Attachment II

OYSTER CREEK

NUCLEAR GENERATING STATION

PUMP AND VALVE

INSERVICE TESTING PROGRAM

Revision 7
October, 1991

PUMP AND VALVE TEST PROGRAM
FOR THE OYSTER CREEK NUCLEAR GENERATING STATION

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PUMP AND VALVE TEST PROGRAM
FOR THE OYSTER CREEK NUCLEAR GENERATING STATION

1.0 INTRODUCTION

The pump and valve test programs for the Oyster Creek Nuclear Generating Station are presented as Appendices A and B. Both programs were developed with consideration given to the boundary classification guidelines contained in 10 CFR 50.2(v) for Quality Group A and Regulatory Guide 1.26 for Quality Groups B and C. (Quality Group A is the same as ASME Class 1, Group B is Class 2, and Group C is Class 3). This program has been reviewed with respect to the requirements of NRC Generic Letter 89-04 "Guidance on Developing Acceptable Inservice Testing Programs".

2.0 PUMP TEST PROGRAM

The pump test program shall be conducted in accordance with Subsection IWP of Section XI of the 1986 Edition of the ASME Boiler and Pressure Vessel Code except for relief requested under the provisions of 10 CFR 50.55a(g) (5) (iii). Table A, Appendix A, includes a list of pumps which require operational testing under the guidelines of Section XI, Subsection IWP-1100. Specific requests for relief are noted in Appendix A. Test parameters which will be measured for each pump are indicated. Installed plant instrumentation will be used for required pump test measurements, except for vibration.

3.0 VALVE TEST PROGRAM

The valve test program shall be conducted in accordance with Subsection IWV of Section XI of the 1986 Edition of the ASME Boiler and Pressure Vessel Code except for relief requested under the provisions of 10 CFR 50.55a(g) (5) (iii). The valve test program is included as Appendix B. Specific requests for relief are noted in Table 1 of Appendix B.

4.0 GENERIC CODE RELIEFS

4.1 Increased Test Requirements

Relief is requested from the increased test frequency requirements of IWV 3417(a) of Section XI. As permitted by position 5 of GL 89-04, limiting value of full stroke time has been based on a valve average stroke time when the valve was known to be operating properly. The limiting value was then set based on a reasonable deviation from this reference time or the requirements of the Tech. Spec. or Safety Analysis, whichever is more restrictive. The increased test frequency requirements in the present code conflict with the method of selecting the limiting value of stroke. If a valve exceeds the limiting value it is declared inoperable.

4.2 System Out of Service

Paragraph IWV-3416 of Section XI requires that for any systems out of service, all valves in that system shall be tested before the system is returned to service.

The limiting conditions for Operation presently contained in the Oyster Creek Technical Specifications along with the Oyster Creek Plant Procedures adequately cover the situation of out of service valves and plant operations. The requirements contained in the Oyster Creek Technical Specifications and Plant Procedures will govern plant operation regarding out of service valves.

4.3 Corrective Action

Paragraph IWV-3417 of Section XI requires that when corrective action is required as a result of tests made during cold shutdown, the condition shall be corrected before start-up.

The limiting conditions for Operation presently contained in the Oyster Creek Technical Specifications along with the Oyster Creek Plant Procedures adequately cover all such situations. The requirements contained in the Oyster Creek Technical Specifications and Plant Procedures will govern plant operation in such situations.

4.4 Containment Isolation Valve Leak Rate

Relief is requested from the requirements or IWV 3427(b) regarding the doubling of test frequency for valves 6 inches and larger whose leakage rate exceeds the rate determined by the previous tests by an amount that reduces the margin between measured leakage rate and maximum permissible rate by 50% or greater. Per NRC Generic Letter 89-04 position 10, the usefulness of this requirement does not justify the burden of complying with this requirement. Corrective action for all valves will be per IWV 3427(a).

4.5 Rapid Acting Valves

Valves with stroke times 2 seconds or less may be classified as rapid acting valves, as defined in NRC Generic Letter 89-04 Position 6. The maximum limiting value of stroke time would then be 2 seconds. Test values may not exceed 2 seconds as opposed to the acceptance criteria of IWV 3410 (c) (3).

4.6 Safe Shutdown Testing Scope

The scope of ASME Section XI for valves (IWV 1100) requires the testing of valves that are used to shut down the reactor to the cold shutdown condition. The licensing basis for Oyster Creek is to bring the plant to Hot Standby. The IST program, therefore, will not include components specifically used to bring the reactor from hot standby to cold shutdown since this exceeds the plant licensing basis.

4.7 Appendix J Containment Isolation Valves

Many of the containment isolation valves are required to be seat leak tested in accordance with the 10CFR50, Appendix J, Type C program. Leak testing as required by IWV-3420 at low pressure is redundant to the Seat Leak Test required by 10CFR50, Appendix J, Type C for valves performing only a containment isolation function. Peforming two separate tests would provide no additional useful data.

The Seat Leak Test required by 10CFR50, Appendix J, Type C will be performed, in lieu of a Low Pressure Section XI IWV-3420 Seat Leak Test. A High Pressure Seat Leak Test required for pressure

isolation valves will still be performed in accordance with IWV-3420.

5.0 COLD SHUTDOWN TESTING

Oyster Creek 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 Oyster Creek will complete all the valves identified in the IST program for testing in the cold shutdown mode, exception to the above 48 hour start time may be taken (refueling, etc.). In the case of frequent cold shutdowns, valve testing will not be performed more often than once every three months for Category A, B, and C valves.

6.0 EMERGENCY DIESEL SYSTEMS

The inservice operability testing of pumps and valves associated with the Emergency Diesels are excluded from the IST test programs. These components are an integral part of the Emergency Diesel System and are functionally tested with each Emergency Diesel test. The diesels are functionally tested twice a month. Thus, the functional operability testing of the pumps and valves is performed at a frequency greater than 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.

APPENDIX A

OYSTER CREEK PUMP TEST PROGRAM

SUMMARY OF INFORMATION PROVIDED

The pump test table (Table 1) provides the following information:

* Individual pump identifier
* Speed
* Inlet Pressure
* Differential Pressure
* Flow Rate
* Vibration Amplitude
* Bearing Temperature
* An Indication whether Proper Lubricant Level is Observed
* Test Interval

Relief Request (as applicable)

TABLE 1 OYSTER CREEK NUCLEAR POWER STATION
INSERVICE INSPECTION PUMP TEST PROGRAM

SYSTEM/PUMPS	SPEED[1]	INLET PRESSURE	DIFF. PRESSURE	FLOW RATE	VIBRATION	BEARING TEMP.	LUB. INDICATION	RELIEF REQUEST
LIQUID POISON:	NR	Q	Q	Q	Q	NR	YES	1, 3
NP-02A								
NP-02B								
CORE SPRAY:	NR	Q	Q	Q	Q	NR	YES	1, 3
NZ01-A								
NZ01-B								
NZ01-C								
NZ01-D								
NZ03-A								
NZ03-B								
NZ03-C								
NZ03-D								
CONTAINMENT SPRAY:	NR	Q	Q	Q	Q	NR	YES	1, 3
51-A								
51-B								
51-C								
51-D								
SERVICE WATER:	NR	Q	Q	Q	Q	NR	YES	1, 3
1-1								
1-2								
EMERGENCY SERVICE WATER:	NR	Q	Q	Q	Q	NR	NO[2]	1, 3
1-1								
1-2								
1-3								
1-4								
CONDENSATE TRANSFER:	NR	Q	Q	Q	Q	NR	YES	1, 3
1-1								
1-2								

TABLE 1 OYSTER CREEK NUCLEAR POWER STATION
INSERVICE INSPECTION PUMP TEST PROGRAM (CONTINUED

SYSTEM/PUMPS	SPEED[1]	INLET PRESSURE	DIFF. PRESSURE	FLOW RATE	VIBRATION	BEARING TEMP.	LUB. INDICATION	RELIEF REQUEST
REACTOR BUILDING CLOSED COOLING:								
1-1	NR	Q	Q	Q	Q	NR	YES	1, 3
1-2	NR	Q	Q	Q	Q	NR	YES	1, 3
FUEL POOL COOLING:								
NA01-A	NR	Q	Q	Q	Q	NR	YES	1, 3
NA01-B	NR	Q	Q	Q	Q	NR	YES	1, 3

LEGEND

M - MONTHLY
Q - QUARTERLY
NR - NOT REQUIRED
() - NOTE NUMBER

NOTE 1

Synchronous and induction motors are not required to have a speed check, per IWP-4400.

NOTE 2

Lubricant level or pressure is observed for all pumps listed, as required by Section XI (with the exception of the submerged water pumps, which have water lubricated bearings).

RELIEF REQUEST 1

SYSTEM:	All
PUMPS:	All
CATEGORY:	Varied
FUNCTION:	Varied
TEST REQUIREMENT:	Annual bearing temperature measurement for all pump bearings in accordance with IWP-3300.
BASIS FOR RELIEF:	Vibration measurements taken on a quarterly basis are trended. Significant increases in these readings will necessitate further vibration measurement with the use of a real time spectrum analyzer to define the source of the increase. Use of the real time analyzer is a method to determine mechanical condition. Bearing temperature measurements therefore contribute a redundant measure of bearing condition and thus need not be performed.
ALTERNATE TESTING:	A yearly vibration frequency spectrum analysis will be performed on all pumps.

RELIEF REQUEST 2

Deleted

RELIEF REQUEST 3

SYSTEM:	All
PUMPS:	All
CATEGORY:	Varied
FUNCTION:	Varied
TEST REQUIREMENT:	At least one displacement vibration amplitude (peak to peak composite) shall be read during each inservice test.
BASIS FOR RELIEF:	Velocity gives a better overall measure of machinery condition in the frequencies of interest. Between 600 and 60,000 counts per minute, vibration velocity is independent of frequency yielding a simple measure of vibration severity. The alert and action ranges are chosen based on industry experience for these types of rotating equipment.
ALTERNATE TESTING:	Velocity is used instead of displacement.

RELIEF REQUEST 4

SYSTEM:	Core Spray, Containment Spray, Emergency Service Water, Service Water, Condensate Transfer
PUMPS:	Related to the above systems.
CATEGORY:	Varied
FUNCTION:	Suction pressure gages for above pumps and discharge pressure gages for Service Water pumps
TEST REQUIREMENT:	IWP-4120 requires that the full scale range of each instrument be three times the reference value or less.
BASIS FOR RELIEF:	The suction pressure for the above pumps is dependent upon a level condition which can be different under various circumstances. The installed pressure gages provide flexibility for three circumstances and have provided acceptable results for analyzing pump performance. Any inaccuracies as a result of the expanded range of these suction pressure gages is negligible when considering the magnitude of the overall pump differential pressure. The Service Water pumps require more than one reference value because required system flowrates are dependent upon the heat loads to be dissipated. These heat loads are based upon operating mode and environmental/seasonal changes. Any significant change in system flowrate will cause undesirable operational transients in those systems cooled by the Reactor Building Closed Cooling Water System which is cooled by Service Water. The expanded range of the discharge pressure gages has provided the necessary flexibility to accommodate testing on a quarterly basis and still provide the level of accuracy acquired to analyze pump performance.
ALTERNATE TESTING:	The installed Plant gages will be used for IST testing.

APPENDIX B
OYSTER CREEK INSERVICE TEST PROGRAM

SUMMARY OF INFORMATION PROVIDED

TABLE 1 PROVIDES THE FOLLOWING INFORMATION

- SYSTEM NAME
- SYSTEM NUMBER
- PAGE NUMBER AND TOTAL PAGES WITHIN TABLE 1
- VALVE TYPE
- VALVE SIZE IN INCHES
- ACTUATOR TYPE
- CATEGORY AS PER ASME SECTION XI IWV
  CATEGORY A VALVES ARE SUBDIVIDED INTO THREE CLASSIFICATIONS:
  A1 VALVES ARE CONTAINMENT ISOLATION ONLY
  A2 VALVES ARE PRESSURE ISOLATION ONLY
  A3 VALVES ARE FOR BOTH CONTAINMENT AND PRESSURE ISOLATION
- NORMAL POSITION
- POSITION TO PROVIDE NUCLEAR SAFETY FUNCTION
- ACTIVE OR PASSIVE
- RELIEF NUMBER (if required)
- REQUIRED TEST
- ALTERNATE TEST
- SAFETY FUNCTION

CODES AND SYMBOLS NOT EXPLAINED ELSEWHERE ARE LISTED IN THE FOLLOWING PAGES.

