TABLE B-4 (continued)

SYMBOLS USED TO DESIGNATE TESTING REQUIREMENT

CATEGORY C VALVES	
CV-1	Exercise valve (full stroke) for operability every 3 months, in accordance with Section XI, Article IWV-3520.
CV-2	Exercise valve (part stroke) for operability every 3 months and full stroke at cold shutdown, in accordance with Section XI, Article IWV-3520.
CS	These valves have been specifically identified in Appendix D as valves which cannot be tested during power operation. These valves shall be full stroke tested during cold shutdown only, in accordance with Section XI, Article IWV-3520.
SLT	Perform a Seat Leak Test during refueling, but not less than once every 2 years. Leak rate limits will be established by the licensee in accordance with 10CFR50 Appendix J.
SLTP	Perform a Seat Leak Test for pressure isolation function as required by Technical Specifications.
RF	Test safety and relief valve setpoints in accordance with Section XI, Article IWV-3510.
ER	Exercise at refueling only.

TABLE B-4 (continued)

SYMBOLS USED TO DESIGNATE TESTING REQUIREMENT

CATEGORY D	
RD	Operational checks of rupture discs shall be performed in accordance with the manufacturers' recommendations. The frequency of tests shall be specified by the licensee in accordance with Section XI, Article IWV-3620.

APPENDIX C

SEQUOYAH NUCLEAR PLANT VALVE PROGRAM

Summary of Information Provided

The following Tables use the format referenced in the 1978 "NRC Staff Guidance for Preparing Pump and Valve Test Program Descriptions and Associated Relief Requests Pursuant to 10CFR50.55a(g)" to give valve descriptions. The following information is provided:

1. System Name and Number
2. Drawing Number
3. Valve Number
4. ASME Section XI Classification
5. Drawing Coordinates of Valve
6. Valve Category Per Section XI, Article IWV-2110
7. Valve Size
8. Valve Type
9. Actuator Type
10. Normal Position
11. Testing Required Per Section XI
12. Relief Request Required
13. Alternate Testing
14. Remarks (Including Relief Request Numbers, Specific Valve Data, etc.)

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (1) MAIN STEAM

DRAWING NO: 47W801-1 (R18)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-1-4	2	C-4	B-ACT	32	GA	CYL	O	QT-2			MSIV See Table D-1
FCV-1-11	2	E-4	B-ACT	32	GA	CYL	O	QT-2			MSIV See Table D-1
FCV-1-22	2	G-4	B-ACT	32	GA	CYL	O	QT-2			MSIV See Table D-1
FCV-1-29	2	A-4	B-ACT	32	GA	CYL	O	QT-2			MSIV See Table D-1
FCV-1-147	2	C-4	B-ACT	2	GL	DIA	C	QT-1			
FCV-1-148	2	E-4	B-ACT	2	GL	DIA	C	QT-1			
FCV-1-149	2	G-4	B-ACT	2	GL	DIA	C	QT-1			
FCV-1-150	2	A 4	B-ACT	2	GL	DIA	C	QT-1			
PCV-1-5	2	C-2	BC -ACT	6	GA	DIA	C	CS*			Cycled
PCV-1-12	2	D-2	BC -ACT	6	GA	DIA	C	CS*			Cycled
PCV-1-23	2	F-2	BC -ACT	6	GA	DIA	C	CS*			Cycled
PCV-1-30	2	A-2	BC -ACT	6	GA	DIA	C	CS*			Cycled
1-512	2	F-3	C	6	REL	SA	C	RF			
1-513	2	F-3	C	6	REL	SA	C	RF			
1-514	2	F 3	C	6	REL	SA	C	RF			
1-515	2	F-3	C	6	REL	SA	C	RF			
1-516	2	F-3	C	6	REL	SA	C	RF			
1-517	2	D-3	C	6	REL	SA	C	RF			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (1) MAIN AND REHEAT STEAM

DRAWING NO: 47W801-1 (R18)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
1-518	2	D-3	C	6	REL	SA	C	RF			
1-519	2	D-3	C	6	REL	SA	C	RF			
1-520	2	D-3	C	6	REL	SA	C	RF			
1-521	2	D-3	C	6	REL	SA	C	RF			
1-522	2	C-3	C	6	REL	SA	C	RF			
1-523	2	C-3	C	6	REL	SA	C	RF			
1-524	2	C-3	C	6	REL	SA	C	RF			
1-525	2	C-3	C	6	REL	SA	C	RF			
1-526	2	C-3	C	6	REL	SA	C	RF			
1-527	2	A-3	C	6	REL	SA	C	RF			
1-528	2	A-3	C	6	REL	SA	C	RF			
1-529	2	A-3	C	6	REL	SA	C	RF			
1-530	2	A-3	C	6	REL	SA	C	RF			
1-531	2	A-3	C	6	REL	SA	C	RF			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (1) STEAM GENERATOR BLOWDOWN

DRAWING NO: 47W801-2 (R14)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-1-181	2	C-2	B-ACT	2	GL	DIA	O	QT-1			
FCV-1-182	2	E-2	B-ACT	2	GL	DIA	O	QT-1			
FCV-1-183	2	F-2	B-ACT	2	GL	DIA	O	QT-1			
FCV-1-184	2	B-2	B-ACT	2	GL	DIA	O	QT-1			
FCV-1-7	2	C-3	B-ACT	2	AN	DIA	O	QT-1			
FCV-1-14	2	E-3	B-ACT	2	AN	DIA	O	QT-1			
FCV-1-25	2	F-3	B-ACT	2	AN	DIA	O	QT-1			
FCV-1-32	2	B-3	B-ACT	2	AN	DIA	O	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (3) FEEDWATER

DRAWING NO: 47W803-1 (R12)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-3-33	2	C-3	B-ACT	18	GA	MO	O	CS*			
FCV-3-47	2	E-3	B-ACT	18	GA	MO	O	CS*			
FCV-3-87	2	G-3	B-ACT	18	GA	MO	O	CS*			
FCV-3-100	2	B-3	B-ACT	18	GA	MO	O	CS*			
3-508	2	G-2	C	16	CK	SA	-	CS*			
3-509	2	E-2	C	16	CK	SA	-	CS*			
3-510	2	C-2	C	16	CK	SA	-	CS*			
3-511	2	B-2	C	16	CK	SA	-	CS*			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (3) AUXILIARY FEEDWATER DRAWING NO: 47W803-2 (R19)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
3-810	3	G-4	C	10	CK	SA	-	CV-1	X	Yes	See PV-9, Pump Test
3-820	3	F-5	C	6	CK	SA	-	CV-1	X	Yes	See PV-12
3-821	3	F-6	C	6	CK	SA	-	CV-1	X	Yes	See PV-12
3-830	2	F-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-831	2	E-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-832	2	C-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-833	2	A-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-861	2	F-10	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-862	2	E-10	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-864	3	G-6	C	6	CK	SA	-	CV-1	X	Yes	See PV-12
3-871	2	F-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-872	2	D-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-873	2	C-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-874	2	A-9	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-891	3	B-8	C	4	CK	SA	-	CV-1	X	Yes	See PV-9, Pump Test
3-892	3	A-8	C	4	CK	SA	-	CV-1	X	Yes	See PV-9, Pump Test
3-921	2	G-10	C	4	CK	SA	-	CV-1	X	Yes	See PV-12
3-922	2	E-10	C	4	CK	SA	-	CV-1	X	Yes	See PV-12

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (3) AUXILIARY FEEDWATER

DRAWING NO: 47W803-2 (R19)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
3-814	3	F-5	C	1½	CK	SA	C	CV-1			Pump Test
3-815	3	F-6	C	1½	CK	SA	C	CV-1			Pump Test
3-818	3	G-7	C	1½	CK	SA	C	CV-1			Pump Test
3-894	3	A-6	C-ACT	3	CK	SA	C	CV-1			Pump Test
3-895	3	A-6	C-PAS	3	CK	SA	C	NONE			3-923 is closed

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (3) AUXILIARY FEEDWATER

DRAWING NO: 47W803-2 (R19)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
LCV-3-171	3	A-8	B-ACT	4	GL	DIA	C	QT-1			
LCV-3-171A	3	B-8	B-ACT	2	GA	DIA	C	QT-1			
LCV-3-172	3	F-8	B-ACT	3	GL	DIA	C	QT-1			
LCV-3-173	3	D-8	B-ACT	3	GL	DIA	C	QT-1			
LCV-3-174	3	C-8	B-ACT	3	GL	DIA	C	QT-1			
LCV-3-175	3	A-8	B-ACT	3	GL	DIA	C	QT-1			
3-805	3	E-5	C	8	CK	SA	C	CV-1	X	Yes	See PV-9, Pump Test
3-806	3	F-6	C	8	CK	SA	C	CV-1	X	Yes	See PV-9, Pump Test
FCV-3-116A	3	F-6	B-ACT	8	GA	MO	C	QT-1			
FCV-3-116B	3	F-6	B-ACT	8	GA	MO	C	QT-1			
FCV-3-126A	3	F-7	B-ACT	8	GA	MO	C	QT-1			
FCV-3-126B	3	F-7	B-ACT	8	GA	MO	C	QT-1			
FCV-3-136A	3	G-5	B-ACT	10	GA	MO	C	QT-1			
FCV-3-136B	3	G-5	B-ACT	10	GA	MO	C	QT-1			
FCV-3-179A	3	G-5	B-ACT	10	GA	MO	C	QT-1			
FCV-3-179B	3	G-5	B-ACT	10	GA	MO	C	QT-1			
LCV-3-148	3	F-8	B-ACT	4	GA	DIA	C	QT-1			
LCV-3-148A	3	F-8	B-ACT	2	GA	DIA	C	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (3) AUXILIARY FEEDWATER