APPENDIX B
EXPLANATION OF CODES AND SYMBOLS USED
IN THE OYSTER CREEK VALVE PROGRAM (TABLE 1)

PURPOSE:

The tables included in this section identify the codes and symbols used in the valve test program presented in Table 1. These tables can be removed from the report to assist in reviewing and understanding the information provided in the valve program. The Valve Test Program included in this Report is grouped by system. The valves are listed on Table 1.

List of Tables

TABLE B1
INDEX OF TABLE 1 SYSTEMS

SYSTEM	SYSTEM NUMBER	VALVE TABLE PAGE
MAIN STEAM	411	1
FEEDWATER	422	7
SERVICE WATER	531	8
EMERGENCY SERVICE WATER	532	9
REACTOR BUILDING CLOSED COOLING	541	12
INSTRUMENT AIR	852	14
CONDENSATE TRANSFER	424	15
REACTOR INSTRUMENTATION	622	18
ISOLATION CONDENSER	211	21
CONTROL ROD DRIVE	225	25
CLEANUP DEMINERALIZER	215	29
SHUTDOWN COOLING	214	31
FUEL POOL COOLING	251	33
STANDBY LIQUID CONTROL	213	34
CORE SPRAY	212	36
CONTAINMENT SPRAY	241	45
DRYWELL FLOOR AND EQUIPMENT	573	49
CONTAINMENT INERTING	242	50
REACTOR SAMPLE	551	53
DRYWELL AND SUPPRESSION	243	54
REACTOR BUILDING VENTILATION	822	58
REACTOR HEAD COOLING	216	60
RECIRCULATION	223	61
HYDROGEN AND OXYGEN MONITORING	666	67
POST ACCIDENT SAMPLING	555	71
TRAVELING INCORE PROBE	623	72

APPENDIX B

TABLE B2

SYMBOLS USED TO DESIGNATE VALVE TYPE

VALVE TYPES	
SYMBOL	MEANING
AN	ANGLE VALVE
BF	BUTTERFLY
BL	BALL
CK	CHECK
DA	DIAPHRAGM
GA	GATE
GL	GLOBE
PG	PLUG
RD	RUPTURE DISK
RG	REGULATING
RL	RELIEF
SC	STOP CHECK
SK	SPRING CHECK

APPENDIX B

TABLE B3

SYMBOLS USED TO DESIGNATE VALVE ACTUATOR TYPE

VALVE ACTUATOR TYPES	
SYMBOL	MEANING
A	AIR OPERATOR
M	MANUAL OPERATOR
MO	MOTOR OPERATOR
SA	SELF ACTUATED
S	SOLENOID OPERATOR
H	HYDRAULIC OPERATOR
E	ELECTRICAL
XP	EXPLOSIVE OPERATOR

APPENDIX B

TABLE B4

SYMBOLS USED TO DESIGNATE VALVE POSITION

VALVE POSITION	
SYMBOLS	MEANING
O	OPEN
C	CLOSED
LO	LOCKED OPEN
LC	LOCKED CLOSED
TH	THROTTLED
O/C	VALVE POSITION DETERMINED BY OTHER SYSTEM PARAMETERS AS IN THE CASE OF ANY CHECK VALVE.

APPENDIX B
TABLE B5
SYMBOLS FOR VALVE TEST METHOD AND FREQUENCY

	CATEGORY A OR B VALVES
EF1	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY EVERY 3 MONTHS IN ACCORDANCE WITH SECTION XI, ARTICLE IWV-3410.
EF2	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING COLD SHUTDOWN MODE ONLY.
EF3	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING REFUELING MODE ONLY.
EF4	VERIFY VALVE POSITION IS ACCURATELY INDICATED AT LEAST ONCE EVERY TWO YEARS FOR VALVES WITH REMOTE POSITION INDICATION.
EF5	EXERCISE VALVE (WITH FAIL-SAFE ACTUATORS) TO OBSERVE PROPER OPERATION OF FAIL-SAFE MECHANISMS EVERY 3 MONTHS IN ACCORDANCE WITH SECTION XI, ARTICLE IWV-3410.
EF6	EXERCISE VALVE (WITH FAIL-SAFE ACTUATORS) TO OBSERVE PROPER OPERATION OF FAIL-SAFE MECHANISMS DURING COLD SHUTDOWN/
EF7	EXERCISE VALVE (WITH FAIL-SAFE ACTUATORS) TO OBSERVE PROPER OPERATION OF FAIL-SAFE MECHANISMS DURING REFUELING.
ET	EXERCISE VALVE TO MEASURE THE FULL STROKE TIME OF A POWER OPERATED VALVE. THE VALVE STROKE TEST WILL BE PERFORMED IN ACCORDANCE WITH IWV-3410.
SLT1	SEAT LEAK TEST VALVE DURING REFUELING, BUT NOT LESS THAN ONCE EVERY 2 YEARS. LEAK RATE LIMITS WILL BE ESTABLISHED AFTER INITIAL BASELINE TESTING IN A MANNER TO BE SPECIFIED BY THE LICENSEE.

APPENDIX B
TABLE B5
SYMBOLS FOR VALVE TEST METHOD AND FREQUENCY

	CATEGORY C VALVES
EF1	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY EVERY 3 MONTHS IN ACCORDANCE WITH SECTION XI, ARTICLE IWV-3500.
EF2	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING COLD SHUTDOWN MODE ONLY, WITH FREQUENCY NOT TO EXCEED ONCE EVERY THREE MONTHS.
EF3	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING REFUELING MODE ONLY.
TF1	TESTING OF SAFETY, RELIEF AND VACUUM BREAKER VALVES IN ACCORDANCE WITH IWV-3510.
IN3	OPEN AND INSPECT ONE VALVE OF THE VALVE GROUPING AT EACH REFUELING. PARTIAL STROKE QUARTERLY WHEN POSSIBLE.
NOTE:	ON CATEGORY C CHECK VALVES, WHOSE FUNCTION IS TO PREVENT REVERSE FLOW, THE TEST WILL BE PERFORMED TO PROVE THAT THE DISK TRAVELS TO THE SEAT PROMPTLY ON CESSATION OR REVERSAL OF FLOW.
	CATEGORY D VALVES
RD1	RUPTURE DISKS WILL BE TESTED IN ACCORDANCE WITH THE PERIODIC TESTING REQUIREMENTS OF ANSI/ASME OM-1-1981 FOR NONRECLOSING PRESSURE RELIEF DEVICES.
XP1	OPERATIONAL CHECKS OF EXPLOSIVE CHARGES WILL BE PERFORMED IN ACCORDANCE WITH IWV-3610.

RELIEF REQUEST 1

SYSTEM:	Reactor Shutdown Cooling
VALVES:	V17-1, V17-2, V17-3, V17-19, V17-54, V17-55, V17-56, V17-57
CATEGORY:	B
FUNCTION:	These valves function to provide isolation of the Shutdown Cooling System from the Reactor Recirculation System. They open to allow operation of the Shutdown Cooling System (non-safety related in the open direction).
TEST REQUIREMENT:	Every three months, per IWV-3410.
BASIS FOR RELIEF:	Valves V17-19 and V17-54 are interlocked and will not open when reactor coolant temperature is greater than 350°F. Since the safety related function of these valves is to isolate the Shutdown Cooling System, the cycling of valves V17-1, 2, 3, 55, 56, and 57 during power operation would degrade their isolation function and, hence, the safety of the plant.
ALTERNATE TESTING:	These valves will be tested on a cold shutdown frequency, when coolant temperature is below 350°F.

RELIEF REQUEST 2

SYSTEM:	Standby Liquid Control
VALVES:	V19-16, V19-20
CATEGORY:	AC
FUNCTION:	These valves operate in the closed direction to prevent reverse flow from the Reactor Coolant System into the Stardby Liquid Control System, as well as for containment isolation, and open direction to permit injection of poison into reactor vessel.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	These valves cannot be exercised during power operation since flow thru these valves would pump highly concentrated sodium pentaborate into the RCS, causing plant shutdown. Performing this test during cold shutdowns requires flushing the Poison System for long periods of time resulting in large quantities of hazardous waste material and requires actuation of the explosive valves which would then require replacement. Performing this testing during cold shutdown would probably result in delaying plant startup.
ALTERNATE TESTING:	These valves will be full stoke exercised during Poison System Full Flow Injection Test and Appendix J Type C Leak Rate Testing during refueling outages.

RELIEF REQUEST 3

SYSTEM:	Clean-up Demineralizer
VALVES:	V16-62
CATEGORY:	A1C
FUNCTION:	This check valve acts as a containment isolation valve in the event of an accident. During normal operation this valve allows flow to pass into the reactor coolant from the Clean-up Demineralizer System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	This valve cannot be exercised and verified closed (its safety position) during power operation due to the high pressure/temperature conditions in recirculation loop "B". This valve does not have an exercising mechanism nor is it provided with position indication.
ALTERNATE TESTING:	This valve will be exercised closed when the 10CFR50, Appendix J, Type C Test is performed during refueling.

RELIEF REQUEST 3A

SYSTEM:	Clean-up Demineralizer
VALVES:	V16-62
CATEGORY:	A1C
FUNCTION:	This valve acts as a containment isolation valve for the Clean-up System.
TEST REQUIREMENT:	High Pressure Seat Leak Test per IWV-3420.
BASIS FOR RELIEF:	A High Pressure Seat Leak Test is specified to ensure that pressure protection is provided from high pressure to low pressure Safety Systems. Piping upstream of this check valve is designed to the same requirements as the Reactor (back to the clean-up pump discharge). In addition, the low pressure portion of the piping upstream of V-16-62 is non-class, non-safety designation. No High Pressure Seat Leak Test will be performed.
ALTERNATE TESTING:	This valve is tested under the Appendix J program and receives a Low Pressure Seat Leak Test each refueling outage. This type of check valve would tend to seat more tightly during a High Pressure Test with the result being less leakage. Therefore, the Low Pressure Test not only provides information as to the valve condition but is also a conservative indication of seat leakage.

RELIEF REQUEST 4

DELETED

RELIEF REQUEST 5

SYSTEM:	Hydraulic Control Unit
VALVES:	V-15 (125), V-15 (127
CATEGORY:	B
FUNCTION:	These valves (137 of each) are the scram inlet/outlet valves. They function to scram the associated control rod.
TEST REQUIREMENT:	Full stroke, test failure modes and stroke time every three months, per IWV-3410.
BASIS FOR RELIEF:	CV-126 & 127 cannot be exercised during power operation since exercising these valves will scram the associated control rod. Withdrawal of the rod and rapid insertion at power could cause fuel damage to the core. These valves are not provided with indication for both positions and stroke in the order of milliseconds thus measuring of stroke time is impractical.
ALTERNATE TESTING:	Per Technical Specification requirements, a sample of 8 of these valves are tested during start-ups from cold shutdown if the sample has not tested in the previous 6 months. All valves are tested at refueling. Verifying the associated control rod meets the scram insertion time limits as defined in Technical Specifications is an acceptable method of detecting degradation of these valves.

RELIEF REQUEST 6

SYSTEM:	Hydraulic Control Unit
VALVES:	V-15 (106) (137 valves)
CATEGORY:	A2C
FUNCTION:	These stop-check valves act in the open position to charge the scram accumulators from the charging water header. They act in the closed position to allow a successful scram, in the event that the charging water header is depressurized and Reactor Pressure is less than 940 psia.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	Testing these valves during power operation would require depressurizing the scram charging system, causing a degradation of the scram systems and a loss of normal cooling for control rod drives.
ALTERNATE TESTING:	These valves (all 137) will be tested on a cold shutdown frequency by depressurizing the control rod drive charging water header and verifying by the depressurization rate of the associated Hydraulic Control Unit that the valves have shifted to the closed (safe) position.

RELIEF REQUEST 7

Deleted

RELIEF REQUEST 8

SYSTEM:	Hydraulic Control Unit
VALVES:	V-15 (108) (137 valves)
CATEGORY:	C
FUNCTION:	Opens to allow displacement of fluid for successful scram function.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	These valves (137) can only be verified open during the actual scram testing. Verifying the associated control rod meets the scram insertion times specified in technical specifications is an acceptable alternative method of verifying the full open position of these valves.
ALTERNATE TESTING:	Per Technical Specification requirements, a sample of 8 of the 137 valves are tested during start-up from cold shutdown if the sample has not been tested in the previous 6 months. All valves are tested at refueling.

RELIEF REQUEST 9

SYSTEM:	Control Rod Drive Hydraulic
VALVES:	V15-27, V15-28
CATEGORY:	A1C
FUNCTION:	These check valves act as containment isolation valves in the event of an accident. They normally allow excess flow from the Control Rod Drive Hydraulic System to pass to the reactor vessel.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	These valves must be open during operation of the CRD Hydraulic System. The CRD Hydraulic System must be operable during power operation and is normally kept operating even during periods when the reactor is shut down. These valves are not provided with exercise mechanisms or position indication, therefor closure of these valves can only be verified by indirect means.
ALTERNATE TESTING:	These valves will be exercised on a refueling outage basis, when Appendix J, Type C Leak Rate Test is performed.

RELIEF REQUEST 10

SYSTEM:	Core Spray
VALVES:	V-20-150, V-20-151, V-20-152, V-20-153
CATEGORY:	A2C
FUNCTION:	These valves act as pressure isolation valves and to prevent reverse flow from the Reactor Coolant System to the Core Spray System.
TEST REQUIREMENT:	Every three months, per IWV-3410.
BASIS FOR RELIEF:	During normal operation the differential pressure across the valve disc exceeds 1,000 psi. The Core Spray System pumps are not designed to operate against that high of a head, and the valve test operator requires zero pressure differential across the valve disc in order to cycle the valve and/or reactor vessel.
ALTERNATE TESTING:	Exercise the valves for operability during cold shutdown using the test operator.

RELIEF REQUEST 11

SYSTEM:	Core Spray
VALVES:	V20-60, V20-61, V-20-88, V-20-89
CATEGORY:	C
FUNCTION:	These valves provide isolation between the Core Spray System and the Fire Protection System. These valves also provide a secondary source of makeup to the Reactor, utilizing fire water via the core spray piping.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3520.
BASIS FOR RELIEF:	Initiating flow through these valves will cause unacceptable water chemistry transients in the suppression pool and/or reactor vessel.
ALTERNATE TESTING:	These valves will be disassembled and inspected to verify open and close stroke as permitted by NRC generic letter 89-04 Position 2. These valves form a group in that they are the same size, manufacturer model and materials of construction and required to pass the same flowrate. Two of the subject check valves are mounted vertically, flow up, while the other two are in the horizontal. Since vertical is the more restrictive orientation a vertical valve was the first to be opened. No adverse conditions were observed. Therefore, these valves will be grouped with the horizontal valves. One valve of the group will be disassembled during each refueling outage such that over four refueling outages all of the valves will have been inspected.

RELIEF REQUEST 12

Deleted

RELIEF REQUEST 123

SYSTEM:	Reactor Head Cooling
VALVES:	V31-2, V31-5
CATEGORY:	A1, A1C
FUNCTION:	These valves provide containment isolation of the Head Cooling System.
TEST REQUIREMENT:	High Pressure Seat Leak Test per IWV-3420.
BASIS FOR RELIEF:	These valves provide isolation between the reactor head cooling tie-in and the head cooling supply water. A High Pressure Seat Leak Test is not required because the head cooling water is supplied from the CRD pumps. The CRD System is designed for greater pressure than the reactor vessel, therefore, high pressure leakage does not present a over pressurization problem.
ALTERNATE TESTING:	No High Pressure Seat Leak Test will be performed.

RELIEF REQUEST 12H

Deleted

RELIEF REQUEST 13

SYSTEM:	Main Steam
VALVES:	V-01 (NR-108A), V-01 (NR-108B), V-01 (NR-108C), V-01 (NR-108D), V-01 (NP-108E)
CATEGORY:	B
FUNCTION:	To provide automatic and manual pressure control for the RCS as well as providing for automatic depressurization of the RCS in case of an accident.
TEST REQUIREMENT:	Full stroke exercise and measure stroke time every three months, per IWV-3410.
BASIS FOR RELIEF:	Exercising these valves during power operation simulates a small-break transient, subjecting the RCS and related piping to unnecessary transients. These valves cannot be exercised at cold shutdown because reactor pressure is necessary to stroke the valves. No direct position indication exists, therefore, timing the stroke of these valves is impracticable.
ALTERNATE TESTING:	Valves will be full stroke exercised during startup following a refueling outage, i.e., on a refueling outage frequency.

RELIEF REQUEST 14

SYSTEM:	Main Steam
VALVES:	V-1-190, V-1-191, V-1-192, V-1-193
CATEGORY:	C
FUNCTION:	These valves are installed on the discharge headers of the electromatic relief valves in the drywell and were designed to open upon a low pressure condition in the discharge line. Relief of the low pressure condition after initial lifting and reseating of the electromatic relief valves will prevent a water column from being established due to the pressure differential between the discharge line and the torus. This water column is undesirable due to the potential increase in hydraulic forces during subsequent relief valve lifts. These valves do not provide any over pressure relief.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	The drywell is a high radiation area that is normally kept inerted with a nitrogen atmosphere. These valves are not provided with any mechanisms for exercising the internals, and the test method used requires partial disassembly and the use of a special tool rig to stroke and measure the opening force.
ALTERNATE TESTING:	Exercise at refueling, when conditions allow access to the drywell, i.e., when containment is de-inerted.

RELIEF REQUEST 15

SYSTEM:	Feedwater
VALVES:	V2-71, V2-72, V2-73, V2-74
CATEGORY:	A3C
FUNCTION:	These valves are the containment pressure isolation valves for the main feedwater lines.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	Exercising these valves during power operation would require isolation of the Feedwater System, which results in plant shutdown. Two of these valves are inaccessible during cold shutdown when the containment atmosphere is inerted. These valves are not fitted with exercise arms or position indication.
ALTERNATE TESTING:	These valves will be verified shut (which is their safety related position) during their Appendix J, Type C Seat Leak Test each refueling outage.

NOTE 15A

SYSTEM:	Feedwater
VALVES:	V2-71, V2-72, V2-73, V2-74
CATEGORY:	A3C
FUNCTION:	These valves are the containment pressure isolation valves for the main feedwater lines.
TEST REQUIREMENT:	High Pressure Seat Leak Test per IWV-3420.
BASIS FOR RELIEF:	A High Pressure Seat Leak Test is specified to ensure that pressure protection is provided from high pressure to low pressure safety systems. Piping upstream of these check valves is designed to the same requirements as the Reactor (back to the feed pump discharge). In addition, the piping up stream of these valves is non-class, non-safety designation. No High Pressure Seat Leak Test will be performed.
ALTERNATE TESTING:	These valves are tested under the Appendix J program and receive a Low Pressure Seat Leak Test each refueling outage. This type of check valve would tend to seat more tightly during a High Pressure Test with the result being less leakage. Therefore, the Low Pressure Test not only provides information as to the condition of the valve but is also a conservative indication of seat leakage.

RELIEF REQUEST 16

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RELIEF REQUEST 17

SYSTEM:	Closed Cooling Water
VALVES:	V5-165
CATEGORY:	A1C
FUNCTION:	This valve acts as a containment isolation valve for the Closed Cooling Water System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	The only method available to verify that this valve shuts (which is its safety related function) is via the Seat Leak Test performed during refueling outages.
ALTERNATE TESTING:	This valve will be exercised to the close position during the Appendix J, Type C Seat Leak Test each refueling outage.

RELIEF REQUEST 18

SYSTEM:	Reactor Building Closed Cooling Water
VALVES:	V5-147, V5-166, V5-167
CATEGORY:	A1
FUNCTION:	These valves act as containment isolation valves for the Closed Cooling Water System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	Full stroke exercising of these valves isolates cooling water flow to the RECIRC pumps. Isolation of cooling water during normal plant operation can cause damage to these pumps, thus requiring plant shutdown.
ALTERNATE TESTING	During cold shutdown these valves will be full stroke exercised.

RELIEF REQUEST 19

Deleted

RELIEF REQUEST 20

Deleted. See Relief Request 11

RELIEF REQUEST 21

Deleted

RELIEF REQUEST 22

Deleted

RELIEF REQUEST 23

Deleted

RELIEF REQUEST 24

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RELIEF REQUEST 25

SYSTEM: Instrumentation lines connected to the reactor coolant pressure boundary which penetrate primary containment.

VALVES:

	V-1-180	V-130-3
V-1-181	V-37-37	V-130-4
V-1-184	V-37-38	V-130-5
V-1-185	V-37-39	V-130-6A
V-14-49	V-37-40	V-130-6B
V-14-50	V-37-41	V-130-7
V-14-52	V-37-49	V-130-8
V-14-53	V-37-50	V-130-9
V-14-54	V-37-51	V-130-10
V-14-55	V-37-52	V-130-21A
V-14-56	V-37-59	V-130-21B
V-20-172	V-37-66	V-130-26
V-20-173	V-37-68	
V-37-5	V-37-69	
V-37-6	V-37-70	
V-37-7	V-37-71	
V-37-8	V-37-72	
V-37-16	V-37-73	
V-37-17	V-37-74	
V-37-18	V-37-75	
V-37-19	V-130-1	
V-37-27	V-130-2A	
V-37-28	V-130-2B	

CATEGORY: A1C

TEST REQUIREMENT: Exercise valves every three months and Seat Leak Test in accordance with Section XI.

BASIS FOR RELIEF: Instrumentation lines connected to the reactor coolant pressure boundary and which penetrate primary containment are designed in accordance with USNRC Regulatory Guide 1.11 which permits a flow restricting orifice inside containment and an excess flow check valve outside containment for isolation. This design configuration does not permit valve exercising or Local Seat Leak Tests to be performed.

ALTERNATE TESTING: The excess flow check valves are demonstrated to be functional in both the open and closed position in accordance with OC Tech Specification, Section 4.5.0. This requires testing for closure during refueling outages and open position whenever conditions may cause closure.

RELIEF REQUEST 26

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RELIEF REQUEST 27

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RELIEF REQUEST 29

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RELIEF REQ/EST 29

SYSTEM:	Control Rod Drive
VALVES:	V-15 (132)
CATEGORY:	D
FUNCTION:	These rupture discs (137 of them) protect the High Pressure nitrogen side of the HCUs from being overpressurized while charging accumulators. The rupture discs are rated for ≈2000 psig.
TEST REQUIREMENT:	IWV-3620 - Rupture discs shall be tested in accordance with the periodic testing requirements of ANSI/ASME OM-1-1981 for nonreclosing pressure relief devices.
BASIS FOR RELIEF:	These rupture discs are outside the scope as defined in ANSI/ASME OM-1-1981 in that they are not required to perform a specific function in shutting down a reactor or in mitigating the consequences of an accident. They are provided to ensure the nitrogen side of the hydraulic control unit is not overpressurized during periodic charging activities. The passive integrity of these rupture discs is continually monitored by means of pressure switches. Any degradation in integrity will cause an alarm condition and investigation by operators.
ALTERNATE TESTING:	None

RELIEF REQUEST 30

SYSTEM:	Main Steam
VALVES:	V1-7, V1-8, V1-9, V1-10
CATEGORY:	A1
FUNCTION:	The main steam isolation valves provide containment isolation of the Main Steam Line.
TEST REQUIREMENT:	Exercise valve (with fail-safe actuators) to observe proper operation of fail-safe mechanisms every three months per IWV-3410.
BASIS FOR RELIEF:	These valves are air operated and have fail-safe operators that are required to close the valves with no air assist. These valves currently cannot be tested every 3 months or during cold shutdown unless drywell access is available due to the configuration. Drywell entry is required to observe the operators function properly per IWV-3410(e).
ALTERNATE TESTING:	These valves will be fail-safe tested during cold shutdown when drywell access is available and during refueling outages.

RELIEF REQUEST 31

SYSTEM:	Instrument Air
VALVES:	V6-393
CATEGORY:	A1C
FUNCTION:	This valve acts as a containment isolation valve for the Instrument Air System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	The only method available to verify that this valve shuts (which is its safety related function(is via the Appendix J, Seat Leak Test performed during refueling outages.
ALTERNATE TESTING:	This valve will be exercised during the Appendix J, Type C Seat Leak Test at refueling.

RELIEF REQUEST 32

SYSTEM:	Instrument Air
VALVES:	V6-395
CATEGORY:	A1
FUNCTION:	This valve acts as a containment isolation valve for the Instrument Air System.
TEST REQUIREMENT:	Full stroke exercise and stroke time every three months, per IWV-3410.
BASIS FOR RELIEF:	Full stroke exercising of this valve isolates instrument air form the Main Steam Isolation Valves. Isolating the air supply could cause the MSIV's to begin to close causing unwanted trsnsients.
ALTERNATE TESTING:	During cold shutdown and during refueling outages this valve will be full stroke exercised and timed.