DRAWING NO: 47W803-2 (R19)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
LCV-3-156	3	E-8	B-ACT	4	GA	DIA	C	QT-1			
LCV-3-156A	3	E-8	B-ACT	2	GA	DIA	C	QT-1			
LCV-3-164	3	C-8	B-ACT	4	GA	DIA	C	QT-1			
LCV-3-164A	3	C-8	B-ACT	2	GA	DIA	C	QT-1			
FCV-1-15	2	B-9	B-ACT	4	GA	MO	O	QT-1			
FCV-1-16	2	A-9	B-ACT	4	GA	MO	O	QT-1			
FCV-1-17	3	B-8	B-ACT	4	GA	MO	O	CS*			
FCV-1-18	3	B-8	B-ACT	4	GA	MO	O	CS*			
PCV-3-122	3	F-5	B-ACT	4	GA	DIA	O	QT-1			Cycled
PCV-3-132	3	F-6	B-ACT	4	GA	DIA	O	QT-1			Cycled

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (26) FIRE PROTECTION

DRAWING NO: 47W850-10

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-26-243	2	B-3	A-ACT	4	GA	MO	O	QT-1, SLT			
26-1296	2	B-3	AC-PAS	4	CK	SA	-	SLT			
FCV-26-240	2	A-9	A-ACT	4	GA	MO	O	QT-1, SLT			
26-1260	2	A-9	AC-PAS	4	CK	SA	-	SLT			
FCV-26-241	3	D-7	B-ACT	4	GA	MO	O	QT-1			
242	3	D-7	B-ACT	4	GA	MO	C	QT-1			
244	3	G-2	B-ACT	4	GA	MO	O	QT-1			
245	3	G-1	B-ACT	4	GA	MO	O	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (30) HEATING AND VENTILATING AIR FLOW

DRAWING NO: 47W866-1 (R23)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-30-7	2	C-1	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-8	2	C-2	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-9	2	C-1	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-10	2	C-2	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-14	2	E-1	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-15	2	E-2	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-16	2	F-1	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-17	2	F-2	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-19	2	G-1	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-20	2	G-2	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-37	2	D-10	A-ACT	10	BUT	CYL	C	QT-1, SLT			
FCV-30-40	2	D-9	A-ACT	10	BUT	CYL	C	QT-1, SLT			
FCV-30-50	2	C-10	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-51	2	C-10	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-52	2	C-10	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-53	2	C-10	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-56	2	E-9	A-ACT	24	BUT	CYL	C	QT-1, SLT			
FCV-30-57	2	E-10	A-ACT	24	BUT	CYL	C	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (30) HEATING AND VENTILATING AIR FLOW

DRAWING NO: 47W866-1(R23)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-30-58	2	G-9	A-ACT	12	BUT	CYL	O	QT-1, SLT			
FCV-30-59	2	G-10	A-ACT	12	BUT	CYL	O	QT-1, SLT			
FCV-30-46	2	B-4	A-ACT	20	BUT	CYL	O	QT-1, SLT			
FCV-30-47	2	B-5	A-ACT	20	BUT	CYL	O	QT-1, SLT			
FCV-30-48	2	B-7	A-ACT	20	BUT	CYL	O	QT-1, SLT			
FSV-30-134	2	F-9	A-ACT	3/8	GA	SO	O	QT-1, SLT			
FSV-30-135	2	F-9	A-ACT	3/8	GA	SO	O	QT-1, SLT			
30-571	2	B-4	ACACT	20	REL	SA	C	RF SLT			
30-572	2	B-5	ACACT	20	REL	SA	C	RF SLT			
30-573	2	B-7	ACACT	20	REL	SA	C	RF SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (31) AIR CONDITIONING CHILLED WATER

DRAWING NO: 47W865-5

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-31C-222	2	A-7	A-ACT	2	GA	DIA	O	QT-1, SLT			
FCV-31C-223	2	A-8	A-ACT	2	GA	DIA	O	QT-1, SLT			
FCV-31C-224	2	B-7	A-ACT	2	GA	DIA	O	QT-1, SLT			
FCV-31C-225	2	B-8	A-ACT	2	GA	DIA	O	QT-1, SLT			
FCV-31C-229	2	D-7	A-ACT	2	GA	DIA	O	QT-1, SLT			
FCV-31C-230	2	D-8	A-ACT	2	GA	DIA	O	QT-1, SLT			
FCV-31C-231	2	E-7	A-ACT	2	GA	DIA	O	QT-1, SLT			
FCV-31C-232	2	E-8	A-ACT	2	GA	DIA	O	QT-1, SLT			
31C-752	2	B-8	AC-PAS	½	SK	SA	C	SLT			TRCV
31C-734	2	C-8	AC-PAS	½	SK	SA	C	SLT			TRCV
31C-715	2	E-8	AC-PAS	½	SK	SA	C	SLT			TRCV
31C-697	2	F-8	AC-PAS	½	SK	SA	C	SLT			TRCV

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (32) COMPRESSED AIR

DRAWING NO: 47W848-1 (R13)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
1-FCV-32-80	2	C-9	A-ACT	2	GA	DIA	O	CS*, SLT			
1-FCV-32-102	2	D-9	A-ACT	2	GA	DIA	O	CS*, SLT			
1-FCV-32-110	2	A-9	A-ACT	2	GA	DIA	O	CS*, SLT			
1-32-287	2	A-10	AC-ACT	2	CK	SA	-	CS*, SLT			
1-32-297	2	C-10	AC-ACT	2	CK	SA	-	CS*, SLT			
1-32-377	2	D-10	AC-ACT	2	CK	SA	-	CS*, SLT			
1-32-375	2	B-9	A-PAS	2	GA	M	C	SLT			
1-32-285	2	C-9	A-PAS	2	GA	M	C	SLT			
1-32-295	2	E-9	A-PAS	2	GA	M	C	SLT			
2-FCV-32-81	2	F-9	A-ACT	2	GA	DIA	O	CS*, SLT			
2-FCV-32-103	2	E-9	A-ACT	2	GA	DIA	O	CS*, SLT			
2-FCV-32-111	2	G-9	A-ACT	2	GA	DIA	O	CS*, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (32) COMPRESSED AIR

DRAWING NO: 47W848-1 (R13)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
2-32-348	2	E-10	AC-ACT	2	CK	SA	-	CS*, SLT			
2-32-358	2	F-10	AC-ACT	2	CK	SA	-	CS*, SLT			
2-32-387	2	G-10	AC-ACT	2	CK	SA	-	CS*, SLT			
2-32-341	2	E-9	A-Pas	2	GA	M	C	SLT			
2-32-353	2	F-9	A-Pas	2	GA	M	C	SLT			
2-32-385	2	G-9	A-Pas	2	GA	M	C	SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (43) SAMPLING

DRAWING NO: 47W625-1 (R15)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-43-2	2	C-4	A-ACT	3/8	GA	DIA	O	QT-1, SLT			
FCV-43-3	2	C-5	A-ACT	3/8	GA	DIA	O	QT-1, SLT			
FCV-43-11	2	C-4	A-ACT	3/8	GA	DIA	C	QT-1, SLT			
FCV-43-12	2	C-5	A-ACT	3/8	GA	DIA	C	QT-1, SLT			
FCV-43-22	2	F-5	A-ACT	3/8	GA	DIA	O	QT-1, SLT			
FCV-43-23	2	D-5	A-ACT	3/8	GA	DIA	O	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (43) SAMPLING

DRAWING NO: 47W625-2 (R13)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-43-34	2	C-2	A-ACT	3/8	GA	DIA	C	QT-1, SLT			
FCV-43-35	2	C-3	A-ACT	3/8	GA	DIA	C	QT-1, SLT			
FCV-43-55	3	C-8	B-ACT	3/8	GA	DIA	O	QT-1			
FCV-43-58	3	C-8	B-ACT	3/8	GA	DIA	O	QT-1			
FCV-43-61	3	C-8	B-ACT	3/8	GA	DIA	O	QT-1			
FCV-43-64	3	D-8	B-ACT	3/8	GA	DIA	O	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (43) SAMPLING

DRAWING NO: 47W625-7 (R13)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-43-75	2	D-6	A-ACT	3/8	GA	DIA	C	QT-1, SLT			
FCV-43-77	2	D-7	A-ACT	3/8	GA	DIA	C	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (43) SAMPLING

DRAWING NO: 47W625-11 (R9)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-43-201	2	F-8	A-ACT	3/8	GA	DIA	0	QT-1, SLT			
FCV-43-202	2	C-9	A-ACT	3/8	GA	DIA	0	QT-1, SLT			
FCV-43-207	2	C-10	A-ACT	3/8	GA	DIA	0	QT-1, SLT			
FCV-43-208	2	B-11	A-ACT	3/8	GA	DIA	0	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (59) DEMINERALIZED WATER & CASK DECONTAMINATION