RELIEF REQUEST 33

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PELIEF REQUEST 34

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RELIEF REQUEST 35

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RELIEF REQUEST 36

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RELIEF REQUEST 37

SYSTEM:	Core Spray
VALVES:	V20-52, V-20-53, V-20-54, V-20-55
CATEGORY:	C
FUNCTION:	Core Spray Booster Pump Discharge Check Valves
TEST REQUIREMENT:	Full stroke exercise every three months.
BASIS FOR RELIEF:	The test line utilized for testing these valves will not pass the maximum flowrate of 4100 gpm. It will pass at least 3400 gpm.
ALTERNATE TESTING:	The valves will be partial flow tested every three months. These valves are of the same manufacturer, size, model and type. One valve of this group will be opened and inspected at each refueling outage.

RELIEF REQUEST 38

SYSTEM.	Reactor Building Closed Cooling Water, Service Water
VALVES:	V5-153, V5-154, V3-62, V3-63
CATEGORY:	C
FUNCTION:	Pump Discharge Check Valves
TEST REQUIREMENT:	Full stroke exercise, valve every three months.
BASIS FOR RELIEF:	These valves will be checked for closure by verifying acceptable hydraulic performance of the parallel pump. During certain times, both pumps must operate to provide cooling to Plant Systems and the Closure test is not possible without shutdown of the respective pump.
ALTERNATE TESTING:	The valves will be tested every three months except for those periods when both pumps must operate. In that case, the frequency will revert to testing every three months as soon as single pump operation is possible.

RELIEF REQUEST 39

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RELIEF REQUEST 40

SYSTEM:	Hydrogen and Oxygen Monitoring
VALVES:	V38-9, V38-10, V38-16, V38-17, V38-22, V38-23,
CATEGORY:	A1
FUNCTION:	Containment Isolation
TEST REQUIREMENT:	Full stroke exercise, time and test function of fail safe features every three months.
BASIS FOR RELIEF:	These valves cannot be stroked individually without modification to their control circuitry. These valves do not have position indication. Verification of cycle is by indirect means. Stroke timing is not possible.
ALTERNATE TESTING:	These valves will be exercised and the fail safe feature tested during refueling but, the cycle cannot be timed.

RELIEF REQUEST 41

SYSTEM:	Hydrogen and Oxygen Monitoring
VALVES:	V38-93, V38-94
CATEGORY:	A1
FUNCTION:	Containment Isolation
TEST REQUIREMENT:	Full stroke exercise, time and test function of fail safe feature every three months.
BASIS FOR RELIEF:	These valves are installed spares that are not required to change position. The solenoids are not powered.
ALTERNATE TESTING:	If these valves are powered, they will be exercised as required. They will not be exercised when they are unpowered.

RELIEF REQUEST 42

SYSTEM:	Core Spray
VALVES:	V-20-8, V-20-9, V-20-16, V-20-22
CATEGORY:	C
FUNCTION:	Core Spray Main Pump Discharge Check Valves
TEST REQUIREMENT:	Full stroke exercise every three months.
BASIS FOR RELIEF:	The test line utilized for testing these valves will not pass the maximum flowrate of 4100 gpm. It will pass at least 3400 gpm.
ALTERNATE TESTING:	The valves will be partial flow tested every three months. These valves are of the same manufacturer, size, model and type. One valve of this group will be opened and inspected at each refueling outage.

RELIEF REQUEST 43

SYSTEM:	Liquid Poison
VALVES:	V-19-37, V-19-38
CATEGORY:	C
FUNCTION:	Pump Discharge Check Valves
TEST REQUIREMENT:	Exercise every three months.
BASIS FOR RELIEF:	The means for testing these valves in the closed direction would involve mechanical operations that could involve personal hazard due to the high pressure output of the liquid poison pumps. Reverse flow thru a positive displacement pump is not a probable mode of failure and relief valve discharge and leakage is checked on a quarterly basis. These are the two possible paths should the pump discharge check valve fail in the open position.
ALTERNATE TESTING:	These valves are exercised every three months to verify full open position. No reverse flow test will be done.

RELIEF REQUEST 44

SYSTEM:	Control Rod Drive
VALVES:	V15-119, V15-120, V15-121, V15-133, V15-134, V15-135, V15-136, V15-137
CATEGORY:	B
FUNCTION:	Isolate the scram dump volume during a scram condition.
TEST REQUIREMENT:	Exercise stroke time and verify operation of failure mode feature every three months.
BASIS FOR RELIEF:	These valves can be exercised every three months but the test or exercise solenoid to bleed off control air is not the solenoid that would be used if the valves safety function were required. A full scram signal is required to actuate the safety function solenoids.
ALTERNATE TESTING:	The valves will be exercised every three months but the failure mode and stroke timing will be done at cold shutdown.

RELIEF REQUEST 45

SYSTEM:	Core Spray
VALVES:	V-20-50, V-20-51
CATEGORY:	C
FUNCTION:	Core Spray Booster Pump Bypass Check Valves
TEST REQUIREMENT:	Full stroke exercise every three months.
BASIS FOR RELIEF:	The test line utilized for testing these valves will not pass the maximum flowrate of 3700 gpm.
ALTERNATE TESTING:	The valves will be partial flow tested every three months. These valves are of the same manufacturer, size, model and type. One valve of this group will be opened and inspected at each refueling outage.

RELIEF REQUEST 46

SYSTEM:	Reactor Recirculation
VALVES:	V24-29, 30, V-23-70
CATEGORY:	Various
FUNCTION:	Various
TEST REQUIREMENT:	Exercise power operated valve and measure the full stroke time per IWV-3410.
BASIS FOR RELIEF:	These valves do not have position indication. Verification of operation is by indirect means (flow or pressure). Accurate stroke timing is not possible.
ALTERNATE TESTING:	These valves will be exercised but, timing as required by IWV will not be performed.

RELIEF REQUEST 47

SYSTEM:	Drywell and Suppression, Containment Spray
VALVES:	V-26-1, V-26-2, V-26-3, V-26-4, V-26-5, V-26-6, V-26-7, V-26-8, V-26-9, V-26-10, V-26-11, V-26-12, V-26-13, V-26-14, V-21-15, V-21-18
CATEGORY:	Various
FUNCTION:	Drywell and Torus Vacuum Breakers, and Torus Spray Valves
TEST REQUIREMENT:	Seat Leak Testing of each valve.
BASIS FOR RELIEF:	Valves cannot be individually isolated in that they have no isolation valves.
ALTERNATE TESTING:	Valves are tested as a group during Appendix J, Type A Test. Combined limiting leakage is specified by the Technical Specifications.

RELIEF REQUEST 48

SYSTEM:	Condensate Transfer
VALVES:	V11-3, V11-7
CATEGORY:	C
FUNCTION:	Minimum flow recirculation for the Condensate Transfer Pumps.
TEST REQUIREMENT.	Full stroke exercise every three months.
BASIS FOR RELIEF:	These vales are open when the respective Condensate Transfer Pump operates. These valves are verified open by operation of the pump. These valves have no nuclear safety related functions in the closed direction since minimum nuclear safety related flow can be supplied to the Condensate Transfer System even if the parallel valve is open.
ALTERNATE TESTING:	Since these valves have no NSR function they are not tested.

RELIEF REQUEST 49

Deleted

RELIEF REQUEST 50

SYSTEM:	Various		
VALVES:	V-623-001	V-38-039	V-38-093
	V-623-002	V-38-040	V-38-094
	V-623-003	V-38-041	V-40-006
	V-623-004	V-38-043	V-40-008
	V-38-037	V-38-044	V-40-012
	V-38-038	V-38-046	V-40-024
CATEGORY:	A1		
FUNCTION:	Containment Isolation Valves		
TEST REQUIREMENT:	Valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated.		
BASIS FOR RELIEF:	The above valves are contained or sealed units such that valve position cannot be verified by local observation.		
ALTERNATE TESTING:	The position indicators for the above valves will be verified at least once every 2 years. The remote position indicators provided on these valves are used to determine valve position prerequisite to system operation and local leak rate testing. Proper system operation will verify accurate open position indication and successful leak rate test results will verify accurate closed indication.		

RELIEF REQUEST 51

SYSTEM:	Various
VALVES:	V-01-07, V-01-08, V-01-09, V-01-10, V-05-147, V-05-166, V-05-167, V-06-395, V-16-001, V-16-002, V-16-014, V-16-061, V-22-001, V-22-002, V-22-028, V-22-029, V-23-013, V-23-014, V-23-015, V-23-016, V-23-017, V-23-018, V-23-019, V-23-020, V-23-021, V-23-022, V-27-001, V-27-002, V-27-003, V-27-004, V-28-017, V-28-018, V-28-047, V-31-002
CATEGORY:	A1
FUNCTION:	Containment Isolation Valves
TEST REQUIREMENT:	Valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated.
BASIS FOR RELIEF:	The above valves are located in radiation areas. Local observation to verify the accuracy of the position indicators will result in unnecessary radiation exposure. Alternate means can be used to verify accurate position indication.
ALTERNATE TESTING:	The position indicators for the above valves will be verified at least once every 2 years. The remote position indicators provided on these valves are used to determine valve position prerequisite to system operation and local leak rate testing. Proper system operation will verify accurate open position indication and successful leak rate test results will verify accurate closed indication.

RELIEF REQUEST 52

SYSTEM:	Control Rod Drive
VALVES:	V-15 (106) (137 valves one per Hydraulic Control Unit)
CATEGORY:	A/C
CLASS:	2
FUNCTION:	These stop-check valves act in the open position to charge the scram accumulators from the charging water header. They act in the closed position to allow a successful scram, in the event that the charging water header is depressurized and reactor pressure is less than 940 psia.
TEST REQUIREMENT:	Leak rate test per IWV-3420.
BASIS FOR RELIEF:	The owner established permissible leak rate for these valves is based upon maintaining the HCU pressure above a specific value for a given period of time. This can be demonstrated by observing the depressurization rate of the Hydraulic Control Units and verifying that they are within acceptable limits. This type of testing is done on all 137 Hydraulic Control Units simultaneously. Those valves that pass the owner established criteria are not tested further to determine the actual leak rate since a tight valve will take an indefinite period of time to depressurize the Hydraulic Control Unit.
ALTERNATE TESTING:	These valves (all 137) will be leak tested at least once every two years to ensure they are capable of performing their intended function. The leak test shall consist of monitoring the depressurization rate of each associated Hydraulic Control Unit to verify it is within the owner established limits.

RELIEF REQUEST 53

SYSTEM:	Containment Spray and Emergency Service Water
VALVES:	V-3-82, V-3-83, V-3-84, V-3-85, V-21-21, V-21-22, V-21-23, V-21-24
CATEGORY:	C
FUNCTION:	Thermal Relief Valves
TEST REQUIREMENT:	IWV-3510 specifies testing in accordance with the requirements of ANSI-ASME OM-1-1981.
BASIS FOR RELIEF:	These thermal relief devices do not perform any active specific function in shutting down the reactor or in mitigating the consequences of an accident. These valves provide overpressure relief in the event the associated system is isolated and a source of heat is added to the system. The normal as well as emergency system valve lineups for these systems would assure these systems are not isolated. If the system isolated for any purpose, it would be declared inoperable and taken out of service.
ALTERNATE TEST:	Valves will be replaced every other refueling outage with fully qualified valves.

OYSTER CREEK INSERVICE TESTING PROGRAM
APPENDIX B TABLE 1
VALVE TEST REQUIREMENTS

SYSTEM 311 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01(NR-108A)	GL	6	E	B	C	O	A	EF1 ET	13 13	EF3	OPEN FOR REACTOR PRESSURE CONTROL
V-01(NR-108B)	GL	6	E	B	C	O	A	EF1 ET	13 13	EF3	OPEN FOR REACTOR PRESSURE CONTROL
V-01(NR-108C)	GL	6	E	B	C	O	A	EF1 ET	13 13	EF3	OPEN FOR REACTOR PRESSURE CONTROL
V-01(NR-108D)	GL	6	E	B	C	O	A	EF1 ET	13 13	EF3	OPEN FOR REACTOR PRESSURE CONTROL
V-01(NR-108E)	GL	6	E	B	C	O	A	EF1 ET	13 13	EF3	OPEN FOR REACTOR PRESSURE CONTROL

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01(NR-2PH)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01(NR-2BE)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01(NR-2BF)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01(NR-2BG)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01(NR-2BH)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01(NR-28J)	GL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01(NR-28K)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01(NR-28L)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01(NR-28M)	RL	6	SA	C	C	O	A	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
V-01-07(N503A)	GL	24	A	AT	O	C	A	EF1 EF4 EF5 ET SLT1	30	EF1 EF4 EF7 ET SLT1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-08(NS03B)	GL	24	A	A1	O	C	A	EF1 EF4 EF5 ET SLT1	 30 	EF1 EF4 EF7 ET SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-01-09(NS04A)	GL	24	A	A1	O	C	A	EF1 EF4 EF5 ET SLT1	 30 	EF1 EF4 EF7 ET SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-01-10(NS04B)	GL	24	A	A1	O	C	A	EF1 EF4 EF5 ET SLT1	 30 	EF1 EF4 EF7 ET SLT1	CLOSE FOR CONATINMENT ISOLATION
V-01-180	SK	.5	SA	A1C	O	C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-01-181	SK	.5	SA	A1C	O	C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-184	SK	.5	SA	A1C	O	C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-01-185	SK	.5	SA	A1C	O	C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-01-190	CK	4	SA	C	C	O	A	EF1	14	EF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE
V-01-191	CK	4	SA	C	C	O	A	EF1	14	EF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE
V-01-192	CK	4	SA	C	C	O	A	EF1	14	EF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-193	CK	4	SA	C	C	O	A	EF1	14	EF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE

SYSTEM 422 FEEDWATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-02-071	CK	18	SA	A3C	O	C	A	EF1 SLT1	1S 1SA	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION
V-02-072	CK	18	SA	A3C	O	C	A	EF1 SLT1	1S 1SA	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION
V-02-073	CK	18	SA	A3C	O	C	A	EF1 SLT1	1S 1SA	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION
V-02-074	CK	18	SA	A3C	O	C	A	EF1 SLT1	1S 1SA	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION

SYSTEM 531 SERVICE WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-03-062	SK	16	SA	C	O/C	O/C	A	EF1	38	EF1	OPEN FOR SERVICE WATER FLOW CLOSE FOR PARALLEL PUMP FLOW
V-03-063	SK	16	SA	C	O/C	O/C	A	EF1	38	EF1	OPEN FOR SERVICE WATER FLOW CLOSE FOR PARALLEL PUMP FLOW

SYSTEM 532 EMERGENCY SERVICE WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-03-065	CK	10	SA	C	O/C	O/C	A	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-03-066	CK	10	SA	C	O/C	O/C	A	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-03-067	CK	10	SA	C	O/C	O/C	A	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-03-068	CK	10	SA	C	O/C	O/C	A	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-03-082	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF ESW SYSTEM

SYSTEM 532 EMERGENCY SERVICE WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-03-083	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF ESW SYSTEM
V-03-084	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF ESW SYSTEM
V-03-085	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF ESW SYSTEM
V-03-087	BF	14	M	B	T	T	P	EF4		EF4	THROTTLED OPEN FOR ESW FLOW
V-03-088	BF	14	M	B	T	T	P	EF4		EF4	THROTTLED OPEN FOR ESW FLOW

SYSTEM 532 EMERGENCY SERVICE WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-03-131	CK	2	SA	C	O	C	A	EF1		EF1	CLOSE TO PREVENT LOSS OF ESW FLOW TO SW SYSTEM
V-03-133	CK	2	SA	C	O	C	A	EF1		EF1	CLOSE TO PREVENT LOSS OF ESW FLOW TO SW SYSTEM

SYSTEM 541 CLOSED COOLING WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-05-147	GA	6	MO	A1	O	C	A	EF1 ET SLT1 EF4	18 18 51	EF2 ET SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-05-153	CK	12	SA	C	O/C	O/C	A	EF1	38	EF1	OPEN FOR RBCCW PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-05-154	CK	12	SA	C	O/C	O/C	A	EF1	38	EF1	OPEN FOR RBCCW PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-05-165	CK	6	SA	A1C	O	C	A	EF1 SLT1	17	EF3 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-05-166	GA	6	MO	A1	O	C	A	EF1 EF4 ET SLT1	18 51 18	EF2 EF4 ET SLT1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 541 CLOSED COOLING WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-05-167	GA	6	MO	A1	O	C	A	EF1	18	EF2	CLOSE FOR CONTAINMENT ISOLATION
								ET	18	ET	
								SLT1		SLT1	
								EF4	51	EF4	

M 852 INSTRUMENT AIR

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-06-393	CK	2	SA	A1C	O	C	A	EF1	31	EF3	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
V-06-395	GA	2	A	A1	O	C	A	EF1	32	EF2	CLOSE FOR CONTAINMENT ISOLATION
								EF5	32	EF6	
								ET	32	ET	
								SLT1		SLT1	
								EF4	51	EF4	

SYSTEM 424 CONDENSATE TRANSFER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASS'VE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-11-003	CK	2	SA	C	O/C	O	A	EFT	48		OPEN FOR CONDENSATE TRANSFER PUMP MINIMUM FLOW
V-11-007	CK	2	SA	C	O/C	O	A	EFT	48		OPEN FOR CONDENSATE TRANSFER PUMP MINIMUM FLOW
V-11-012	CK	3	SA	C	O/C	O/C	A	EFT		EFT	OPEN FOR CONDENSATE TRANSFER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-11-013	CK	3	SA	C	O/C	C	A	EFT		EFT	OPEN FOR CONDENSATE TRANSFER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-11-033	CK	2.5	SA	C	C	O	A	EFT		EFT	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS

SYSTEM 424 CONDENSATE TRANSFER

VALVE #	TYPE	SIZE	ACTUATOR	LAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-11-034	GL	2.5	A	B	C	O	A	EFT E, ET		EFT EF4 ET	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS
V-11-035	CK	2.5	SA	C	C	O	A	EFT		EFT	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS
V-11-036	GL	2.5	A	B	C	O	A	EFT EF4 ET		EFT EF4 ET	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS
V-11-042	CK	3	SA	C	C	O	A	EFT		EFT	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS
V-11-044	DA	3	M	B	C	O	A	EFT		EFT	OPEN FOR FIRE WATER MAKEUP TO ISOLATION CONDENSERS

SYSTEM 424 CONDENSATE TRANSFER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-11-049	DA	3	M	B	C	O	A	EFT		EFT	OPEN FOR FIRE WATER MAKEUP TO ISOLATION CONDENSERS

SYSTEM 622 REACTOR VESSEL INSTRUMENTATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-130-001	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-002A	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-002B	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-003	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-004	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 622 REACTOR VESSEL INSTRUMENTATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-130-005	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-006A	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-006B	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-007	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-008	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 622 REACTOR VESSEL INSTRUMENTATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTN PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-130-009	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-010	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-021A	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-021B	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-130-026	SK	1	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 211 ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-001	GL	.75	A	A1	O	C	A	EF1 EF5 ET SLT1 EF4		EF1 EF5 ET SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-14-005	GL	.75	A	A1	O	C	A	EF1 EF5 ET SLT1 EF4		EF1 EF5 ET SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-14-019	GL	.75	A	A1	O	C	A	EF1 EF5 ET SLT1 EF4		EF1 EF5 ET SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-14-020	GL	.75	A	A1	C	C	A	EF1 EF5 ET SLT1 EF4		EF1 EF5 ET SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-14-030	GA	10	MT	B	O	O/L	A	EF1 ET EF4		EF1 ET EF4	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK

SYSTEM 211 ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-031	GA	10	MO	B	O	O/C	A	EFT ET EF4		EFT ET EF4	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
V-14-032	GA	10	MO	B	O	O/C	A	EFT ET EF4		EFT ET EF4	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
V-14-033	GA	10	MO	B	O	O/C	A	EFT ET EF4		EFT ET EF4	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
V-14-034	GA	10	MO	B	C	O/C	A	EFT ET EF4		EFT ET EF4	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
V-14-035	GA	10\	MO	B	C	O/C	A	EFT ET EF4		EFT ET EF4	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK

SYSTEM 211 ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-036	GA	10	MO	B	O	O/C	A	EF1 EF4 ET		EF1 EF4 ET	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
V-14-037	GA	10	MO	B	O	O/C	A	EF1 EF4 ET		EF1 EF4 ET	OPEN FOR ISOLATION CONDENSER OPERATION CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
V-14-049	SK	.5	SA	A/C	O	O/C	A	EF1 SLT1	Z5 Z5	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-14-050	SK	.5	SA	A/C	O	O/C	A	EF1 SLT1	Z5 Z5	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-14-051	SK	.5	SA	A/C	O	O/C	A	EF1 SLT1	Z5 Z5	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION

SYSTEM ZTT ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-052	SK	.5	SA	A1C	O	O/C	A	EFT SLTT	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-14-053	SK	.5	SA	A1C	O	O/C	A	EFT SLTT	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-14-054	SK	.5	SA	A1C	O	O/C	A	EFT SLTT	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-14-055	SK	.5	SA	A1C	O	O/C	A	EFT SLTT	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
V-14-056	SK	.5	SA	A1C	O	O/C	A	EFT SLTT	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION

SYSTEM 225 CONTROL ROD DRIVE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-15(106)	SC	0.5	SA	A2C	C	O/C	A	EF1 SLT1	6 52	EF2 SLT1	OPEN TO KEEP HYDRAULIC ACCUMULATORS CHARGED CLOSE TO MAINTAIN ACCUMULATOR CHARGE
V-15(108)	SC	.75	SA	C	C	O	A	EF1	8	EF2	OPEN TO ALLOW SUCCESSFUL SCRAM OF CONTROL ROD
V-15(126)	RG	1	A	B	C	O	A	EF1 ET EF4 EF5	5 5 5	EF2 EF2 EF4 EF7	OPEN TO SCRAM CONTROL ROD
V-15(127)	RG	.75	A	B	C	O	A	EF1 ET EF4 EF5	5 5 5	EF2 EF2 EF4 EF7	OPEN TO SCRAM CONTROL ROD
V-15(132)	RO	.5	SA	D	C	C	P	RD1	29		CLOSE TO MAINTAIN ACCUMULATOR CHARGE

SYSTEM 225 CONTROL ROD DRIVE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-15(158)	CK	.5	SA	C	O	C	A	EF1		EF1	CLOSE TO ENSURE SCRAM OF CONTROL RO
V-15-027	CK	3	SA	A1C	O	C	A	EF1 SLT1	9	EF3 LT1	CLOSE FOR CONTAINMENT ISOLATION
V-15-028	CK	3	SA	A1C	O	C	A	EF1 SLT1	9	EF3 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-15-119	GA	1	A	B	O	O/C	A	EF1 ET EF5 EF4	44 44 47	EF1 ET EF6 EF4	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED CLOSE TO ISOLATE SCRAM DUMP VOLUME
V-15-120	GA	1	A	B	O	O/C	A	EF1 ET EF5 EF4	44 44 44	EF1 ET EF6 EF4	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED CLOSE TO ISOLATE SCRAM DUMP VOLUME

SYSTEM 225 CONTROL ROD DRIVE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-15-121	GA	2	A	A	O	O/C	A	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
								ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOL
								EF5	44	EF6	
								EF4		EF4	
V-15-133	GA	2	A	B	O	O/C	A	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
								ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
								EF5	44	EF6	
								EF4		EF4	
V-15-134	GA	2	A	B	O	O/C	A	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
								ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
								EF5	44	EF6	
								EF4		EF4	
V-15-135	GA	2	A	B	O	O/C	A	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
								ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
								EF5	44	EF6	
								EF4		EF4	
V-15-136	GA	1	A	B	O	O/C	A	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
								ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
								EF5	44	EF6	
								EF4		EF4	

SYSTEM 225 CONTROL ROD DRIVE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-15-137	GA	1	A	B	O	O/C	A	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
								ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
								EF5	44	EF6	
								EF4		EF4	

SYSTEM 215 CLEANUP

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-16-001	GA	6	MO	A1	O	C	A	EF1 EF4 SLT1 ET	S1	EF1 EF4 SLT1 ET	CLOSE FOR CONTAINMENT ISOLATION
V-16-002	GA	6	MO	A1	O	C	A	EF1 EF4 SLT1 ET	S1	EF1 EF4 SLT1 ET	CLOSE FOR CONTAINMENT ISOLATION
V-16-014	GA	6	MO	A1	O	C	A	EF1 EF4 SLT1 ET	S1	EF1 EF4 SLT1 ET	CLOSE FOR CONTAINMENT ISOLATION
V-16-030	GA	.5	S	A1	C	C	P	SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-16-061	GA	6	MO	A1	O	C	A	EF1 EF4 SLT1 ET	S1	EF1 EF4 SLT1 ET	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 215 CLEANUP