DRAWING NO: 47W856-1 (R19)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
59-633	2	F-3	AC-PAS	2	CK	SA	-	SLT			
59-522	2	F-3	A-PAS	2	GA	M	LC	SLT			
59-529	2	F-3	A-PAS	3/4	BUT	M	C	SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (61) ICE CONDENSER

DRAWING NO: 47W814-2 (R13)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-61-192	2	A-5	A-ACT	4	DIA	DIA	O	QT-1, SLT			
FCV-61-193	2	A-5	A-ACT	4	DIA	DIA	O	QT-1, SLT			
61-533	2	A-5	AC-PAS	3/8	SK	SA	C	SLT			TRCV
FCV-61-191	2	A-5	A-ACT	4	DIA	DIA	O	QT-1, SLT			
FCV-61-194	2	A-5	A-ACT	4	DIA	DIA	O	QT-1, SLT			
61-680	2	A-5	AC-PAS	3/8	SK	SA	C	SLT			TRCV
FCV-61-96	2	G-10	A-ACT	2	DIA	DIA	O	QT-1, SLT			
FCV-61-97	2	G-10	A-ACT	2	DIA	DIA	O	QT-1, SLT			
61-692	2	G-10	AC-PAS	3/8	SK	SA	C	SLT			TRCV
FCV-61-110	2	H-10	A-ACT	2	DIA	DIA	O	QT-1, SLT			
FCV-61-122	2	H-10	A-ACT	2	DIA	DIA	O	QT-1, SLT			
61-745	2	H-10	AC-PAS	3/8	SK	SA	C	SLT			TRCV

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (62) CHEMICAL & VOLUME CONTROL SYSTEM

DRAWING NO: 47W809-1 (R19)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-62-72	2	A-5	A-ACT	2	GL	DIA	C	QT-1, SLT			
FCV-62-73	2	A-4	A-ACT	2	GL	DIA	O	QT-1, SLT			
FCV-62-74	2	A-4	A-ACT	2	GL	DIA	C	QT-1, SLT			
FCV-62-77	2	A-7	A-ACT	2	GL	DIA	O	QT-1, SLT			
FCV-62-90	2	D-7	B-ACT	3	GA	MO	O	QT-1			
FCV-62-91	2	D-8	B-ACT	3	GA	MO	O	QT-1			
FCV-62-98	3	D-9	B-ACT	2	GA	MO	O	CS*			
FCV-62-99	3	D-9	B-ACT	2	GA	MO	O	CS*			
LCV-62-135	2	H-10	B-ACT	8	GA	MO	C	CS*			
LCV-62-136	2	H-10	B-ACT	8	GA	MO	C	CS*			
FCV-62-61	2	B-7	A-ACT	4	GA	MO	O	CS*, SLT			
FCV-62-63	2	B-8	A-ACT	4	GL	MO	O	CS*, SLT			
FCV-62-132	2	E-10	B-ACT	4	GA	MO	O	CS*			
FCV-62-133	2	E-10	B-ACT	4	GA	MO	O	CS*			
62-519	2	F-9	C-ACT	3	CK	SA	C	CV-1			Pump Test
62-525	2	H-9	C	4	CK	SA	C	CV-1	X	ER	See PV-1, Pump Test
62-532	2	G-9	C	4	CK	SA	C	CV-1	X	ER	See PV-1, Pump Test
62-649	2	C-9	C	2	REL	SA	C	RF			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (62) CHEMICAL & VOLUME CONTROL

DRAWING NO: 47W809-1 (R19)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
62-662	2	A-3	AC-ACT	2	REL	SA	C	RF, SLT			
62-675	2	A-10	C	2	REL	SA	C	RF			
62-636	2	B-6	C	2	REL	SA	C	RF			
62-504	2	H-10	C	8	CK	SA	-	CV-1	X	ER	See PV-2
62-639	2	C-7	AC-PAS	3/4	SK	SA		SLT			(TRCV)
62-523	2	H-9	C	2	CK	SA	-	CV-1			Pump Test
62-530	2	G-9	C	2	CK	SA	-	CV-1			Pump Test
62-697	2	E-10	C-ACT	4	CK	SA	-	CV-1			Pump Test
FCV-62-84	1	B-2	B-ACT	2	GL	DIA	C	CS*			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: Chemical and Volume Control System (62) DRAWING NO: 47W809-2

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-62-138B	3	A-4	B-ACT	3	GA	M	C	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (63) SAFETY INJECTION SYSTEM

DRAWING NO: 47W811-1 (R20)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-63-8	2	H-9	B-ACT	8	GA	MO	C	CS*			
FCV-63-73	2	H-6	B-ACT	18	GA	MO	C	CS*			
FCV-63-11	2	F-9	B-ACT	8	GA	MO	C	CS*			
FCV-63-41	2	A-9	B-ACT	1	GL	DIA	O	QT-1			
FCV-63-42	2	A-9	B-ACT	1	GL	DIA	O	QT-1			
FCV-63-39	2	B-9	B-ACT	4	GA	MO	C	QT-1			
FCV-63-40	2	C-9	B-ACT	4	GA	MO	C	QT-1			
FCV-63-4	2	D-8	B-ACT	2	GL	MO	O	QT-1			
FCV-63-1	2	F-10	B-ACT	12	GA	MO	O	CS*			
FCV-63-5	2	D-10	B-ACT	8	GA	MO	O	CS*			
FCV-63-22	2	D-6	B-ACT	4	GA	MO	O	CS*			
FCV-63-47	2	E-10	B-ACT	6	GA	MO	O	QT-1			
FCV-63-48	2	D-10	B-ACT	6	GA	MO	O	QT-1			
FCV-63-175	2	D-8	B-ACT	2	GL	MO	O	QT-1			
FCV-63-67	1	B-6	B-PAS	10	GA	MO	O	NONE			
FCV-63-80	1	B-4	B-PAS	10	GA	MO	O	NONE			
FCV-63-98	1	B-3	B-PAS	10	GA	MO	O	NONE			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (63) SAFETY INJECTION SYSTEM DRAWING NO: 47W811-1 (R20)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-63-6	2	F-10	B-ACT	4	GA	MO	C	QT-1			
FCV 63-7	2	F-10	B-ACT	4	GA	MO	C	QT-1			
FCV-63-23	2	D-6	A-ACT	3/4	GA	DIA	O	QT-1, SLT			
FCV-63-25	2	A-7	B-ACT	4	GA	MO	C	QT-1			
FCV-63-26	2	B-7	B-ACT	4	GA	MO	C	QT-1			
FCV-63-38	2	B-8	B-ACT	1	GL	DIA	O	QT-1			
FCV-63-71	2	C-6	A-ACT	3/4	GL	DIA	C	QT-1, SLT			
FCV-63-84	2	C-6	A-ACT	3/4	GL	DIA	C	QT-1, SLT			
FCV-63-94	2	G-7	B-ACT	8	GA	MO	O	CS*			
FCV-63-152	2	D-7	B-ACT	4	GA	MO	O	QT-1			
FCV-63-153	2	E-7	B-ACT	4	GA	MO	O	QT-1			
FCV-63-156	2	E-6	B-ACT	4	GA	MO	C	QT-1			
FCV-63-157	2	D-6	B-ACT	4	GA	MO	C	QT-1			
FCV-63-172	2	F-5	B-ACT	12	GA	MO	C	CS*			
FCV-63-93	2	G-7	B-ACT	8	GA	MO	O	CS*			
FCV-63-3	2	D-8	B-ACT	2	GL	MO	O	CS*			
FCV-63-72	2	H-6	B-ACT	18	GA	MO	C	CS*			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (63) SAFETY INJECTION SYSTEM

DRAWING NO: 47W811-1 (R-20)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-63-118	1	B-1	B-PAS	10	GA	MO	O	NONE			
63-502	2	F-10	C	12	CK	SA	-	CV-1	X	ER	See PV-3
63-510	2	D-10	C	8	CK	SA	-	CV-1	X	ER	See PV-4 Pump Test
63-524	2	E-8	C	4	CK	SA	-	CV-1	X	ER	See PV-13 Pump Test Verifies Closure.
63-526	2	D-8	C	4	CK	SA	-	CV-1	X	ER	See PV-13 Pump Test Verifies Closure.
63-543	1	F-4	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-545	1	E-4	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-547	1	D-4	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-549	1	E-4	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-551	1	G-1	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-553	1	H-3	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-555	1	G-3	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-5[illegible]	1	G-2	AC-ACT	2	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-558	1	E-3	AC-ACT	6	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-559	1	D-1	AC-ACT	6	CK	SA	-	CV-1,SLTP	X	ER	See PV-5
63-560	1	E-1	AC-ACT	10	CK	SA	-	CS*, SLTP	X	YES	See PV-7
63-561	1	D-2	AC-ACT	10	CK	SA	-	CS*, SLTP	X	YES	See PV-7
63-562	1	D-3	AC-ACT	10	CK	SA	-	CS*, SLTP	X	YES	See PV-7

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (63) SAFETY INJECTION SYSTEM