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-16-062	CK	6	SA	A1C	O/C	C	A	EF1 SLT1	3 3A	EF3 SLT1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM Z14 SHUTDOWN COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REF.	ACTUAL TEST	SAFETY FUNCTION
V-17-001	GA	10	MO	B	O/C	C	A	EF1 ET EF4	1	EF2 ET EF4	CLOSE FOR SYSTEM ISOLATION
V-17-002	GA	10	MO	B	O/C	C	A	EF1 ET EF4	1	EF2 ET EF4	CLOSE FOR SYSTEM ISOLATION
V-17-003	GA	10	MO	B	O/C	C	A	EF1 ET EF4	1	EF2 ET EF4	CLOSE FOR SYSTEM ISOLATION
V-17-019	GA	14	MO	B	O/C	C	A	EF1 EF4 ET	1	EF2 EF4 ET	CLOSE FOR SYSTEM ISOLATION
V-17-054	GA	14	MO	B	O/C	C	A	EF1 EF4 ET	1	EF2 EF4 ET	CLOSE FOR SYSTEM ISOLATION

SYSTEM 214 SHUTDOWN COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-17-055	GL	8	MO	B	O/C	C	A	EF1 ET EF4	1	EF2 ET EF4	CLOSE FOR SYSTEM ISOLATION
V-17-056	GL	8	MO	B	O/C	C	A	EF1 ET EF4	1	EF2 ET EF4	CLOSE FOR SYSTEM ISOLATION
V-17-057	GL	8	MO	B	O/C	C	A	EF1 ET EF4	1	EF2 ET EF4	CLOSE FOR SYSTEM ISOLATION

SYSTEM 251 FUEL POOL COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-18-037	CK	4	SA	C	O/C	O/C	A	EFT		EFT	OPEN FOR FUEL POOL COOLING PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-1P-008	CK	4	SA	C	O/C	O/C	A	EFT		EFT	OPEN FOR FUEL POOL COOLING PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW

SYSTEM 213 STANDBY LIQUID CONTROL

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-19-016	CK	1.5	SA	A1C	C	O/C	A	EF1 SLT1	2	EF3 SLT1	OPEN FOR LIQUID POISON INJECTION CLOSE FOR CONTAINMENT ISOLATION
V-19-020	CK	1.5	SA	A1C	C	O/C	A	EF1 SLT1	2	EF3 SLT1	OPEN FOR LIQUID POISON INJECTION CLOSE FOR CONTAINMENT ISOLATION
V-19-037	CK	1.5	SA	C	C	O/C	A	EF1	43	EF1	OPEN FOR LIQUID POISON PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-19-038	CK	1.5	SA	C	C	O/C	A	EF1	43	EF1	OPEN FOR LIQUID POISON PUMP F OW CLOSE FOR PARALLEL PUMP FLOW
V-19-042	RL	1	SA	C	C	O/C	A	TF1		TF1	OPEN FOR PRESSURE RELIEF CLOSE TO PREVENT SYSTEM FLOW LOSSES

SYSTEM 213 STANDBY LIQUID CONTROL

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY F NCTION
V-19-043	AL	1	SA	C	C	O/C	A	TF1		TF1	OPEN FOR PRESSURE RELIEF CLOSE TO PREVENT SYSTEM FLOW LOSSES
V-19-044	PG	1.5	XP	D	C	O	A	XP1		XP1	OPEN FOR POISON INJECTION TO REACTOR VESSEL
V-19-045	PG	1.5	XP	D	C	O	A	XP1		XP1	OPEN FOR POISON INJECTION TO REACTOR VESSEL

OYSTER CREEK INSERVICE TESTING PROGRAM
APPENDIX B TABLE 1
VALVE TEST REQUIREMENTS

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-003	GA	12	MO	B	O	O	P	EF4		EF4	OPEN FOR CORE SPRAY PUMP SUCTION
V-20-004	GA	12	MO	B	O	O	P	EF4		EF4	OPEN FOR CORE SPRAY PUMP SUCTION
V-20-008	CK	8	SA	C	C	O/C	A	EF1	42	EF1 IN3	OPEN FOR CORE SPRAY MAIN PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-20-009	CK	8	SA	C	C	O/C	A	EF1	42	EF1 IN3	OPEN FOR CORE SPRAY MAIN PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-20-012	GA	6	MO	B	O/C	O	A	EF1 ET EF4		EF1 ET EF4	OPEN FOR CORE SPRAY INJECTION TO REACTOR

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-015	GA	8	MO	A2	C	O/C	A	EF1 ET SLT1 EF4		EF1 ET SLT1 EF4	OPEN FOR CORE SPRAY INJECTION TO REACTOR CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
V-20-016	CK	8	SA	C	C	O/C	A	EF1	42	EF1 IN3	OPEN FOR CORE SPRAY MAIN PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-20-018	GA	8	MO	B	O/C	O	A	EF1 ET EF4		EF1 ET EF4	OPEN FOR CORE SPRAY INJECTION TO REACTOR
V-20-021	GA	8	MO	A2	C	O/C	A	EF1 ET SLT1 EF4		EF1 ET SLT1 EF4	OPEN FOR CORE SPRAY INJECTION TO REACTOR CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
V-20-022	CK	8	SA	C	C	O/C	A	EF1	42	EF1 IN3	OPEN FOR CORE SPRAY MAIN PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-024	RL	2	SA	C	C	O/C	A	TFT		TFT	OPEN FOR PRESSURE RELIEF CLOSE TO PREVENT SYSTEM FLOW LOSSES
V-20-025	RL	2	SA	C	C	O/C	A	TFT		TFT	OPEN FOR PRESSURE RELIEF CLOSE TO PREVENT SYSTEM FLOW LOSSES
V-20-026	GL	6	MO	B	O/C	C	A	EFT ET EF4		EFT ET EF4	CLOSE TO PREVENT SYSTEM FLOW LOSSES TO TEST LINE
V-20-027	GL	6	MO	B	O/C	C	A	EFT ET EF4		EFT ET EF4	CLOSE TO PREVENT SYSTEM FLOW LOSSES TO TEST LINE
V-20-030	CK	6	SA	C	C	O	A	EFT		EFT	OPEN TO PASS PUMP MINIMUM FLOW

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-031	CK	6	SA	C	C	O	A	EFT		EFT	OPEN TO PASS PUMP MINIMUM FLOW
V-20-032	GA	12	MO	B	O	O	P	EF4		EF4	OPEN FOR CORE SPRAY PUMP SUCTION
V-20-033	GA	12	MO	B	O	O	P	EF4		EF4	OPEN FOR CORE SPRAY PUMP SUCTION
V-20-040	GA	8	MO	A2	C	O/C	A	EFT ET SLTT EF4		EFT ET SLTT EF4	OPEN FOR CORE SP[illegible]CTION TO REACTOR CLOSE FOR PRIM[illegible]OLANT PRESSURE BOUNDRY
V-20-041	GA	8	MO	A2	C	O/C	A	EFT ET SLTT EF4		EFT ET SLTT EF4	OPEN FOR CORE SPRAY INJECTION TO REACTOR CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-050	CK	10	SA	C	C	O/C	A	EF1	45	EF1 IN3	OPEN FOR CORE SPRAY MAIN PUMP FLOW CLOSE FOR CORE SPRAY BOOSTER PUMP FLOW
V-20-051	CK	10	SA	C	C	O/C	A	EF1	45	EF1 IN3	OPEN FOR CORE SPRAY MAIN PUMP FLOW CLOSE FOR CORE SPRAY BOOSTER PUMP FLOW
V-20-052	CK	10	SA	C	C	O/C	A	EF1	37	EF1 IN3	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-20-053	CK	10	SA	C	C	O/C	A	EF1	37	EF1 IN3	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-20-[illegible]	CK	10	SA	C	C	O/C	A	EF1	37	EF1 IN3	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-055	CK	10	SA	C	C	O/C	A	EFT	37	EFT IN3	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-20-060	CK	6	SA	C	C	O/C	A	EFT	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR CLOSE TO PREVENT CRY . CONTAMINATION OF SYSTEMS
V-20-061	CK	6	SA	C	C	O/C	A	EFT	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
V-20-082	GA	6	M	B	C	O/C	A	EFT		EFT	OPEN FOR FIRE WATER INJECTION TO REACTOR CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
V-20-083	GA	6	M	B	C	O/C	A	EFT		EFT	OPEN FOR FIRE WATER INJECTION TO REACTOR CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-088	CK	6	SA	C	C	O/C	A	EF1	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
V-20-089	CK	6	SA	C	C	O/C	A	EF1	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
V-20-092	GL	1.5	A	B	C	O	A	EF1 EF5 ET EF4		EF1 EF5 ET EF4	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS
V-20-093	GL	1.5	A	B	C	O	A	EF1 EF5 ET EF4		EF1 EF5 ET EF4	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS
V-20-094	GL	1.5	A	B	C	O	A	EF1 EF5 ET EF4		EF1 EF5 ET EF4	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS

SYSTEM 212 CO.E SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	LAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-[illegible]5	GL	1.5	A	B	C	O	A	EF1 EF5 ET EF4		EF1 EF5 ET EF4	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS
V-20-116	CK	1	SA	C	O	C	A	EF1		EF1	CLOSE TO PREVENT SYSTEM FLOW LOSSES
V-20-119	CK	1	SA	C	O	C	A	EF1		EF1	CLOSE TO PREVENT SYSTEM FLOW LOSSES
V-20-150	CK	8	SA	A2C	C	O/C	A	EF1 EF4 SLT1	10	EF2 EF4 SLT1	OPEN FOR CORE SPRAY INJECTION TO REACTOR CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
V-20-151	CK	8	SA	A2C	C	O/C	A	EF1 EF4 SLT1	10	EF2 EF4 SLT1	OPEN FOR CORE SPRAY INJECTION TO REACTOR CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-152	CK	8	SA	A2C	C	O/C	A	EF1 EF4 SLT1	10	EF2 EF4 SLT1	OPEN FOR CORE SPRAY INJECTION TO REACTOR CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
V-20-153	CK	8	SA	A2C	C	O/C	A	EF1 F4 SLT1	10	EF2 EF4 SLT1	OPEN FOR CORE SPRAY INJECTION TO REACTOR CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
V-20-172	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-20-173	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 24 CONTAINMENT SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-21-001	GA	12	MO	B	O	O	P	EF4		EF4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION
V-21-002	CK	10	SA	C	C	O/C	A	EF1		EF1	OPEN FOR CONTAINMENT SPRAY PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-21-003	GA	12	MO	B	O	O	P	EF4		EF4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION
V-21-004	CK	10	SA	C	C	O/C	A	EF1		EF1	OPEN FOR CONTAINMENT SPRAY PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-21-005	GA	14	MO	B	O	O/C	A	EF1 ET EF4		EF1 ET EF4	OPEN FOR DRYWELL SPRAY MODE CLOSE FOR TORUS COOLING MODE

SYSTEM 241 CONTAINMENT SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-21-007	GA	12	MO	B	O	O	P	EF4		EF4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION
V-21-008	CK	10	SA	C	C	O/C	A	EF*		EF*	OPEN FOR CONTAINMENT SPRAY PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-21-009	GA	12	MO	B	C	O	P	EF4		EF4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION
V-21-010	CK	10	SA	C	C	O/C	A	EF1		EF1	OPEN FOR CONTAINMENT SPRAY PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW
V-21-011	GA	14	MO	B	O	O/C	A	EF1 ET EF4		EF1 ET EF4	OPEN FOR DRYWELL SPRAY MODE CLOSE FOR TORUS COOLING MODE

SYSTEM 241 CONTAINMENT SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-21-013	GA	6	MO	B	C	O/C	A	EF1 ET EF4		EF1 ET EF4	OPEN FOR TORUS COOLING MODE CLOSE FOR DRYWELL SPRAY MODE
V-21-01[illegible]	GA	4	MO	A2	C	O/C	A	EF1 ET EF4 SLT1	47	EF1 ET EF4 SLT1	OPEN FOR SPRAY DOWN OF TORUS CLOSED TO PREVENT PRESSURIZING TORUS
V-21-017	GA	6	MO	B	C	O/C	A	ET EF1 EF4		ET EF1 EF4	OPEN FOR TORUS COOLING MODE CLOSE FOR DRYWELL SPRAY MODE
V-21-018	GA	4	MO	A2	C	O/C	A	EF1 ET ZF4 SLT1	47	EF1 ET EF4 SLT1	OPEN FOR SPRAY DOWN OF TORUS CLOSED TO PREVENT PRESSURIZING TORUS
V-21-021	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF SYSTEM

SYSTEM 241 CONTAINMENT SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REF.	ACTUAL TEST	SAFETY FUNCTION
V-21-022	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF SYSTEM
V-21-023	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF SYSTEM
V-21-024	RL	.75	SA	C	C	O	A	TF1	53	TF1	OPEN FOR THERMAL RELIEF OF SYSTEM

SYSTEM 573 DRYWELL FLOOR AND EQUIP DRAINS

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-22-001	GA	2	A	A1	O	C	A	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
								EF5		EF5	
								ET		ET	
								SLT1		SLT1	
								EF4	51	EF4	
V-22-002	GA	2	A	A1	O	C	A	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
								EF5		EF5	
								ET		ET	
								SLT1		SLT1	
								EF4	51	EF4	
V-22-028	GA	2	A	A1	O	C	A	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
								EF5		EF5	
								ET		ET	
								SLT1		SLT1	
								EF4	51	EF4	
V-22-029	GA	2	A	A1	O	C	A	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
								EF5		EF5	
								ET		ET	
								SLT1		SLT1	
								EF4	51	EF4	

SYSTEM 42 CONTAINMENT INERTING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-23-013	BF	8	A	A1	O/C	C	A	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								EF1		EF1	
								EF4	51	EF4	
								SLT1		SLT1	
								EF5		EF5	
V-23-014	BF	8	A	A1	O/C	C	A	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								EF1		EF1	
								EF4	51	EF4	
								SLT1		SLT1	
								EF5		EF5	
V-23-015	BF	8	A	A1	O/C	C	A	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								EF1		EF1	
								EF4	51	EF4	
								SLT1		SLT1	
								EF5		EF5	
V-23-016	BF	8	A	A1	O/C	C	A	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								EF1		EF1	
								EF4	51	EF4	
								SLT1		SLT1	
								EF5		EF5	
V-23-017	GL	2	A	A1	O/C	C	A	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								EF1		EF1	
								EF4	51	EF4	
								SLT1		SLT1	
								EF5		EF5	

SYSTEM 242 CONTAINMENT INERTING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-23-018	GL	2	A	A1	O/C	C	A	ET EF1 EF4 SLT1 EF5	51	ET EF1 EF4 SLT1 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-23-019	GL	2	A	A1	O/C	C	A	ET EF1 EF4 SLT1 EF5	51	ET EF1 EF4 SLT1 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-23-020	GL	2	A	A1	O/C	C	A	ET EF1 EF4 SLT1 EF5		ET EF1 EF4 SLT1 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-23-021	GA	2	A	A1	O/C	C	A	ET EF1 EF4 SLT1 EF5	51	ET EF1 EF4 SLT1 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-23-022	GA	2	A	A1	O/C	C	A	ET EF1 EF4 SLT1 EF5	51	ET EF1 EF4 SLT1 EF5	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 242 CONTAINMENT INERTING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-23-070	PG	1/4	S	A1	O	C	A	SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
								EF1		EF1	
								EF5		EF5	
								ET	46		

SYSTEM 551 REACTOR SAMPLE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-24-029	GL	.75	A	A1	O	C	A	EFJ EFS ET SLT1	46	EF1 EF5 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-24-030	GL	.75	A	A1	O	C		EF1 EF5 ET SLT1	46	EF1 EF5 SLT1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-001	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-002	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-003	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-004	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-005	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-006	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-007	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-008	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-009	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-010	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	47	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-011	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	 47 	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-012	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	 47 	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-013	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	 47 	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-014	CK	18	SA	A2C	C	O/C	A	EF1 SLT1 EF4 TF1	 47 	EF1 SLT1 EF4 TF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL CLOSE TO PREVENT PRESSURIZING TORUS
V-26-015	CK	20	SA	A3C	C	O/C	A	EF1 SLT1 TF1	 	EF1 SLT1 TF1	OPEN TO PROVIDE VACUUM RELIEF TO TORUS CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-016	BF	20	A	A3	C	O/C	A	ET EF1 SLT1 EF4 EF5 TF1		ET EF1 SLT1 EF4 EF5 TF1	OPEN TO PROVIDE VACUUM RELIEF TO TORUS CLOSE FOR CONTAINMENT ISOLATION
V-26-017	CK	20	SA	A3C	C	O/C	A	ET1 SLT1 TF1		EF1 SLT1 TF1	OPEN TO PROVIDE VACUUM RELIEF TO TORUS CLOSE FOR CONTAINMENT ISOLATION
V-26-018	BF	20	A	A3	C	O/C	A	ET EF1 SLT1 EF4 EF5 TF1		ET EF1 SLT1 EF4 EF5 TF1	OPEN TO PROVIDE VACUUM RELIEF TO TORUS CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 822 REACTOR BLDG VENTILATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-27-001	BF	18	A	A1	O/C	C	A	ET EF1 SLT1 EF4 EF5	 51 	ET EF1 SLT1 EF4 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-27-002	BF	18	A	A1	O/C	C	A	ET EF1 SLT1 EF4 EF5	 51 	ET EF1 SLT1 EF4 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-27-003	BF	18	"	A1	O/C	C	A	ET EF1 SLT1 EF4 EF5	 51 	ET EF1 SLT1 EF4 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-27-004	BF	18	A	A1	O/C	C	A	ET EF1 SLT1 EF4 EF5	 51 	ET EF1 SLT1 EF4 EF5	CLOSE FOR CONTAINMENT ISOLATION
V-28-017	BF	12	"	A1	O/C	C	A	ET EF1 SLT1 EF5 EF4	 51	ET EF1 SLT1 EF5 EF4	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 822 REACTOR BLDG VENTILATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-28-018	BF	12	A	A1	O/C	C	A	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								EF*		EF1	
								SLT1		SLT1	
								EF5		EF5	
								EF4	51	EF4	
V-28-047	GA	2	A	A1	O/C	C	A	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								EF1		EF1	
								SLT1		SLT1	
								EF5		EF5	
								EF4	51	EF4	

SYSTEM 216 HEAD COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-31-032	GA	2	A	A1	C	C	P	EF4 SLT1	51 12A	EF4 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-31-005	CK	2	64	A1C	C	C	P	SLT1	12A	SLT1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 225 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-005	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-006	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-007	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-008	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-016	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-017	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-018	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-019	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-027	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-028	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-030	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-038	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-039	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-040	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-041	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED REL-EF	ACTUAL TEST	SAFETY FUNCTION
V-37-049	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-050	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-051	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-052	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-059	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-056	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-068	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-069	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-[illegible]	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-071	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

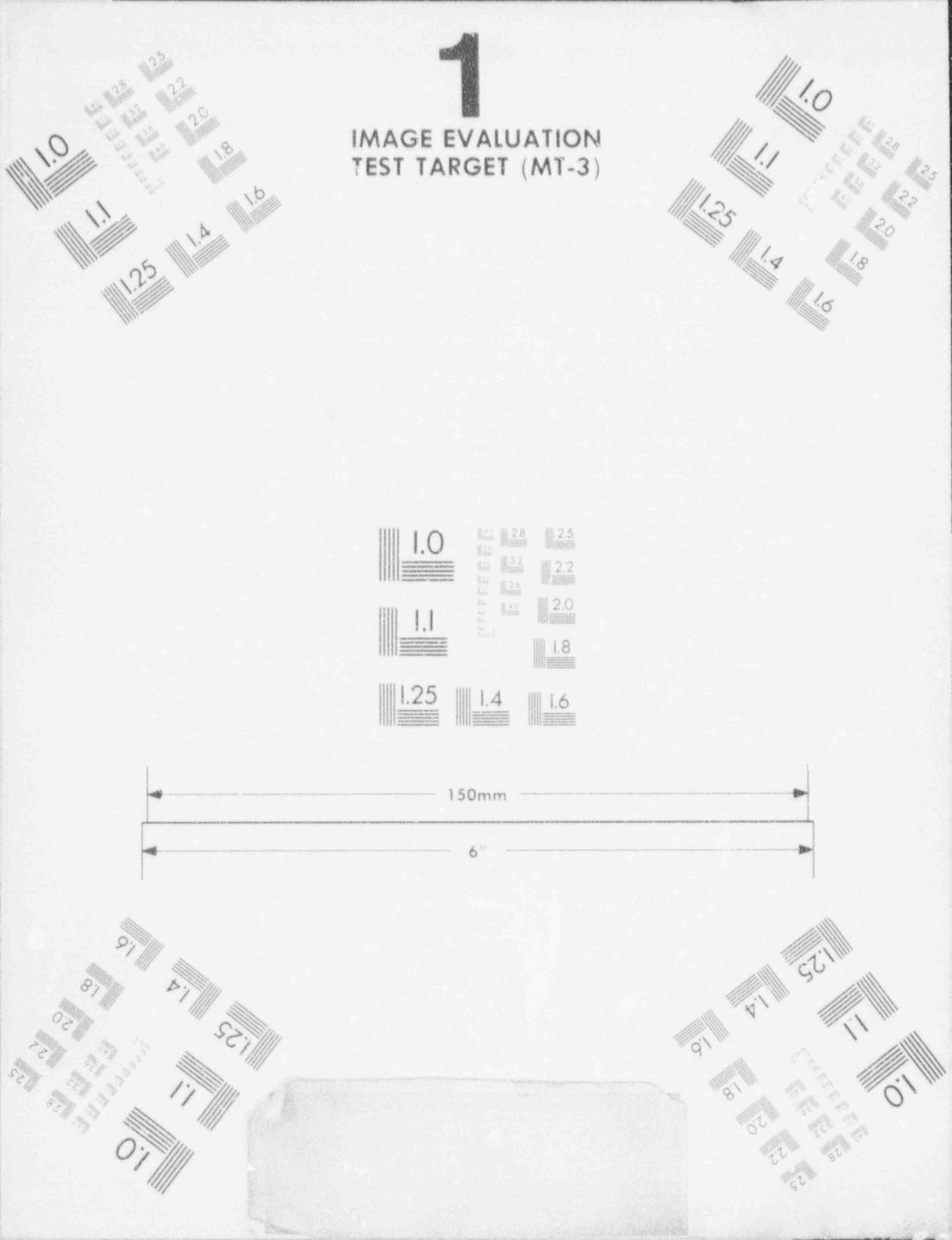
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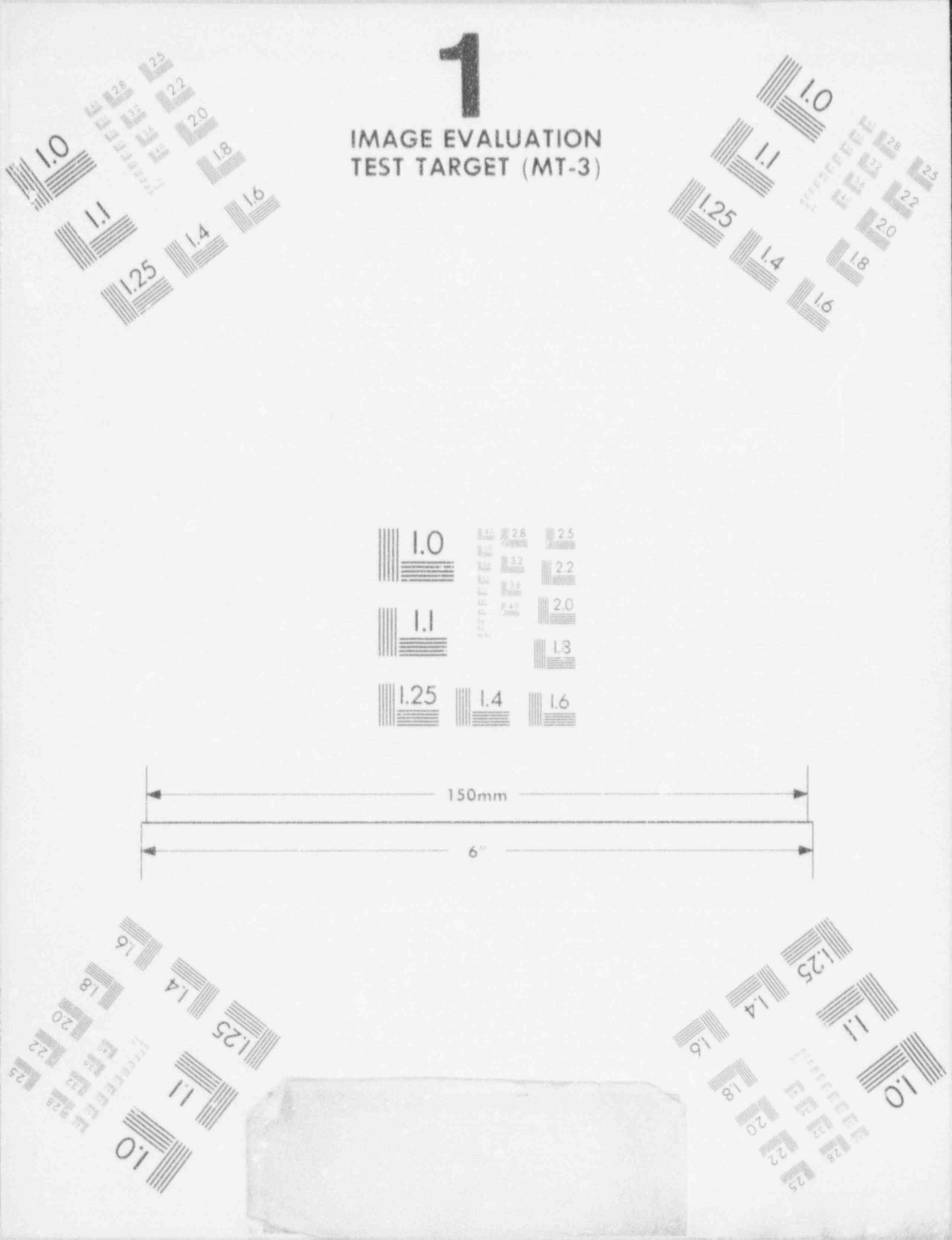
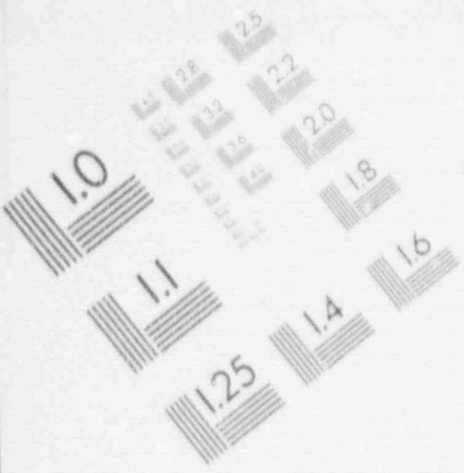
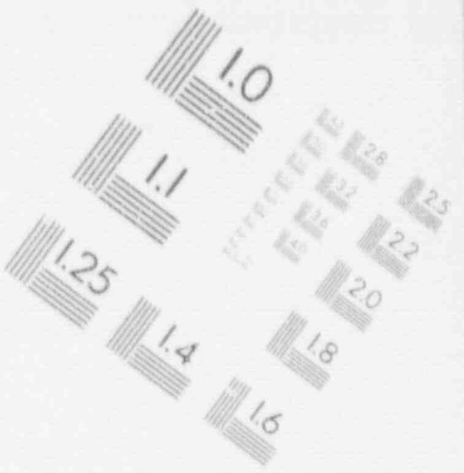
IMAGE EVALUATION
TEST TARGET (MT-3)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
150mm
6"