DRAWING NO: 47W811-1 (R20)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
63-563	1	F-2	AC-ACT	10	CK	SA	-	CS*, SLTP		Yes	See PV-7
63-581	1	B-7	C	3	CK	SA	-	CV-1	X	ER	See PV-6
63-586	1	E-1	C	1½	CK	SA	-	CV-1	X	ER	See PV-6
63-587	1	D-2	C	1½	CK	SA	-	CV-1	X	ER	See PV-6
63-588	1	D-3	C	1½	CK	SA	-	CV-1	X	ER	See PV-6
63-589	1	E-2	C	1½	CK	SA	-	CV-1	X	ER	See PV-6
63-622	1	C-1	AC-ACT	10	CK	SA	-	CV-1, SLTP	X	Yes	See PV-7
63-623	1	C-2	AC-ACT	10	CK	SA	-	CV-1, SLTP	X	Yes	See PV-7
63-624	1	C-3	AC-ACT	10	CK	SA	-	CV-1, SLTP	X	Yes	See PV-7
63-625	1	C-3	AC-ACT	10	CK	SA	-	CV-1, SLTP	X	Yes	See PV-7
63-632	1	G-3	AC-ACT	6	CK	SA	-	CS*, SLTP	X	Yes	See PV-8
63-633	1	G-2	AC-ACT	6	CK	SA	-	CS*, SLTP	X	Yes	See PV-8
63-634	1	G-3	AC-ACT	6	CK	SA	-	CS*, SLTP	X	Yes	See PV-8
63-635	1	G-2	AC-ACT	6	CK	SA	-	CS*, SLTP	X	Yes	See PV-8
63-640	1	F-4	AC-ACT	8	CK	SA	-	CS*, SLTP	X	Yes	See PV-8
63-641	1	F-2	AC-ACT	6	CK	SA	-	CS*, SLTP	X	Yes	See PV-8
63-643	1	F-4	AC-ACT	8	CK	SA	-	CS*, SLTP	X	Yes	See PV-8
63-644	1	D-2	AC-ACT	6	CK	SA	-	CS*, SLTP	X	Yes	See PV-8

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (63) SAFETY INJECTION SYSTEM

DRAWING NO: 47W811-1 (R20)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
63-602	3	A-1	C	1	REL	SA	C	RF			
63-603	3	A-3	C	1	REL	SA	C	RF			
63-604	3	A-4	C	1	REL	SA	C	RF			
63-605	3	A-6	C	1	REL	SA	C	RF			
63-626	2	G-7	C	2	REL	SA	C	RF			
63-627	2	G-7	C	2	REL	SA	C	RF			
63-637	2	F-6	C	3/4	REL	SA	C	RF			
63-534	2	E-7	C	3/4	REL	SA	C	RF			
63-535	2	D-7	C	3/4	REL	SA	C	RF			
63-536	2	D-7	C	3/4	REL	SA	C	RF			
63-511	2	D-10	C	3/4	REL	SA	C	RF			
63-570	2	B-8	C	1	CK	SA	-	CS*			
63-530	2	D-8	C	3/4	CK	SA	-	CV-1			Pump Test
63-528	2	E-8	C	3/4	CK	SA	-	CV-1			Pump Test

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-1 (R16)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-67	3	C-7	B-ACT	6	BUT	MO	C	QT-1			
FCV-67-65	3	C-7	B-PAS	6	BUT	MO	C	NONE			
FCV-67-66	3	C-11	B-ACT	6	BUT	MO	C	QT-1			
FCV-67-68	3	C-11	B-PAS	6	BUT	MO	C	NONE			
67-508A	3	C-11	C-ACT	6	CK	SA	-	CV-1			DIESEL TEST
508B	3	C-8	C-ACT	6	CK	SA	-	CV-1			DIESEL TEST
513A	3	C-11	C-PAS	6	CK	SA	-	NONE			
513B	3	C-8	C-PAS	6	CK	SA	-	NONE			
512A	3	C-10	C-ACT	8	CK	SA	-	CV-1			DIESEL TEST
512B	3	C-9	C-ACT	8	CK	SA	-	CV-1			DIESEL TEST
517A	3	C-8	C-ACT	8	CK	SA	-	CV-1			DIESEL TEST
517B	3	C-10	C-ACT	8	CK	SA	-	CV-1			DIESEL TEST

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-1 (R16)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
0-67-669A	3	H-3	C-PAS	24	CK	SA	-	NONE			AERCW DELETED
0-67-669B	3	H-3	C-PAS	24	CK	SA	-	NONE			AERCW DELETED
FCV-67-12	3	E-1	B-PAS	36	BUT	MO	0	NONE			AERCW DELETED
14	3	D-1	B-PAS	36	BUT	MO	0	NONE			AERCW DELETED
360	3	E-2	B-PAS	24	BUT	MO	0	NONE			AERCW DELETED
363	3	E-4	B-PAS	24	BUT	MO	0	NONE			AERCW DELETED
364	3	E-1	B-PAS	36	BUT	MO	0	NONE			AERCW DELETED
365	3	D-1	B-PAS	36	BUT	MO	0	NONE			AERCW DELETED
366	3	E-3	B-PAS	24	BUT	MO	0	NONE			AERCW DELETED
367	3	E-3	B-PAS	24	BUT	MO	0	NONE			AERCW DELETED
67-656A	3	E-2	C-PAS	30	CK	SA	-	NONE			AERCW DELETED
67-656B	3	E-3	C-PAS	30	CK	SA	-	NONE			AERCW DELETED
FCV-67-361	3	E-2	B-PAS	30	BUT	MO	0	NONE			AERCW DELETED
FCV-67-362	3	E-3	B-PAS	30	BUT	MO	0	NONE			AERCW DELETED

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-2 (R15)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-151	3	C-6	B-ACT	24	BUT	MO	C	QT-1			
FCV-67-152	3	C-7	B-ACT	24	BUT	MO	C	QT-1			
FCV-67-123	3	C-9	B-ACT	24	BUT	MO	C	QT-1			
FCV-67-124	3	E-8	B-ACT	18	BUT	MO	C	QT-1			
FCV-67-125	3	C-8	B-ACT	18	BUT	MO	C	QT-1			
FCV-67-126	3	D-7	B-ACT	18	BUT	MO	C	QT-1			
FCV-67-147	3	A-6	B-ACT	24	BUT	MO	C	QT-1			
FCV-67-81	3	H-10	B-ACT	24	BUT	MO	O	QT-1			
FCV-67-82	3	H-9	B-ACT	24	BUT	MO	O	QT-1			
FCV-67-127	3	B-10	B-ACT	8	BUT	MO	O	QT-1			
FCV-67-128	3	B-10	B-ACT	8	BUT	MO	O	QT-1			
FCV-67-146	3	C-7	B-ACT	24	BUT	MO	O	CS*			
FCV-67-223	3	A-6	B-ACT	24	BUT	MO	C	QT-1			
FCV-67-424	3	A-9	B-ACT	24	BUT	MO	O	QT-1			
FCV-67-478	3	B-7	B-ACT	24	BUT	MO	O	CS*			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-3 (R14)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-141	2	A-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-580D	2	A-3	AC-ACT	2	C	SA	-	CV-1, SLT			
FCV-67-142	2	A-4	A-ACT	2	GA	MO	O	QT-1, SLT			
FCV-67-298	2	A-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-585D	2	A-4	AC-PAS	½	CK	SA	-	SLT			TRCV
FCV-67-138	2	B-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-580B	2	B-3	AC-ACT	2	CK	SA	-	CV-1, SLT			
FCV-67-139	2	B-4	A-ACT	2	GA	MO	O	QT-1, SLT			
FCV-67-297	2	B-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-585B	2	B-4	AC-PAS	½	CK	SA	-	SLT			TRCV
FCV-67-133	2	B-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-580C	2	B-3	AC-ACT	2	CK	SA	-	CV-1, SLT			
FCV-67-134	2	C-4	A-ACT	2	GA	MO	O	QT-1, SLT			
FCV-67-296	2	C-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-585C	2	C-4	AC-PAS	½	CK	SA	-	SLT			TRCV
FCV-67-130	2	C-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-580A	2	C-3	AC-ACT	2	CK	SA	-	CV-1, SLT			
FCV-67-131	2	C-4	A-ACT	2	GA	MO	O	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-3 (R14)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-295	2	C-4	A-ACT	2	GA	MO	O	QT-1, SLT			
67-585A	2	C-4	AC-PAS	½	CK	SA	-	SLT			TRCV
FCV-67-112	2	D-4	A-ACT	6	BUT	MO	O	CS*, SLT			
FCV-67-111	2	D-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-575D	2	D-4	AC-PAS	½	CK	SA	-	SLT			TRCV
FCV-67-107	2	D-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-562D	2	D-4	AC-ACT	6	CK	SA	-	CS*, SLT			
FCV-67-104	2	E-4	A-ACT	6	BUT	MO	O	CS*, SLT			
FCV-67-103	2	E-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-575B	2	E-4	AC-PAS	½	CK	SA	-	SLT			TRCV
FCV-67-99	2	E-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-562B	2	E-4	AC-ACT	6	CK	SA	-	CS*, SLT			
FCV-67-96	2	F-4	A-ACT	6	BUT	MO	O	CS*, SLT			
FCV-67-95	2	F-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-575C	2	F-4	AC-PAS	½	CK	SA	-	SLT			SLT
FCV-67-91	2	F-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-562C	2	F-4	AC-ACT	6	CK	SA	-	CS*, SLT			
FCV-67-88	2	G-4	A-ACT	6	BUT	MO	O	CS*, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-3 (R14)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-87	2	G-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-575A	2	G-4	AC-PAS	½	CK	SA	-	SLT			TRCV
FCV-67-83	2	G-4	A-ACT	6	BUT	MO	O	CS*, SLT			
67-562A	2	G-4	AC-ACT	6	CK	SA	-	CS*, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-4 (R15)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-168	3	C-7	B-ACT	1½	GA	DIA	O	QT-1			
FCV-67-170	3	C-9	B-ACT	1½	GA	DIA	O	QT-1			
FCV-67-176	3	D-7	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-182	3	D-9	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-184	3	D-7	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-186	3	D-9	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-188	3	E-7	B-ACT	1	GA	DIA	C	QT-1			
FCV-67-190	3	E-9	B-ACT	1	GA	DIA	C	QT-1			
FCV-67-342	3	G-7	B-ACT	2	GA	DIA	O	QT-1			
FCV-67-344	3	G-9	B-ACT	2	GA	DIA	C	QT-1			
FCV-67-346	3	E-8	B-ACT	1½	GA	DIA	O	QT-1			
FCV-67-348	3	E-9	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-350	3	E-7	B-ACT	1½	GA	DIA	O	QT-1			
FCV-67-352	3	E-9	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-354	3	F-7	B-ACT	1½	GA	DIA	O	QT-1			
FCV-67-356	3	F-9	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-162	3	B-7	B-ACT	2	GA	DIA	O	QT-1			
FCV-67-164	3	B-9	B-ACT	2	GA	DIA	C	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING-WATER

DRAWING NO: 47W845-4 (R15)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-213	3	B-7	B-ACT	1½	GA	DIA	O	QT-1			
FCV-67-215	3	B-9	B-ACT	1½	GA	DIA	C	QT-1			
FCV-67-217	3	B-2	B-ACT	2	GA	DIA	O	QT-1			
FCV-67-219	3	B-4	B-ACT	2	GA	DIA	O	QT-1			Cycled
FCV-67-336	3	A-2	B-ACT	1	GA	DIA	O	QT-1			Cycled
FCV-67-338	3	A-4	B-ACT	1	GA	DIA	O	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (67) ESSENTIAL RAW COOLING WATER

DRAWING NO: 47W845-5 (R6)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-67-205	3	G-9	B-ACT	6	BUT	MO	O	QT-1			
FCV-67-208	3	G-10	B-ACT	6	BUT	MO	O	QT-1			
67-723A	3	B-3	C	24	CK	SA	-	CV-1			Pump Test
67-724A	3	B-3	C	24	CK	SA	-	CV-1			Pump Test
67-723B	3	D-3	C	24	CK	SA	-	CV-1			Pump Test
67-724B	3	D-3	C	24	CK	SA	-	CV-1			Pump Test
67-743A	3	G-3	C	24	CK	SA	-	CV-1			Pump Test
67-744A	3	G-3	C	24	CK	SA	-	CV-1			Pump Test
67-743B	3	E-3	C	24	CK	SA	-	CV-1			Pump Test
67-744B	3	E-3	C	24	CK	SA	-	CV-1			Pump Test
FCV-67-489	3	D-4	B-ACT	24	BUT	MO	O	QT-1			
FCV-67-492	3	B-4	B-ACT	24	BUT	MO	O	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (68) REACTOR COOLANT SYSTEM

DRAWING NO: 47W813-1 (R16)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-68-333	1	B-3	B-ACT	3	GA	MO	O	QT-1			
PCV-68-340A	1	B-3	B-ACT	3	GL	DIA	C	CS*			PORV
PCV-68-332	1	B-3	B-ACT	3	GA	MO	O	QT-1			
PCV-68-334	1	B-3	B-ACT	3	GL	DIA	C	CS*			PORV
68-563	1	A-3	C	6	REL	SA	C	RF			
68-564	1	A-4	C	6	REL	SA	C	RF			
68-565	1	A-4	C	6	REL	SA	C	RF			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (77) WASTE DISPOSAL SYSTEM

DRAWING NO: 47W830-6 (R21)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-68-305	2	G-6	A-ACT	3/4	GL	DIA	O	QT-1, SLT			
FCV-63-64	2	B-5	A-ACT	1	GL	DIA	C	QT-1, SLT			
77-868	2	G-6	AC-ACT	1	CK	SA	-	CS*, SLT			
77-849	2	B-6	AC-ACT	3/4	CK	SA	-	CS*, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (68) REACTOR COOLANT SYSTEM

DRAWING NO: 47W625-8

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-68-307	2	G-2	A-ACT	3/8	GA	DIA	O	QT-1, SLT			
FCV-68-308	2	F-1	A-ACT	3/8	GA	DIA	O	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (70) COMPONENT COOLING SYSTEM

DRAWING NO: 47W859-1 (R12)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
70-753	3	F-9	C	8	CK	SA	-	CV-1			
70-538	3	E-3	C	4	REL	SA	C	RF			
70-504	3	E-8	C	16	CK	SA	-	CV-1			Pump Test
70-504A	3	C-8	C	16	CK	SA	-	CV-1			Pump Test
70-504B	3	D-8	C	16	CK	SA	-	CV-1			Pump Test

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (70) COMPONENT COOLING SYSTEM

DRAWING NO: 47W859-1 (R12)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-70-66	3	E-3	B-ACT	2	AN	DIA	O	QT-1			
FCV-70-207	3	A-2	B-ACT	10	BUT	MO	O	QT-1			
FCV-70-197	3	B-6	B-ACT	20	BUT	MO	O	QT-1			
FCV-70-198	3	B-6	B-ACT	20	BUT	MO	O	QT-1			
FCV-70-206	3	G-10	B-ACT	10	BUT	MO	O	QT-1			
FCV-70-194	3	B-4	B-ACT	20	BUT	MO	O	QT-1			
FCV-70-193	3	B-4	B-ACT	20	BUT	MO	O	QT-1			
FCV-70-208	3	B-1	B-ACT	10	BUT	MO	O	QT-1			
FCV-70-1	3	H-6	B-ACT	12	BUT	MO	C	QT-1			
FCV-70-11	3	H-5	B-ACT	12	BUT	MO	O	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (70) COMPONENT COOLING SYSTEM

DRAWING NO: 47W859-2 (R14)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
70-698	2	E-9	AC-PAS	½	CK	SA	-	SLT			TRCV
70-679	2	H-4	AC-ACT	3	CK	SA	-	CS*, SLT			
70-687	2	H-9	AC-PAS	½	CK	SA	-	SLT			TRCV
70-692	2	G-4	AC-ACT	6	CK	SA	-	CS*, SLT			
FCV-70-143	2	E-3	A-ACT	6	BUT	MO	O	QT-1, SLT			
FCV-70-85	2	D-10	A-ACT	6	BUT	MO	O	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (70) COMPONENT COOLING SYSTEM

DRAWING NO: 47W859-2 (R14)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
70-703	3	D-4	AC-ACT	3	REL	SA	C	RF, SLT			
FCV-70-140	2	G-3	A-ACT	6	BUT	MO	O	CS*, SLT			
FCV-70-134	2	H-3	A-ACT	3	GA	MO	O	CS*, SLT			
FCV-70-89	2	E-9	A-ACT	6	BUT	MO	O	CS*, SLT			
FCV-70-92	2	E-10	A-ACT	6	BUT	MO	O	CS*, SLT			
FCV-70-90	2	E-10	A-ACT	6	BUT	MO	O	CS*, SLT			
FCV-70-87	2	H-9	A-ACT	3	GA	MO	O	CS*, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (70) COMPONENT COOLING SYSTEM

DRAWING NO: 47W859-4 (R7)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-70-153	3	F-3	B-ACT	18	BUT	MO	C	QT-1			
FCV-70-156	3	F-4	B-ACT	18	BUT	MO	C	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (72) CONTAINMENT SPRAY SYSTEM

DRAWING NO: 47W812-1 (R11)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-72-2	2	B-4	A-ACT	12	GA	MO	C	QT-1, SLT			
FCV-72-21	2	B-10	B-ACT	12	GA	MO	O	QT-1			
FCV-72-22	2	D-10	B-ACT	12	GA	MO	O	QT-1			
FCV-72-39	2	D-4	A-ACT	12	GA	MO	C	QT-1, SLT			
FCV-72-40	2	E-4	B-ACT	8	GA	MO	C	CS*			
FCV-72-41	2	F-4	B-ACT	8	GA	MO	C	CS*			
72-528	2	D-7	C	12	CK	SA	-	CV-1			Pump Test
72-529	2	B-7	C	12	CK	SA	-	CV-1			Pump Test
72-547	2	D-3	C	12	CK	SA	-	CV-1	X	Yes	See PV-10
72-548	2	B-3	C	12	CK	SA	-	CV-1	X	Yes	See PV-10
72-555	2	F-3	C	8	CK	SA	-	CV-1	X	Yes	See PV-10
72-556	2	E-3	C	8	CK	SA	-	CV-1	X	Yes	See PV-10
FCV-72-13	2	B-7	B-ACT	2	GA	MO	C	QT-1			
FCV-72-34A	2	C-7	B-ACT	2	GA	MO	C	QT-1			
72-506	2	D-9	C	12	CK	SA	-	CV-1			Pump Test
72-507	2	B-9	C	12	CK	SA	-	CV-1			Pump Test
FCV-72-20	2	B-9	B-ACT	12	GA	MO	O	QT-1			
FCV-72-23	2	D-9	B-ACT	12	GA	MO	O	QT-1			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (74) RESIDUAL HEAT REMOVAL SYSTEM

DRAWING NO: 47W810-1 (R11)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-74-1	1	G-3	A-ACT	14	GA	MO	C	CS*, SLTP			
FCV-74-2	1	G-3	A-ACT	14	GA	MO	C	CS*, SLTP			
FCV-74-3	3	E-9	B-ACT	14	GA	MO	O	QT-1			
FCV-74-16	2	F-4	B-ACT	8	BUT	DIA	O	QT-1			
FCV-74-21	2	C-9	B-ACT	14	GA	MO	O	QT-1			
FCV-74-28	2	C-4	B-ACT	8	BUT	DIA	O	QT-1			
FCV-74-33	2	E-4	B-ACT	8	GA	MO	O	CS*			
FCV-74-35	2	C-4	B-ACT	8	GA	MO	O	CS*			
FCV-74-12	2	F-6	B-ACT	2	GA	MO	O	QT-1			
74-514	2	F-7	C	8	CK	SA	-	CV-2			Pump Test; see Table D-1
74-515	2	C-7	C	8	CK	SA	-	CV-2			Pump Test; see Table D-1
FCV-74-24	2	B-6	B-ACT	2	GA	MO	O	QT-1			
74-505	2	G-3	C	3	REL	SA	C	RF			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (77) WASTE DISPOSAL SYSTEM

DRAWING NO: 47W830-1 (R14)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-77-16	2	B-5	A-ACT	3/4	DIA	DIA	O	QT-1, SLT			
FCV-77-17	2	B-5	A-ACT	3/4	DIA	DIA	C	QT-1, SLT			
FCV-77-18	2	B-5	A-ACT	1	DIA	DIA	O	QT-1, SLT			
FCV-77-19	2	B-6	A-ACT	1	DIA	DIA	O	QT-1, SLT			
FCV-77-20	2	C-6	A-ACT	1	DIA	DIA	C	QT-1, SLT			
FCV-77-9	2	D-1	A-ACT	3	DIA	DIA	O	QT-1, SLT			
FCV-77-10	2	E-1	A-ACT	3	DIA	DIA	O	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (77) WASTE DISPOSAL - FLOOR AND EQUIPMENT DRAINS

DRAWING NO: 47W851-1 (R12)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-77-127	2	F-7	A-ACT	2	DIA	DIA	O	QT-1, SLT			
FCV-77-128	2	F-7	A-ACT	2	DIA	DIA	O	QT-1, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

DRAWING NO: 47W855-1 (R12)

SYSTEM: (78) FUEL POOL COOLING

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
78-557	2	G-8	A-PAS	4	GA	M	C	SLT			
78-558	2	G-8	A-PAS	4	GA	M	C	SLT			
78-560	2	G-8	A-PAS	6	GA	M	C	SLT			
78-561	2	G-8	A-PAS	6	GA	M	C	SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (81) PRIMARY WATER

DRAWING NO: 47W819-1 (R20)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-81-12	2	G-4	A-ACT	3	GA	DIA	O	QT-1, SLT			
81-502	2	G-4	AC-ACT	3	CK	SA	-	CS*, SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (82) DIESEL STARTING AIR SYSTEM

DRAWING NO: 47W839-1

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-82-160	3	C-5	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
161	3	C-6	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
170	3	C-2	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
171	3	C-10	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
190	3	C-5	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
191	3	C-6	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
200	3	C-2	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
201	3	C-10	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
220	3	C-5	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
221	3	C-6	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
230	3	C-2	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
231	3	C-10	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
250	3	C-5	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
251	3	C-6	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
260	3	C-2	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED
261	3	C-10	B-ACT	1½	DIA	DIA	C	QT-1			CYCLED

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (84) FLOOD MODE BORATION

DRAWING NO: 47W809-7 (R7)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
84-511	2	F-8	A-PAS	1	GA	M	LC	SLT			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (87) UPPER HEAD INJECTION SYSTEM DRAWING NO: 47W811-2 (R9)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-87-21	2	E-6	B-ACT	12	GA	CYL	O	QT-1			
FCV-87-22	2	E-7	B-ACT	12	GA	CYL	O	QT-1			
FCV-87-23	2	F-6	B-ACT	12	GA	CYL	O	QT-1			
FCV-87-24	2	F-7	B-ACT	12	GA	CYL	O	QT-1			
FCV-87-7	1	E-3	A-ACT	2	GL	DIA	C	QT-1, SLT SLTP			
FCV-87-8	1	E-3	A-ACT	2	GL	DIA	C	QT-1, SLT SLTP			
FCV-87-9	2	E-4	A-ACT	2	GL	DIA	C	QT-1, SLT			
FCV-87-10	2	F-5	B-ACT	3/4	GL	DIA	C	QT-1			
FCV-87-11	2	F-5	B-ACT	2	GL	DIA	C	QT-1			
87-558	1	E-1	AC-ACT	8	CK	SA	-	CS*, SLTP			See PV-11
87-559	1	F-1	AC-ACT	8	CK	SA	-	CS*, SLTP			See PV-11
87-560	1	F-2	AC-ACT	8	CK	SA	-	CS*, SLTP			See PV-11
87-561	1	G-2	AC-ACT	8	CK	SA	-	CS*, SLTP			See PV-11
87-562	1	E-4	AC-ACT	12	CK	SA	-	CS*, SLTP			See PV-11
87-563	1	F-4	AC-ACT	12	CK	SA	-	CS*, SLTP			See PV-11
87-556	2	C-7	C	1½	REL	SA	C	RF			
87-557	2	C-10	C	1½	REL	SA	C	RF			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (87) UPPER HEAD INJECTION SYSTEM

DRAWING NO: 47W811-2 (R9)

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
Rupture Disk	2	B-7	D	12	RD	SA	C	RD			

Sequoyah Nuclear Plant Inservice Valve Testing Program

SYSTEM: (90) RADIATION MONITORING SYSTEM

DRAWING NO: 47W610-90-3

VALVE NUMBER	ASME CLASS	DRAWING COORDINATES	VALVE CATEGORY	SIZE	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TESTING REQUIRED	RELIEF REQUEST	ALTERNATIVE TESTING	REMARKS
FCV-90-107	2	A-9	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-108	2	C-9	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-109	2	C-9	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-110	2	C-9	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-111	2	D-9	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-113	2	A-6	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-114	2	C-5	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-115	2	C-5	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-116	2	C-5	A-ACT	1½	GA	DIA	O	QT-1, SLT			
FCV-90-117	2	D-6	A-ACT	1½	GA	DIA	O	QT-1, SLT			

PV-1

System:	Chemical and Volume Control System
Valve:	62-525, 62-532
Class:	2
Category:	C
Function:	Opens to admit charging pump flow to the boron injection tank during safety injection.
Impractical Requirement:	Exercise valve at full flow on a quarterly basis.
Basis for Relief:	The centrifugal charging pumps cannot be run at full flow during operation for charging or through the cold leg injection lines due to undesirable temperature and/or boron concentration transients. CCP cannot be run at full flow during CSD with Rx vessel head in place due to the inability to letdown that full flow. This would result in a low temperature overpressurization of the RCS.
Alt. Testing:	Test valve at normal charging flow quarterly and verify that it will open to pass at least the minimum design required flow during each refueling.
Frequency for Alt. Testing:	Part stroke quarterly and full stroke at refueling.

PV-2

System:	Chemical and Volume Control System
Valve:	62-504
Class:	2
Category:	C
Function:	Opens to admit flow from refueling water storage tank to the centrifugal charging pumps and closes to prevent backflow to RWST during recirculation mode of ECCS.
Impractical Requirement:	Exercise quarterly at full flow.
Basis for Relief:	Charging pumps cannot be run at full flow taking suction from the RWST without causing undesirable RCS temperature and/or boron concentration changes resulting in boration and power changes and could result in a plant trip. Full flow cannot be obtained during CSD with Rx vessel head in place. (See PV-1).
Alt. Testing:	Exercise at full flow at refueling during system performance tests and part stroke at reduced flow during cold shutdown. Verify valve will backseat quarterly.
Frequency for Alt. Testing:	Full stroke once per refueling and part stroke during cold shutdown (but not more often than every three months). Verify valve will backseat quarterly.

PV-3

System:	Safety Injection System
Valve:	63-502
Class:	2
Category:	C
Function:	Opens to admit flow from RWST to the RHR pumps during safety injection. Closes to prevent flow to RWST during recirculation mode of ECCS.
Impractical Requirement:	Exercise valve quarterly at full flow.
Basis for Relief:	The RHR pumps do not develop sufficient head to pump to the reactor at normal operating pressures. The pump recirculation flow path does not include this check valve. The refueling cavity dewatering line cannot be used because the valve alignment required to use it results in degrading both trains of RHR. Capabilities of the CVCS letdown system preclude use during cold shutdowns. Backseating of 63-502 during power operations would require closure of FCV-63-1 and inoperability of both trains of low head SIS.
Alt. Testing:	Exercise at refueling outages during system performance tests. Verify check valve backseats (for recirculation ECCS mode) during cold shutdowns.
Frequency for Alt. Testing:	Exercise once per refueling. Backseat during cold shutdown but not more often than every three months.

PV-4

System:	Safety Injection System
Valve:	63-510
Class:	B
Category:	C
Function:	Opens to admit flow from RWST to the SIS pumps during safety injection.
Impractical Requirement:	Exercise valve quarterly at full flow.
Basis for Relief:	SIS pumps do not develop sufficient head to pump to the RCS at normal operating pressures and the pump recirculation line will not pass full flow. RCS letdown capability will not allow pumps to be run at full flow during cold shutdown.
Alt. Testing:	Cycle valve at reduced flow once per quarter during SIS pump test and at full flow once per refueling during system performance test.
Frequency for Alt. Testing:	Part stroke quarterly, full stroke per refueling.

PV-5

System:	Safety Injection System
Valve:	63-547, 63-559, 63-549, 63-558, 63-545, 63-543, 63-557, 63-551, 63-555, 63-553.
Class:	1
Category:	AC
Function:	Opens to admit flow from SI pumps to RCS during LOCA and closes to prevent intersystem LOCA.
Impractical Requirement:	Exercise quarterly at full flow.
Basis for Relief:	SIS pumps do not develop sufficient head to overcome normal RCS pressure. Use of another pump would result in an undesirable temperature transient in the RCS. Letdown capability will not allow full flow testing with reactor head on. Technical Specification 4.4.6.2.2 requires these valves to be leak tested following valve actuation and during cold shutdown if they have not been leak tested in the last nine months. Therefore, relief is requested to allow partial stroking of these valves during cold shutdown not to exceed once per nine months and full stroke exercising during refueling outages. Valve closure will be verified during cold shutdown, not to exceed once per nine months when the pressure isolation boundary leak test required by 4.4.6.2.2 is performed.
Alt. Testing:	Part stroke exercise during cold shutdown and full stroke exercise during refueling outages. Leak test as required by Technical Specification 4.4.6.2.2.
Frequency for Alt. Testing:	Part stroke every cold shutdown not to exceed once per nine months and full stroke each refueling outage. Leak test at the frequencies required by Technical Specification 4.4.6.2.2.

PV-6

System:	Safety Injection System
Valve:	63-581, 63-587, 63-588, 63-589, 63-586
Class:	1
Category:	C
Function:	Open to admit flow from boron injection tank to the RCS during safety injection.
Impractical Requirement:	Exercise valve on a quarterly basis at full flow.
Basis for Relief:	RCS letdown capacity will not allow full flow injection with the reactor vessel head on. Valve cannot be part stroked without discharging heavily borated water from the boron injection tank to the reactor. This would cause an undesirable temperature and boron concentration transients which could result in a safety injection or unit trip. If the BIT and injection lines are not flushed completely to the vessel, boron plateout will occur in the non heat-traced portion of the injection lines. The last 4 valves are in parallel and individual branch line flows are only measured during refueling testing since instrumentation is not available to measure the individual branch flows.
Alt. Testing:	Part stroke valve (63-581) during cold shutdown and exercise valve at full flow during refueling during system performance tests. Part stroke the combination of parallel valves (63-586, 587, 588, 589) during CSD and full stroke them during refueling during system performance tests.
Frequency for Alt. Testing:	Part stroke valve during cold shutdown (but not more often than every three months), full stroke once per refueling.

PV-7

System:	Safety Injection System
Valve:	63-622, 63-623, 63-624, 63-625, 63-560, 63-561, 63-562, 63-563
Class:	1
Category:	AC
Function:	Opens to admit flow from cold leg accumulators to the RCS during safety injection and closes to prevent intersystem LOCA.
Impractical Requirement:	Exercise quarterly at full flow.
Basis for relief:	These valves cannot be cycled at full flow without removing the fuel from the core, removing the internals package and causing a rapid depressurization of the RCS from above 650 psig to atmospheric pressure. This is an unreasonable burden and could cause damage to the reactor vessel. Technical Specification 4.4.6.2.2 requires these valves to be leak tested following valve actuation and during cold shutdown if they have not been leak tested in the last nine months. Therefore, relief is requested to allow partial stroking of these valves during cold shutdown not to exceed once per nine months. Valve closure will be verified during cold shutdown not to exceed once per nine months when the pressure isolation boundary leak test required by 4.4.6.2.2 is performed.
Alt. Testing:	Part stroke exercise using SIS or RHR pump during cold shutdown not to exceed once per nine months and full stroke exercise during refueling outage. Leak test as required by Technical Specification 4.4.6.2.2.
Frequency for Alt. Testing:	Part stroke during cold shutdown not to exceed once per nine months and full stroke during refueling outage. Leak test at the frequencies required by Technical Specification 4.4.6.2.2.

PV-8

System:	Safety Injection System
Valve:	63-632, 63-633, 63-634, 63-635, 63-640, 63-641, 63-643, 63-644.
Class:	1
Category:	AC
Function:	Opens to adapt flow from RHR pumps to RCS during LOCA and closes to prevent intersystem LOCA.
Impractical Requirement:	Exercise quarterly at full flow.
Basis for Relief:	RHR pumps do not develop sufficient head to overcome normal RCS pressure. Use of another pump would result in an undesirable temperature transient in the RCS and possible reactor trip. Techncial Specification 4.4.6.2.2 requires these valves to be leak tested following valve actuation and during cold shutdown if they have not been leak tested in the last nine months. Therefore, relief is requested to allow full stroking these valves during cold shutdown not to exceed once per nine months. Valve closure will be verified during cold shutdown not to exceed once per nine months when the pressure isolation boundary leak test required by 4.4.6.2.2 is performed.
Alt. Testing:	Full stroke exercise during cold shutdown. Leak test as required by Technical Specification 4.4.6.2.2.
Frequency for Alt. Testing:	Full stroke exercise during cold shutdown not to exceed once per nine months. Leak test at the frequencies required by Technical Specification 4.4.6.2.2.

PV-9

System:	Auxiliary Feedwater
Valve:	3-805, 3-806, 3-810, 3-891, 3-892.
Class:	3
Category:	C
Function:	Opens to admit auxiliary feedwater flow or steam flow to auxiliary feedwater pumps. The first three valves above also closes when the ERCW is aligned to the auxiliary feedwater pump suction.
Impractical Requirement:	Exercise valve quarterly at full flow.
Basis for Relief:	Exercising these valves during power operation would result in severe thermal shock to the auxiliary feedwater nozzles and cause SG level transients and a unit trip.
Alt. Testing:	These valves will be part stroked during the associated pump test and full stroked during hot standby not to exceed once per three months. The first three valves will be backseated quarterly.
Frequency for Alt. Testing:	Part stroke quarterly and full stroke during HSB not to exceed once per quarter. Backseat the first three valves quarterly.

PV-10

System:	Containment Spray
Valve:	72-547, 72-548, 72-555, 72-556
Class:	2
Category:	C
Function:	Opens to admit flow from the containment spray and RHR pumps to the spray headers.
Impractical Requirement:	Exercise quarterly at full flow.
Basis for Relief:	Testing these valves with water will deluge the containment. Testing with air could set off a containment isolation signal from high, high containment pressure.
Alt. Testing:	Test with air during spray header nozzle test as required by Technical Specification 4.6.2.1.
Frequency for Alt. Testing:	At least once every five years.

PV-11

System:	Upper Head Injection System
Valve:	87-558, 87-559, 87-560, 87-561, 87-562, 87-563.
Class:	1
Category:	AC
Function:	Opens to admit upper head injection fluid to reactor vessel during rapid depressurization.
Impractical Requirement:	Exercising at full flow quarterly.
Basis for Relief:	Plant was not designed to allow full flow inservice testing. To test at full flow it would be necessary at minimum to remove all fuel, remove reactor internals, install a temporary impingement plate and drain the reactor coolant system. The resultant extended down time due to additional fuel movement, storage problems, water chemistry cleanup and refill operations presents an unbearable operational burden. Technical Specification 4.4.6.2.2 requires these valves to be leak tested following valve actuation and during cold shutdown if they have not been leak tested in the last nine months. Therefore, relief is requested to allow partial stroking of these valves during cold shutdown not to exceed once per nine months. Valve closure will be verified during cold shutdown not to exceed once per nine months when the pressure isolation boundary leak test required by 4.4.6.2.2 is performed.
Alt. Testing:	Part stroke exercise during cold shutdown and leak test as required by Technical Specification 4.4.6.2.2.
Frequency for Alt. Testing:	Part stroke every cold shutdown not to exceed once per nine months. Leak test at the frequencies required in Technical Specification 4.4.6.2.2.

PV-12

System:	Auxiliary Feedwater
Valve:	3-820, 3-821, 3-830, 3-831, 3-832, 3-833, 3-861, 3-862, 3-864, 3-871, 3-872, 3-873, 3-874, 3-921, 3-922
Class:	3
Category:	C
Function:	Opens to admit flow to steam generators.
Impractical Requirement:	Exercise quarterly at full flow.
Basis for Relief:	Exercising these valves during power operation would result in severe thermal shock to the auxiliary feedwater nozzles and cause SG level transients and a unit trip. These valves are routinely operated during operation of the auxiliary feedwater system during hot standby.
Alt. Testing:	Full flow will be verified through these checks during HSB not to exceed once per quarter.

PV-13

System:	Safety Injection System
Valve:	63-524, 63-526
Class:	2
Category:	C
Function:	Opens to admit flow from SIS pumps to RCS during LOCA.
Impractical Requirement:	Exercise quarterly at full flow.
Basis for Relief:	SIS pumps do not develop sufficient head to pump to the RCS during normal operation.
Alt. Testing:	Part stroke valves during cold shutdown and full stroke exercise valves during refueling. Verify valve closed quarterly during pump test.
Frequency for Alt. Testing:	Verify closed quarterly, part stroke during cold shutdown not to exceed once per nine months and full stroke during refueling.

APPENDIX D

VALVES TESTED ONLY DURING COLD SHUTDOWN CONDITIONS

Valves listed in Table D-1 are therein specifically identified by the Licensee as valves which cannot be exercised during power operation, per Section XI, Article IWV-3412(a). The table lists the System, Valve Number and the Basis for Cold Shutdown Testing for each valve listed in Appendix C which is being tested on a cold shutdown frequency.

Table D-1

System	Valve	Basis for Cold Shutdown Testing
Main Steam	FCV-1-4 FCV-1-11 FCV-1-22 FCV-1-29	Full stroke exercising of these valves during operation could cause SG level transients which could result in a plant trip. These valves will be part stroked exercised quarterly and full stroked exercised during cold shutdown.
Compressed Air	FCV-32-80 FCV-32-81 FCV-32-102 FCV-32-103 FCV-32-110 FCV-32-111 FCV-32-287 FCV-32-297 FCV-32-377 FCV-32-348 FCV-32-358 FCV-32-387	Exercising these valves during operations results in a loss of control air to control valves inside containment and could result in valves going to their failed position and resulting in a unit trip.
Main Steam	FCV-1-17 FCV-1-18	Closing these valves during power operation causes a loss of steam to the steam driven auxiliary feedwater pump. Failure in the closed position will result in no heat sink for the loss of all AC power accident.
Chemical and Volume Control System	FCV-62-84	Exercising these valves during operations violates the pressurizer spray water temperature differential of 320°F (Technical Specification 3.4.9.2) and would result in a rapid depressurization of the RCS and a unit trip and/or safety injection signal.

Table D-1 (continued)

System	Valve	Basis for Cold Shutdown Testing
Main Steam	PCV-1-5 PCV-1-12 PCV-1-23 PCV-1-30	Opening valve during power operation will cause a steam generator level transient which could result in an inadvertent safety injection signal and/or plant trip.
Feedwater	FCV-3-33 FCV-3-47 FCV-3-87 FCV-3-100 3-508 3-509 3-510 3-511	Exercising these valves during power operation causes a loss of feedwater to the loop they supply. When feedwater flow is restored, the resulting SG level shrink could cause a reactor trip.
Chemical and Volume Control System	FCV-62-61 FCV-62-63	Exercising valves during operation would cause loss of seal water return and probabl damage to the reactor coolant pump seals.
Chemical and Volume Control System	FCV-62-98 FCV-62-99	Exercising valves during operation results in isolation of the miniflow path of the centrifugal charging pumps and could result in pump damage.
Chemical and Volume Control System	FCV-62-132 FCV-62-133 LCV-62-135 LCV-62-136	Stroking these valves during power operation would cause unacceptable boron transients causing RCS boration and power transients which could result in a unit trip.
Safety Injection	FCV-63-1	Exercising valve during operation results in losing suction from RWST to both trains of residual heat removal.
Safety Injection	FCV-63-5	Exercising the valve during operation isolates both SIS pump suction lines from the refueling water storage tank.
Safety Injection System	FCV-63-22	Exercising valve quarterly isolates both trains of safety injection from their normal flow path to the cold legs.

Table D-1 (continued)

System	Valve	Basis for Cold Shutdown Testing
Safety Injection System	FCV-63-3	Exercising valve during operation results in isolating the recirculation line to both trains of pumps. If the pumps started without recirculation, severe damage to both pumps could occur.
Safety Injection and Residual Heat Removal System	FCV-63-172 FCV-74-33 FCV-74-35	Closing or opening these valves during operations results in the inoperability of the cold leg injection path to provide its required flow rate (common mode failure)
Safety Injection System	FCV-63-93 FCV-63-94	Closing these valves during operation results in less than the required number of RHR cold leg injection flow paths operable.
Safety Injection System	FCV-63-72 FCV-63-73 FCV-63-8 FCV-63-11	These valves are associated with the containment sump and their operation during power operation could cause flooding of lower containment or would result in inoperability of both trains of low head safety injection. FCV-63-8 and -11 are interlocked with FCV-63-72 and -73.
Safety Injection System	63-570	Exercising this valve during power operation could cause unacceptable boron concentration changes in the boron injection tank as the continuous recirculation of the tank would have to be stopped and stratification would occur.
Safety Injection System	63-563 63-560 63-561 63-562 63-635 63-633 63-632 63-634 63-640 63-641 63-643 63-644	These valves are in the residual heat removal pump injection lines and the RHR pumps do not develop sufficient head to open the valves during operation. Injection through these lines using another pump would result in overpressurization of the RHR lines behind the check valves and cause an undesirable temperature transient in the RCS which would cause a safety injection.

Table D-1 (continued)

System	Valve	Basis for Cold Shutdown Testing
Essential Raw Cooling Water System	FCV-67-146 FCV-67-478	Failure of these valves in the closed position would result in loss of cooling to the RCP oil cooler, thermal barriers and seal water HTX.
Essential Raw Cooling Water System	FCV-67-83 FCV-67-87 FCV-67-88 FCV-67-91 FCV-67-95 FCV-67-96 FCV-67-99 FCV-67-103 FCV-67-104 FCV-67-111 FCV-67-107 FCV-67-112	Exercising valve quarterly causes a loss of flow to control rod drive coolers and reactor coolant pump motor coolers.
Essential Raw Cooling Water System	67-562 A/B/C/D	These valves normally pass water to the control rod drive coolers and the reactor coolant pump motor coolers. Exercising the valve causes a loss of flow to this equipment.
Reactor Coolant System	PCV-68-340A PCV-68-334	NRC has requested that the pressurizer PORV's be tested during cold shutdown rather than during power operation.
Component Cooling System	FCV-70-140 FCV-70-92 FCV-70-89	Exercising valve during operation results in loss of cooling water flow to all eight reactor coolant pump oil coolers.
Component Cooling System	FCV-70-134 FCV-70-87 FCV-70-90	Exercising valves during operation results in loss of cooling water flow to all four reactor coolant pump thermal barrier coolers resulting in possible seal failure and loss of a RCP and a unit trip.

Table D-1 (continued)

System	Valve	Basis for Cold Shutdown Testing
Component Cooling System	70-679	This valve normally passes water to the thermal barrier coolers. Removal from service for testing will cause a loss of flow to all four TB coolers; thus, introducing the possibility of seal failure on all four reactor coolant pumps and a LOCA or unit trip.
Component Cooling System	70-692	This valve normally passes flow to the reactor coolant pump oil cooler. Removal from service for testing while RCP's are running will result in overheating and subsequent loss of all four RCP's and a unit trip.
Containment Spray System	FCV-72-40 FCV-72-41	These valves are interlocked with the containment sump valves. Exercising these valves during operations could result in flooding of lower containment or would result in inoperability of both trains of low head safety injection.
Residual Heat Removal	FCV-74-1 FCV-74-2	Valves have interlocks to prevent opening them when RCS is above the RHR design temperature and pressure. Exercising valve during operation results in over-pressurizing RHR.
Residual Heat Removal	74-514 74-515	These valves cannot be full stroked quarterly since opening HCV-74-34 is a common mode failure alignment. These valves will be part stroked quarterly during the pump test and full stroked during cold shutdown, but not to exceed once per three months.
Reactor Coolant System	77-868 77-849	Cycling these valves during power operation shuts down nitrogen supply inside containment to a number of components and systems. Personnel radiation exposure and valve inaccessibility also prohibits quarterly exercising of these valves.

Table D-1 (continued)

System	Valve	Basis for Cold Shutdown Testing
Primary Water System	81-502	Exercising this valve results in loss of primary water to the RCP stand pipes and PRT. Personnel radiation exposures and valve inaccessibility also prohibits exercising these valves quarterly.
Upper Head Injection	87-558/559 87-560/561 87-562/563	Exercising these valves during power operation would necessitate removal of both trains of Upper Head Injection from service to prevent overpressurization of UHI during the test. The test flow path would require charging flow to be distributed to the UHI Check valve test line which would present sever thermal shock problems. Injection of this cold charging flow into the reactor vessel head results in a positive reactivity addition and a power transient will probably result in a unit trip.