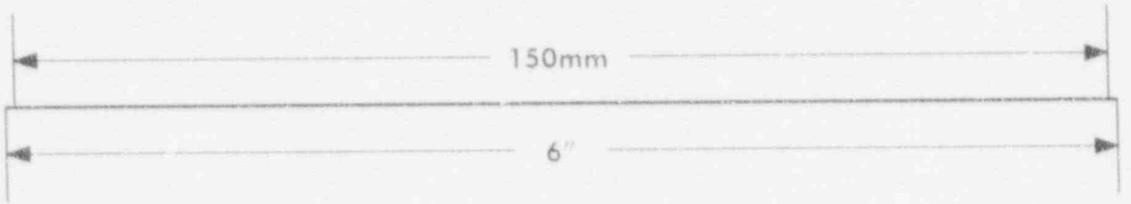

1
IMAGE EVALUATION
TEST TARGET (MT-3)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
150mm
6"

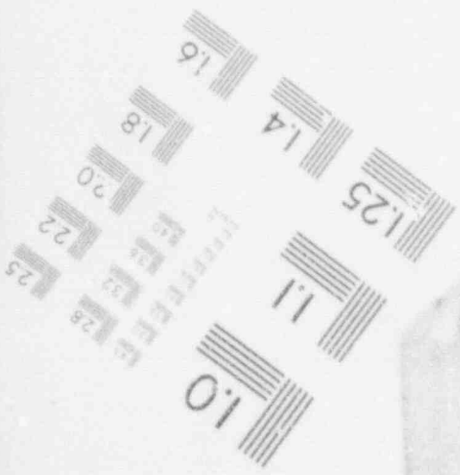
1

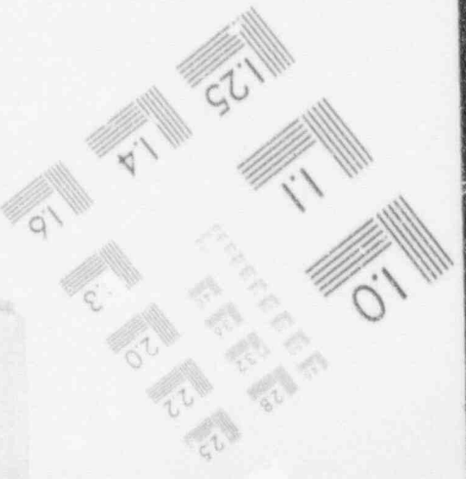
IMAGE EVALUATION
TEST TARGET (MT-3)

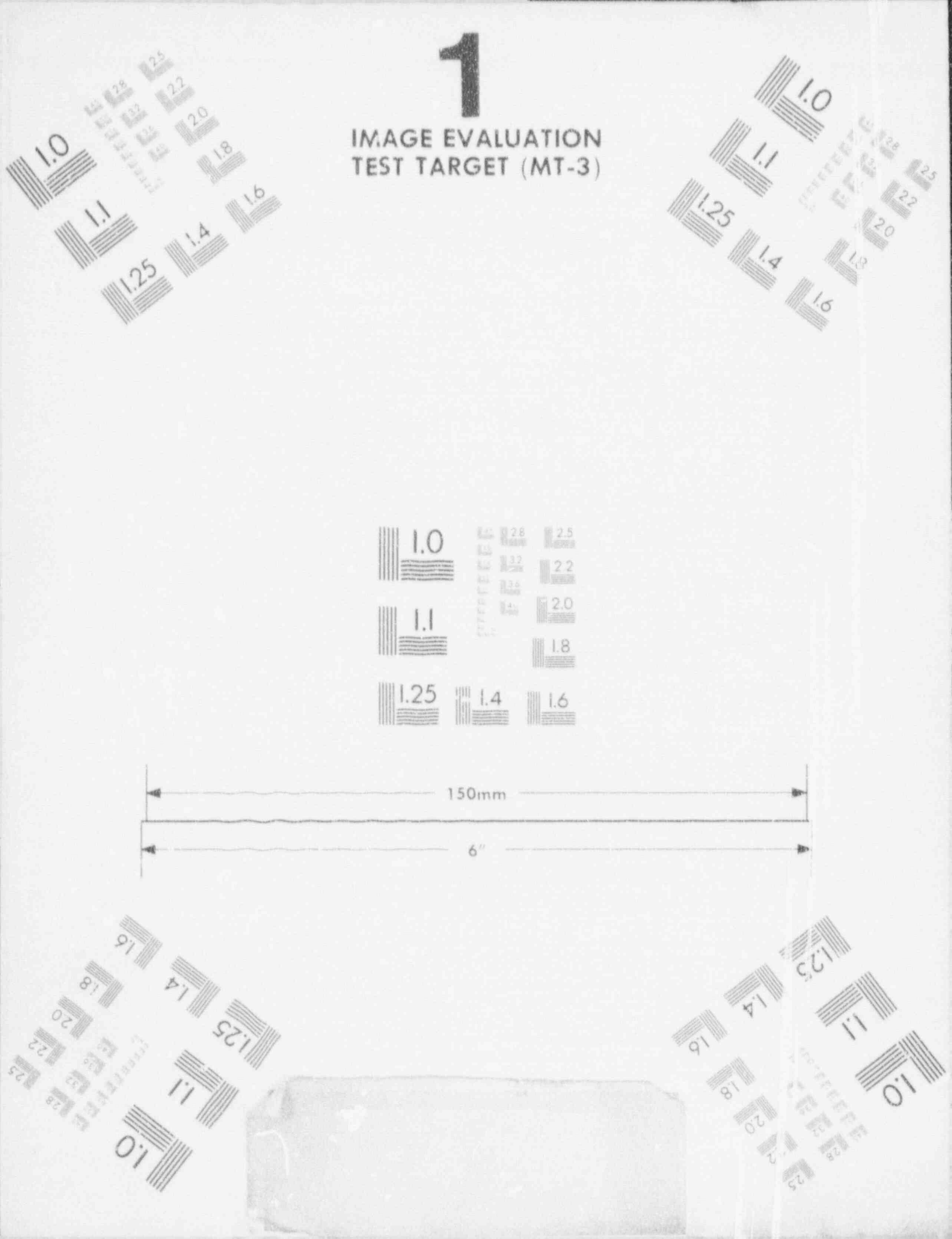











1
IMAGE EVALUATION
TEST TARGET (MT-3)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
150mm
6"

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUA TEST	SAFETY FUNCTION
V-37-072	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-073	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-074	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION
V-37-075	SK	0.5	SA	A1C	O	O/C	A	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 666 HYDROGEN/OXYGEN MONITORING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-38-009	GL	3/4	S	A1	O	C	A	EF1 EF5 SLT1	40 40	EF3 EF7 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-38-010	GL	3/4	S	A1	O	C	A	EF1 EF5 SLT1	40 40	EF3 EF7 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-38-016	GL	3/4	S	A1	C	C	A	EF1 EF5 SLT1	40 40	EF3 EF7 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-38-017	GL	3/4	S	A1	C	C	A	EF1 EF5 SLT1	40 40	EF3 EF7 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-38-022	GL	1/4	S	A1	O	C	A	EF1 EF5 SLT1	40 40	EF3 EF7 SLT1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 666 HYDROGEN/OXYGEN MONITORING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-38-023	GL	1/4	S	A1	O	C	A	EF1	40	EF3	CLOSE FOR CONTAINMENT ISOLATION
								EF5	40	EF7	
								SLT1		SLT1	
V-38-037	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	
V-38-038	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	
V-38-039	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	
V-38-040	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	

SYSTEM 666 HYDROGEN/OXYGEN MONITORING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-38-041	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	
V-38-043	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	
V-38-044	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	
V-38-046	GL	1	S	A1	O/C	O/C	A	EF1		EF1	OPEN FOR HYDROGEN MONITORING
								ET		ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5		EF5	
								EF4	50	EF4	
V-38-093	GL	1	S	A1	O/C	O/C	A	EF1	41	EF1	OPEN FOR HYDROGEN MONITORING
								ET	41	ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5	41	EF5	
								EF4	50	EF4	

SYSTEM 666 HYDROGEN/OXYGEN MONITORING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-38-094	GL	1	S	A1	O/C	O/C	A	EF1	41	EF1	OPEN FOR HYDROGEN MONITORING
								ET	41	ET	CLOSE FOR CONTAINMENT ISOLATION
								SLT1		SLT1	
								EF5	41	EF5	
								EF4	50	EF4	

SYSTEM 555 POST ACCIDENT SAMPLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-40-006	GL	3/4	S	A1	LC	C	P	EF4 SLT1	50	EF4 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-40-008	GL	3/4	S	A1	LC	C	P	EF4 SLT1	50	EF4 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-40-012	GL	3/4	S	A1	LC	C	P	EF4 SLT1	50	EF4 SLT1	CLOSE FOR CONTAINMENT ISOLATION
V-40-024	GL	3/4	S	A1	LC	C	P	EF4 SLT1	50	EF4 SLT1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 623 TRAVELING INCORE PROBE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-623-0001	BL	3/8	S	A1	O/C	C	A	EF1 ET EF5 SLT1 EF4	 50	EF1 ET EF5 SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-623-0002	BL	3/8	S	A1	O/C	C	A	EF1 ET EF5 SLT1 EF4	 50	EF1 ET EF5 SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-623-0003	BL	3/8	S	A1	O/C	C	A	EF1 ET EF5 SLT1 EF4	 50	EF1 ET EF5 SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-623-0004	BL	3/8	S	A1	O/C	C	A	EF1 ET EF5 SLT1 EF4	 50	EF1 ET EF5 SLT1 EF4	CLOSE FOR CONTAINMENT ISOLATION
V-623-0005	PG	.37	XP	D	O	C	A	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION

SYSTEM 623 TRAVELING INCORE PROBE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-623-0006	PG	.37	XP	D	O	C	A	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION
V-623-0007	PG	.37	XP	D	O	C	A	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION
V-623-0008	PG	.37	XP	D	O	C	A	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION