

ATTACHMENT

DUKE POWER
A Duke Energy Company

McGuire Nuclear Station

ASME Inservice Testing Program

Revision 26

August 2002

Prepared by: E. L. Hyland Date: 7/23/02
Reviewed by: Robert W. Kuhl Date: 7/29/02
Approved by: Thomas D. Ray Date: 8/01/02

McGuire Nuclear Station Table of Contents

<u>SECTION</u>	<u>PAGES</u>
1.0 McGuire Nuclear Station Program Document	1 - 29
2.0 Table Of Abbreviations	1 - 3
3.0 PUMP INSERVICE TESTING PROGRAM	
3.1 Pump Inservice Testing General Data - Unit 1 and Unit 2	1 -11
4.0 VALVE INSERVICE TESTING PROGRAM	
4.1 Valve Inservice Testing General Data - Unit 1 and Unit 2	
	Page Number
Steam Generator Blowdown Recycle	BB 1 - 2
Auxiliary Feedwater	CA 1 - 13
Feedwater	CF 1 - 5
Diesel Generator Fuel Oil	FD 1 - 3
Refueling Water	FW 1 - 4
Nitrogen	GN 1 - 2
Containment Personnel Airlock	IA 1 - 4
Component Cooling	KC 1 - 10
Diesel Generator Cooling	KD 1 - 2
Diesel Lube Oil	LD 1 - 2
Miscellaneous Instrumentation	MI 1 - 2
Boron Recycle	NB 1 - 1
Reactor Coolant	NC 1 - 7
Residual Heat Removal and Low Head Safety Injection	ND 1 - 6
Ice Condenser System	NF 1 - 2
Medium Head Safety Injection	NI 1 - 24
Nuclear Sampling	NM 1 - 7
Containment Spray	NS 1 - 7
Chemical & Volume Control	NV 1 - 14
Fire Protection - Interior	RF 1 - 1
Nuclear Service Water	RN 1 - 14
Containment Ventilation Cooling Water	RV 1 - 4
Main Steam Supply to Auxiliary Equipment	SA 1 - 3
Main Steam	SM 1 - 3
Main Steam Relief to Atmosphere	SV 1 - 6
Breathing Air	VB 1 - 1
Control Room and Area Ventilation	VC 1 - 1

**McGuire Nuclear Station
Table of Contents**

SECTION

PAGES

4.0 VALVE INSERVICE TESTING PROGRAM - Continued		
4.1 Valve Inservice Testing General Data - Unit 1 and Unit 2		
Annulus Ventilation	VE	1 - 2
Diesel Generator Starting Air	VG	1 - 5
Instrument Air	VI	1 - 5
Containment Purge	VP	1 - 4
Containment Air Release & Addition	VQ	1 - 2
Station Air	VS	1 - 1
Containment Air Return and Hydrogen Skimmer	VX	1 - 2
Liquid Waste Recycle	WL	1 - 5
Diesel Generator Room Sump Pump	WN	1 - 2
Groundwater Monitoring and Sump	WZ	1 - 1
Control Area Chilled Water	YC	1 - 3
Demineralized Water	YM	1 - 1

PAGES

5.0 RELIEF REQUEST		
5.1 Pumps - Generic Relief Request		1 - 1
5.2 Pumps - Specific Relief Request		1 - 1
5.3 Valves - Generic Relief Request		1 - 1
5.4 Valves - Specific Relief Request		1 - 1
6.0 JUSTIFICATION FOR DEFERRAL		
6.1 Valves - Justification for Deferral		1 - 4
7.0 SUPPLEMENTAL TEST PROGRAM		1 - 1
7.1 Supplemental Testing Program - Valves		1 - 11
7.2 Supplemental Testing Program - Pumps		1 - 1
8.0 CORRESPONDENCE		

**McGUIRE NUCLEAR STATION
ASME Section XI
In-Service Testing Program Document**

August 2002

REVISION 2

Prepared by: E. L. Hynd

Date: 7/23/02

Reviewed by: Robert W. Kil

Date: 7/29/02

Approved by: Thomas D. Ray

Date: 8/01/02

TABLE OF CONTENTS

1.0	Scope of Document
2.0	References
3.0	Definitions and Terms
4.0	Valve Program
4.1	In-Service Testing (IST) Program
4.2	Valve Testing Program Exemptions and Position Statements
4.3	Check Valve Testing
4.4	Relief Valve Testing
4.5	Leak Rate Testing
4.6	Testing From Remote Locations
4.7	Post-Maintenance and Modification Testing (Retest)
4.8	Fail-Safe Testing of Valves
4.9	Skid-Mounted Valves
4.10	Valve Test Acceptance Criteria
5.0	Pump Program
5.1	In-Service Testing (IST) Program
5.2	Pump Testing Program Exemption and Position Statements
5.3	Mini-flow and Full-Flow Testing
5.4	Vibration Monitoring
5.5	Testing From Remote Locations
5.6	Post-Maintenance and Modification Testing (Retest)
5.7	Skid-Mounted Pumps
5.8	Pump Test Acceptance Criteria
6.0	Relief Requests
6.1	Implementation of Relief Request
6.2	Interim Relief Request
7.0	Justification for Deferrals
7.1	Testing Deferral Justifications (Practicality Determinations)
8.0	Appendices
Appendix A:	IST Program Responsibilities
Appendix B:	10CFR50, Appendix B Program Guidance Document
Appendix C:	Notification of Program Changes
9.0	Enclosures
Enclosure 9.1:	Revising the Program Document
Enclosure 9.2:	Program Bases Philosophy
Enclosure 9.3:	Generic Relief Request Form
Enclosure 9.4:	Justification for Deferral Form
Enclosure 9.5:	Specific Relief Request Form
Enclosure 9.6:	System Piping Classification Correlation

1.0 SCOPE OF DOCUMENT

Technical Specifications require performance of pump and valve testing in accordance with ASME Section XI. Failure to meet the requirements of this program are a violation of Technical Specifications and 10CFR 50.55a.

The purpose of this program document is to define the McGuire Nuclear Station (or hereafter referred to as "licensee" or "MNS") In-Service Testing (IST) Program for performing valve and pump testing. This document will also outline the process for additions, changes, and deletions of pumps and valves from the MNS IST program.

1.1 Program Period:

Second Ten-Year Interval (120 month period beginning March 1, 1994);
Unit(s) 1 and 2 Concurrently.

1.2 Applicable ASME Code(s) and Addenda:

ASME/ANSI OM-1987 Edition; PART 6 including Omb-1989
ANSI/ASME OM-1-1987
ASME/ANSI OM-1987 Edition; PART 10 including OMa-1988
ASME OM Code – 1995 (OMa – 1996 Addenda); Subsections ISTC and Appendix II

1.3 Program Changes:

The NRC shall be notified of IST program changes. In certain cases, component additions and deletions may be submitted and testing implemented or deleted without prior NRC approval. In the instance where a component has been added to the IST program, testing and the appropriate program changes will take place **within 90 days** of revising the program source documents unless determined to be impractical.

The content of this program document is for non-mandatory compliance to recommendations stated in NUREG-1482 and is intended for the purpose of maintaining program continuity and documenting additional discussions and positions relative to code interpretations. Therefore, changes to this program document will not require prior NRC review and/or approval unless the licensee determines a need to do so.

2.0 REFERENCES

The following documents were used as references in the development of this document: _____

NRC Generic Letter 89-04

NRC Generic Letter 89-10

NRC Generic Letter 91-18

NRC Generic Letter 96-06

10 CFR 50, Appendix B

10 CFR 50.55a

ASME OM-6 (OMb-1989), OM-10 (OMa-1988), and OM-1 (1987)

Technical Specifications

Updated Final Safety Analysis Report (UFSAR)

Nuclear System Directive: 408. Testing

Reg. Guide 1.26

NRC Inspection Procedure 73756

Non-Mandatory References:

NUREG/CP-0123, Proceedings of the NRC/ASME Symposiums on Pump and Valve Testing

NUREG-1482, Guidelines for In-service Testing at Nuclear Power Plants, April 1995

ANSI OM-1 (1981), *"Req. for In-service Testing of Nuclear Power Plant Pressure Relief Devices"*.

OM-13, *"Standard for Assessing the Operational Readiness for Power Operated Relief Valves."*

OM-22, *"Standard for Assessing the Operational Readiness for Check Valves."*

ASME OM Code - 1995

NRC Information Notice 97-90

NRC Information Notice 97-16

3.0 DEFINITIONS and TERMS

Generic Letter 89-10 -	the NRC letter providing additional requirements in testing MOVs to design basis conditions.
Generic Letter 89-04 -	the NRC letter providing supplemental guidance on developing and enhancing plant IST programs.
ASME Section XI -	the section of ASME Codes and Standards Manual that determines how to perform in-service testing of light water reactor nuclear plant components.
ASME OM-10 Code -	the part of ASME Section XI codes dealing with the in-service testing of valves.
ASME OM-6 Code -	the part of ASME Section XI codes dealing with the in-service testing of pumps.
Frequencies -	the interval of time between in-service testing of the components. These intervals are defined in MNS Technical Specifications: <ol style="list-style-type: none">1) Quarterly (3 months) - 115 days maximum2) Cold Shutdown (CSD) - Average Coolant Temperature (T_{avg}) \leq 200°F3) Refueling (RF) - Unit at shutdown for the purpose of replacing or rearranging all or a portion of the fuel assemblies or control rods.
IST Component -	components (valves and pumps) that are required to be tested per ASME Section XI. Sections 4.1 and 5.1 of this document define the criteria.
"App. B Component" -	components (valves and pumps) tested under of 10CFR50, Appendix B.
"App. J Component" -	components leak tested for containment integrity under 10CFR50, Appendix J.
Active Component -	a component that must perform a mechanical motion during the course of accomplishing a system safety function.
Passive Component -	a component that does not perform a mechanical motion during the course of accomplishing a system safety function.
System Resistance-	the hydraulic resistance to flow in a system
Trending-	a comparison of current data to previous data obtained under similar conditions for the same equipment.
Set Point -	the value for which relief valves are set to relieve pressure.
Leak Test -	testing of valves to verify seat leakage is limited to a specified maximum.
Stroke-Time -	the time interval from valve actuation to the limit switch indication light or OAC point at the end of the actuating cycle.
Limiting Stroke-Time -	the owner specified maximum time allowed for a valve to stroke before becoming immediately inoperable.
Relief Requests -	A request submitted to the NRC requesting relief from the requirements of the Code for testing a particular component or a generic group of components.
Justif. for Deferrals -	A documented explanation of why a valve can only be tested at a cold shutdown or refueling outage frequency as opposed to quarterly.

4.0 VALVE PROGRAM

4.1 In-Service Testing (IST) Program

As required by 10CFR50.55a, valves that are classified in accordance of NRC Regulatory Guide 1.26 as ISI Class A, B, or C, which corresponds to ASME Class 1, 2, or 3 respectively, under the scope of OM10, are included in the MNS IST Program. The following defines the criteria for inclusion of equipment in the IST Program:

- a) All Category A valves that fall within the Duke ISI Class A, B, or C boundaries.
- b) All Category B and C valves that fall within the Duke ISI Class A, B, or C boundaries and are active in the mitigation of the Design Basis Accidents (Design Basis Accidents are defined as those described in Chapter 15 of the UFSAR).
- c) Valves in systems specifically required by Technical Specifications to be tested per ASME Section XI.

MNS has some valves that are active in certain non-Design Basis Events, are cold shutdown valves not associated with an UFSAR Chapter 15 event, are significant to plant safety, or are of economic importance that are beyond the scope of 10CFR50.55a. Such valves may be tested in the supplemental, 10CFR50 Appendix B Program. See Appendix B of this document for a discussion of this program.

The scope of the OM Standards and Code has not been expanded to include all safety-related pumps and valves in the IST program. Until the scope of 10CFR50.55a is changed, the scope of the IST program will continue to be limited to only those components within the applicable ASME Code class 1, 2, or 3 systems unless otherwise determined by the licensee (reference NUREG-1482).

4.2 Valve Testing Program Exemptions and Position Statements

Valves tested under jurisdiction of this program will be tested per requirements of OM-10 (OMa-1988), at the specified frequencies unless it has been determined to be impractical. This section of the program document provides MNS positions on interpretations, guidance and other options regarding testing alternatives.

- 4.2.1 Category A and A/C valves (containment and pressure isolation valves) will be leak tested in accordance with OM-10 section 4.2.2.
- 4.2.2 Valves that stroke in less than 2 seconds may be exempted from reference ranges and the maximum limiting stroke time shall be 2 seconds as specified by OM-10 section 4.2.1.8 (e).
- 4.2.3 Stopwatches used to measure stroke times will be calibrated annually.
- 4.2.4 OM-10, section 6.3 (h) requires the signature of the person or persons responsible for conducting and analyzing the test. The initials of the person or persons responsible for conducting and analyzing the test may be used in place of a signature in the record of the tests.

4.2 Valve Testing Program Exemptions and Position Statements (continued)

- 4.2.5 It is the licensee's position that valve testing will be deferred if the normal code required test frequency or plant conditions would result in increased personnel risk or damage to plant equipment. Practicality of such deferral shall be determined by the licensee and documented in the "Justification for Deferral" section of the IST Program manual. In such cases, the licensee will not perform any type of destructive testing to determine the period of time at which damage to the equipment or risk to personnel would occur. Exercising valves on a cold shutdown or refueling outage frequency is not a deviation from the code (reference NUREG-1482, Section 2.4.5).

NOTE: For cold shutdowns less than 48 hours, valve testing does not have to be performed. For cold shutdowns expected to exceed 48 hours, valve testing may commence as soon as possible, but no later than 48 hours after reaching cold shutdown. Valve testing will proceed in a normal manner until all testing is complete or the plant is ready to return to power. A completion of all valve testing is not a prerequisite to return to power. Any testing not completed by the end of one cold shutdown will be performed during subsequent cold shutdowns, starting from the last test performed at the previous cold shutdown.

- 4.2.6 Manual valves that meet the scope requirements of OM-10 or are taken credit for in the safety analysis as capable of being repositioned to shut down the plant, to maintain the plant in a safe shutdown condition, or to mitigate the consequences of an accident will be included in the IST program. However, exercising of such valves will be based on practical frequencies as determined by the licensee. When such frequencies are other than quarterly, it will be documented in the deferral.
- 4.2.7 Valves that are not categorized as ISI Class A, B, or C need not be included in the IST Program. However, according to GL 89-04, Position 11, "The intent of 10 CFR 50 Appendix A, GDC-1, and Appendix B, Criterion XI, is that all components, such as pumps and valves, necessary for safe operation are to be tested to demonstrate that they will perform satisfactorily in service." The licensee may opt to include valves which do not meet these criteria in the IST Program or in the Supplemental Program. In such cases, MNS will not submit Relief Requests or Justification for Deferrals for "Non-Code"- Class valves.
- 4.2.8 **Thermal Relief Valves** that meet the scope requirements of OM-10 or are taken credit for in the safety analysis for being capable of relieving pressure due to thermal expansion in code class 1, 2 and 3 piping systems by maintaining the plant in a safe shutdown condition, or in mitigating the consequences of an accident will be included in the IST program. However, testing of such valves will be based on exercising frequencies established by the guidance given in OM PART 1, 1987 sections 1.3.3 and 1.3.4. The licensee may opt to replace certain thermal relief devices as allowed in OMc - 1994 (App. I).
- 4.2.9 **Thermal Expansion Check Valves** A review of piping configurations inside containment which could result in thermal expansion over pressurization was conducted to insure protection had been provided, if necessary. Thermal expansion results when an incompressible fluid trapped between two closed valves inside containment is heated to post accident containment temperatures and expands. Pressure relief is required to prevent failure of the piping between the valves. Relief for containment penetrations is accomplished by the differential pressure across the check valve in it's flow direction and does not necessarily require opening of the inside containment isolation check valve or a bypass check valve around a motor operated inside containment isolation valve. Containment penetrations equipped with Thermal Expansion Check Valves relieve this pressure back to containment.

4.2 Valve Testing Program Exemptions and Position Statements (continued)

4.2.9. Thermal Expansion Check Valves - continued

The amount of opening required to relieve possible over pressurization is small enough such that there is not a credible failure of the check valve in the open direction which would prevent this. These valves will not be tested in the open direction, unless there are other requirements to do so. Accordingly such pressure relief is not considered an Active function.

The following valves are designated as thermal expansion check valves which protect penetrations. The open function on some of these valves may be tested, however this is not for thermal relief capability. These thermal expansion check valves are part of the containment penetration boundary and as such do receive Type C test and are listed in Table 6-112 of the UFSAR.

FW	1(2)FW5, 1FW67, 2FW63
KC	1(2)KC47, 1(2)KC279, 1(2)KC280, 1(2)KC322, 1(2)KC340
NB	1(2)NB262
NC	1(2)NC57, 1(2)NC259, 1(2)NC261
NF	1(2)NF229
NI	1(2)NI436
NM	1(2)NM420, 1(2)NM421
NV	1(2)NV1002
RF	1RF823, 1RF834
WL	1(2)WL24, 1(2)WL385
YM	1(2)YM116

The following valves are also designated as thermal expansion check valves, however these valves are not Type C tested. The open function on some of these valves may be tested, however this is not for thermal relief capability. These valves are also listed in Table 6-112 of the UFSAR.

NC	1(2)NC59, 1NC284
NI	1(2)NI12, 1(2)NI15, 1(2)NI60, 1(2)NI82, 1(2)NI124, 1(2)NI125, 1(2)NI126, 1(2)NI156, 1(2)NI157, 1(2)NI171 1(2)NI175, 1(2)NI180, 1(2)NI354
NM	1(2)NM424, 1(2)NM425, 1(2)NM426, 1(2)NM427
NS	1(2)NS13, 1(2)NS16, 1(2)NS30, 1(2)NS33, 1(2)NS41, 1(2)NS46
NV	1(2)NV12, 1(2)NV14, 1(2)NV15, 1(2)NV20, 1(2)NV22, 1(2)NV29, 1(2)NV31, 1(2)NV45, 1(2)NV47, 1(2)NV61, 1(2)NV63, 1(2)NV77, 1(2)NV79, 1(2)NV96, 1(2)NV810, 1(2)NV811, 1(2)NV812, 1(2)NV813, 1(2)NV841, 1(2)NV1008

- 4.2.10 **Containment Purge Valves (VPs)**, which are passive in the closed direction, will be leak tested per 10 CFR 50, Appendix J but not stroke-timed for IST purposes. Containment Purge valves are "passive" in Modes 1-4. During a postulated fuel handling accident inside the containment, no credit for containment isolation or mixing in the containment is taken. System design assures a safe release path from the containment with the VP system in operation. The radiological consequences of a postulated fuel handling accident are within the exposure guideline values of 10CFR 100.

4.3 Check Valve Testing

Check valves tested under the jurisdiction of this program will be tested per Code requirements at the specified frequencies unless it has been determined to be impractical. This section of the program document is to provide the MNS positions concerning interpretations, guidance and other options and testing alternatives for check valves in the IST program.

- 4.3.1 For check valves in series where one of two valves is credited in the safety analysis, the verification that the pair of valves is capable of closing will be done on the basis of testing one of the check valves. (ref. NUREG-1482, 4.1.1)
- 4.3.2 Category A and A/C valves (containment and pressure isolation check valves) will be leak tested in accordance with OM-10 (OMa-1988) section 4.2.2.
- 4.3.3 Full stroke testing of check valves will not necessarily constitute the obturator contacting the back-stop. Where possible, sufficient flow will be passed through the valve to verify design basis accident flow. If full flow is not practical, then the licensee will perform correlation testing, partial stroking, or other alternatives as provided by OM-10 section 4.3.2.2. Additionally, the code allows use of indirect evidence (such as system pressure, flow, temperature, or level) or other positive means to verify flow or pressure requirements. These indirect methods will not be subject to the range and accuracy requirements of the code. (ref. NUREG-1482, section 4.1.2).
- 4.3.4 Check valve exercising to verify the closed position will not require demonstration that the valve was open prior to closure.
- 4.3.5 Seismic boundary check valves will be included in the program.
- 4.3.6 Check valves included in the Sample Disassembly portion of the IST program will be disassembled and inspected under the provisions and guidelines given in GL 89-04 and per OM-10 (OMa-1988), section 4.3.2.4 (c).
- 4.3.7 Where applicable to the MNS IST program, back flow testing of check valves will be performed in accordance with GL 89-04 guidance. Examples of methods that may be used to verify valve closure are as follows:
 - Pump Discharge Check Valves - verified closed by meeting a parallel pump's acceptance criteria while cross-connected.
 - Appendix J Testing -
 - Measure back flow through the valve using an open vent on the backside of the valve or ultrasonic flow measurement techniques;
 - Pressure drop across a pump;
 - Pump wind-milling;
 - Observation of external indication on valve stem.
- 4.3.8 As an alternative to the testing and/or examination requirements of OM-10, sections 4.2.1 and 4.3.2, the licensee has developed a check valve condition monitoring program in accordance with ASME OM Code 1995 (OMa-1996), Appendix II (*Check Valve Condition Monitoring Program*), and the additional stipulations imposed in 10 CFR 50.55a. The licensee may implement this program on a valve or group of similar valves. A "Relief Request" has been submitted and approved and is included in the 'Valve - Generic Relief Request' section of the program manual. Specific check valve testing requirements can be found at \\MNSF2\eng\cm-chk by opening "cmdatabase" and selecting "Preview Report of Reviewed Items Only"

4.3 Check Valve Testing (continued)

4.3.9 The licensee recognizes the NRC's endorsement of non-intrusive techniques (N.I.T.) for testing check valves and will randomly apply N.I.T. to the check valve test program. However, the industry's use of N.I.T. equipment is continuing to evolve and in many cases the test equipment is not supplied from the vendor with the same elements of the Q.A. program as with other types of test equipment utilized for testing safety related components (e.g. software qualifications, calculation validity, engineering correlation, etc.). Because of this, validation of such equipment is the responsibility of the licensee. Therefore N.I.T. remains a **voluntary** option and will be evaluated on a individual application basis.

4.4 Relief Valve Testing

Relief valves tested under the jurisdiction of this program will be tested per code requirements of OM-1, 1987, unless it has been determined to be impractical. This section of the program document provides the site's positions concerning interpretations, guidance, and testing alternatives for relief valves. A relief valve shall be considered for inclusion in the program if it performs a specific function or if it provides overpressure protection for portions of systems that perform a specific function in shutting down a reactor or in mitigating the consequences of an accident.

4.5 Leak Rate Testing

All category A valves will be tested per OM-10, section 4.2.2, except those valves which function in the course of plant operation in a manner that demonstrates adequate seat leak-tightness. In such cases (e.g., Containment Purge Isolation Valves) proper administrative controls will be implemented and the valves leak tested during refueling outages.

4.5.1 Category A containment isolation valves will be tested per 10CFR50, Appendix J and shall be included in the program per GL 89-04, Position 10. Where a valve is identified as a containment isolation valve in the Technical Specification or UFSAR and if it is determined to be an "active" valve with respect to this function, it will be exercised to the closed position when there is an associated requirement for leak testing.

4.6 Testing from Remote Location

Section 4.1 of OM-10 requires valves with remote position indication to be tested at least once every 2 years to verify that the valve operation is accurately indicated. Valves that have remote operating switches and/or power supplies will be tested and verified for proper indication from the remote location. Other valve operating parameters (such as timing) may not be performed from the remote location during this testing.

4.7 Post Maintenance and Modification Testing (Retest)

(Reference Nuclear System Directive 408 Testing, Sections 408.9 and 408.10)

4.8 Fail-Safe Testing of Valves

All fail-safe valves will be tested in accordance with OM-10, section 4.2.1.6. Control valves are typically excluded from testing in the IST program. However, if a control valve must change position to support a safety-related function and it has a fail-safe position, then it will be included in the program and tested to verify the ability to perform that function with power and/or air removed (or simulated power and/or air removal).

4.9 Skid-Mounted Valves

As recognized in 1995 ASME OM Codes (OMb-1997), skid-mounted valves will be excluded from the scope of OM-10 test requirements provided they are adequately tested as part of the 'major' component. The licensee however, may opt to include certain components contained on these skids in the IST program for testing and trending purposes. In such cases, any program changes, exceptions, exemptions, or deferrals will not be submitted to the NRC for prior approval, but simply documented in the program plan.

4.10 Valve Test Acceptance Criteria

All valve test acceptance criteria (IST-TAC) will be developed in accordance with the provisions specified in OM-10. The applicable acceptance criteria will be developed when the valve is known to be performing in a satisfactory manner. Where IST-TAC other than that required by code is established for a given valve (e.g., additional N.I.T. diagnostics or GL 96-05 testing), the documentation of that criteria will be at the discretion of the licensee and not required to be part of the test record. Trending of valve IST-TAC will be performed by the licensee on a periodic basis. IST-TAC should not be confused with the acceptance criteria specified in UFSAR, DBD associated TAC Sheets, or Technical Specifications (such acceptance criteria is often the most limiting values that can not be exceeded). IST-TAC are set to verify operational readiness of the valves and to identify valve degradation before the 'most limiting' acceptance criteria is exceeded. Valve IST-TAC will be evaluated to verify that other acceptance criteria specified (UFSAR, DBD, Tech. Specifications, etc.) will not be exceeded.

Leakage criteria for valves (other than those tested in accordance to 10CFR50, Appendix J, Technical Specifications, or system specific criteria) will be determined based on leakage rates specified by the licensee or using the guidance provided in 4.2.2.

Relief valve IST-TAC will be established per OM-1, 1987 or in specified cases, TAC may be determined from the owner's calculations as permitted per OM Code, 1994 Appendix I.

4.10.1 Valve Stroke-Time Acceptance Criteria:

The following cases present the options available for determining valve operability based on stroke time:

CASE 1 : The valve strokes within its acceptable stroke time. The valve is considered operable.

CASE 2 : The valve fails to change position on the first try or exceeds the LIMITING VALUE. This valve shall be immediately declared inoperable.

4.10 Valve Test Acceptance Criteria (continued)

4.10.1 Valve Stroke-Time Acceptance Criteria:

CASE 3: The valve fails to meet the acceptance stroke time, but strokes in less than the LIMITING-VALUE. Per OM-10, the valve shall be either declared inoperable or immediately stroked again to achieve an acceptable stroke time. Per the McGuire valve testing program:

- a. If the valve successfully strokes on the second stroke, the valve is considered operable. The cause of the initial deviation shall be analyzed and the results documented in the test procedure. A third valve stroke may be performed to demonstrate consistent valve operation.
- b. If the valve does not fall within the acceptable range on the second stroke, then the valve will be analyzed within 96 hours OR declared inoperable (if applicable). An evaluation must be performed to determine the root cause of the failed test. The evaluation may determine that either corrective maintenance must be performed on the valve or the new stroke data is acceptable and new baselines must be established. Such results must be documented in the test procedure.
- c. In the event the initial stroke and the second test results are inconsistent, but the engineering evaluation shows the new stroke-time is acceptable, a third test may be performed to verify consistent behavior. Documentation of the third test will be optional if it shows no deviation from the second stroke.

4.10.2 Valve Stroke-Time Measurements and Methods:

McGuire normally uses the OAC for stroke-timing. However, valve stroke-times may be measured with a stopwatch. The stopwatch is started when the valve is actuated and it is stopped when the testing coordinator has determined the proper signal is received indicating the valve has completed the full stroke.

4.10.3 Limiting-Value Stroke-Time Acceptance Criteria:

Limiting-Values for stroke-times will be established in accordance with guidance given in Generic Letter 89-04, Position 5. It is the position of the licensee that these values will be determined as follows (with the limitations of Tech. Specs. and Safety Analysis limits being the most limiting):

<u>Valve Type</u>	<u>Limiting Value Calculation</u>
EMO (> 10secs.)	1.3R (up to the nearest 5sec. increment)
EMO (\leq 10secs.)	1.5R (up to the nearest 5sec. increment)
AOV (> 10secs.)	2.0R (up to the nearest 5sec. increment)
AOV (\leq 10secs.)	2.25R (up to the nearest 5sec.increment)

Note: Where 'R' represents the valve reference value at acceptable operation.

5.0 PUMP PROGRAM

5.1 In-Service Testing (IST) Program

As required by 10CFR50.55a certain pumps that are classified in accordance of NRC Regulatory Guide 1.26 as ISI Class A, B, or C, which corresponds to ASME Class 1, 2, or 3 respectively are included in the IST Program. The following defines the criteria for inclusion of equipment in the IST Program:

- a) Pumps in systems specifically required by Technical Specifications to be tested per ASME Section XI.
- b) All pumps that fall within the Duke ISI Class A, B, or C boundaries that are provided with an emergency power source and are also active in mitigating the consequences of the Design Basis Accidents (Design Basis Accidents are defined as those described in UFSAR Chapter 15).

Currently McGuire Nuclear Station is under the requirements of the ASME Code and Standards, OM PART 6, 1987 Edition, including OMB-1989 (which is OMA-1988 plus Errata Addenda to correct Table 3). This was the Code in effect 12 months prior to the anniversary date of the MNS 120-month update.

5.2 Pump Testing Program Exemptions and Position Statements

Pumps tested under the jurisdiction of this program will be tested per code requirements of OM-6 at the specified frequencies unless it has been determined to be impractical. The purpose of this section of the program document is to provide MNS positions on interpretations, guidance and other options regarding testing alternatives.

- 5.2.1 Section 7.3 requires the signature of the person or persons responsible for conducting and analyzing the test. The dated initials of the person or persons responsible for conducting and analyzing the test may be used in place of a signature in the record of the tests.
- 5.2.2 Pumps whose only safety function is predicated on plant shutdown and recovery from a fire per commitments made as a result of 10CFR50, Appendix R are not required to be included in the IST Program. The licensee will test these in accordance with Appendix R requirements.
- 5.2.3 Pumps that are not provided with an emergency source of power will not be required to meet IST requirements. The licensee however, may elect to include these pumps in the IST program for testing purpose only.

5.3 Vibration Monitoring

Pump vibrations monitored under the jurisdiction of this program will be performed per code requirements at the specified frequencies unless it has been determined to be impractical or a specific deviation from code is needed. This purpose of this section of the program document is to provide the site's positions concerning interpretations, guidance, and other options of vibration monitoring and analysis. Specific positions to certain sections to follow are currently being developed by the In Service Testing Working Group Team (ISTWG) and will be submitted in future revisions.

- 5.3.1 Pump drivers. (Discussion to be completed in future revision)
- 5.3.2 Smooth Running Pumps. (Discussion to be completed in future revision)
- 5.3.3 Vibration points for pumps. (Discussion to be completed in future revision)

5.4 Testing required from Remote Locations (Not Applicable to McGuire Nuclear Station)

5.5 Post Maintenance and Modification Testing (Retest)

(Reference Nuclear System Directive: 408 Testing, sections 408.9 and 408.10)

5.6 Skid-Mounted Pumps

As recognized in 1995 ASME OM Codes (OMb-1997), skid-mounted pumps will be excluded from the scope of OM-10 test requirements provided they are adequately tested as part of the 'major' component. The licensee however, may opt to include certain components contained on these skids in the IST program for testing and trending purposes. In such cases, any program changes, exceptions, exemptions, or deferrals will not be submitted to the NRC for prior approval, but simply documented in the program plan.

5.7 Pump Test Acceptance Criteria

All pump test acceptance criteria (IST-TAC) will be developed in accordance with the provisions specified in OM-6. The applicable acceptance criteria will be developed when the pump is known to be performing in a satisfactory manner. Where IST-TAC other than that required by code is established for a given pump (i.e., pump curves), the documentation of that criteria will be at the discretion of the licensee and may not be part of the test record.

'IST-TAC' may not be the same acceptance criteria specified in DBDs, DBD associated TAC Sheets, Technical Specifications, or UFSAR. IST-TAC are set to verify operational readiness of the pumps and to identify pump degradation before the 'most limiting' acceptance criteria are exceeded. Pump IST-TAC will be evaluated to verify that other acceptance criteria specified (DBDs, DBD TAC Sheets, Tech. Specs., or UFSAR) will not be exceeded.

6.0 RELIEF REQUESTS

The purpose of a Relief Request is to submit a request for NRC review and approval of alternative testing to those requirements of the Code that cannot be followed. If the testing on the component can not be performed due to plant configuration, plant safety, equipment limitations, type, or hazards to personnel, relief from the code will be requested. Submitted relief requests will:

- 1) Give an alternative method that ensures an acceptable level of quality and safety.
- 2) Explain the hardship with meeting the code requirement.
- 3) Provide a schedule or alternative test frequency (or duration for interim Relief Request).

At the end of each 'Ten Year Interval', all Relief Request will be reviewed for next interval applicability. In cases where a "Specific Relief" was previously submitted to the NRC and approval granted, but the conditions and provisions do not change (i.e. no code change or modification to equipment or system) to eliminate the relief, the relief will continue to be applicable the next interval. Relief Requests will not be written for any non-Code Class components that are included in the IST Program at the licensee's discretion.

6.1 Implementing Relief Requests:

When a Relief Requests is submitted for those requirements which have been determined to be clearly impractical, the licensee may implement the proposed alternative testing while the NRC is reviewing the Relief Request, provided the alternative does not compromise the level of safety provided by the code testing requirement (reference from NUREG-1482, section 2.5).

6.2 Interim Relief Requests:

When a Relief Request is required on an interim basis, the licensee will submit the relief for review, but as with section 6.1, may implement the relief while the NRC is reviewing the request. Updates to schedules or impacts to modification implementation of the component with interim relief will be communicated to the NRC as the program is updated. Interim Relief Requests shall be withdrawn when the licensee no longer requires them.

7.0 JUSTIFICATIONS FOR DEFERRALS:

Justification for Deferrals (JFDs) will be written when a component can not be tested at the specified code frequency. This could be due to an impracticality of testing the component at power or due to plant safety concerns introduced by the testing configuration. The basis for determining the impracticality of testing at power and expanding the component's testing frequency to a Cold Shutdown or Refueling Outage frequency is documented in the Justification for Deferral.

In-Service Testing to be performed at Cold Shutdown shall:

- a) be performed during each cold shutdown when the planned length is of sufficient duration to establish the necessary test conditions and to perform the test, and
- b) be performed as to not impact the timely completion of the shutdown related activities and subsequent return to operation. For outages when the planned length is not of sufficient duration to complete all tests, testing will start within 48 hours of reaching cold shutdown conditions (reference OM-10, section 4.3.2.2, OMa-1988 Addenda), or
- c) be performed at the next available cold shutdown consistent with the above criteria if an opportunity to test the valve is not available. Completion of the IST is not a prerequisite to return to operation.

Any testing required to be performed during a refueling outage shall be completed prior to plant operation. Components tested during start-up will not delay start-up if the site Technical Specifications allow start-up with the component out of service or inoperable. Retest and corrective actions shall be performed at the first available opportunity.

7.1 Testing Deferral Justifications:

- 7.1.1 Purpose: The purpose of the Justification for Deferral form is to document the reason a pump or valve can only be tested at cold shutdown or at refueling outage.

Valid reasons could be plant configuration for testing which would jeopardize the safety of plant operation, access to the component which would be against ALARA, access to the component due to the environmental conditions endangering personnel safety, plant configuration for testing would require the plant to be in a mode not suitable for power production, or testing renders systems inoperable for extended periods of time. It is not the intent of IST to cause unwarranted plant shutdowns or to unnecessarily challenge other safety systems.

Note: The Justification of Deferral Form is found in Enclosure 9.4.

8.0 APPENDICES

Appendix A: IST PROGRAM RESPONSIBILITIES

1.0 SITE IST ENGINEER

The IST Engineer position will be filled by a qualified individual knowledgeable of plant system operation. He/she ensures the site is in compliance by its performance testing and trending methods. The IST Engineer will accomplish this by maintaining consistency among the System Engineers and overall program management.

The IST Engineer may publish an overall summary (as an annual summary), on the current status of the site performance monitoring of the valves and pumps tested under the requirements of the IST or 10CFR50, Appendix B program.

The IST Engineer will be responsible for:

- notifying Regulatory Compliance of any changes to the Valve and Pump Testing Program described in this document, including changes to the data sheet information,
- updating and maintaining the IST Database,
- ensure all IST-TAC is accurate and not in conflict with other specified TAC,
- coordinating and implementing the program update and renewal per 10CFR50 every 10 years.

2.0 GO IST COORDINATOR

The General Office (GO) IST Coordinator will be an individual responsible for overall corporate IST program management. He/she ensures corporate strategies for the IST Program align with industry and regulatory standards. This individual is knowledgeable of each site's IST programs including program administration and will be responsible for ensuring each site is in compliance with the applicable ASME Codes and IST guidelines (OM-6, OM-10, GL 89-04, NUREG-1482 etc.).

The GO IST Coordinator is the technical consultant on any Code-related issues that require interpretation or involve Operability determinations (at the discretion of the IST Engineer and site management). The GO IST Coordinator will provide support for internal and external IST program audits.

The GO IST Coordinator is the Single Point of Contact on any issues that involve site-site interaction. The GO IST Coordinator is responsible for ensuring consistency where practical.

The GO IST Coordinator will represent Duke Power's interest for Code development.

Appendix A: IST PROGRAM RESPONSIBILITIES (Continued)

2.0 GO IST COORDINATOR - Continued.

The GO IST Coordinator is responsible for assisting with review and updating the IST program per 10CFR50 each 10-year interval. He/she will assist the sites in preparing, submitting, and reviewing interim revisions to the IST program. The IST Coordinator will assist the site IST Engineer in developing position statements, Relief Requests, and Justification for Deferrals. He/she will perform periodic reviews of site Relief Requests and/or Justification for Deferrals for consistency and compliance.

The GO IST Coordinator will see that progress addressing technical issues will be made by the IST Working Group (ISTWG). This includes defining appropriate tasks, tracking action items, conducting periodic meetings, interface with the appropriate BEST contacts, and maintaining overall group focus.

3.0 MECHANICAL SYSTEMS ENGINEERING (MSE)

Each Mechanical System Engineer is responsible for the components within their systems which are in the program. If the status of a component changes, MSE is responsible for initiating the required changes to the program (see Appendix C).

MSE (site) is responsible for the following:

- ensuring the accuracy of IST dataset information,
- defining test acceptance criteria (TAC),
- ensuring code testing requirements are met,
- documenting reasons for scope or code deviation,
- providing tech. assistance for developing test procedures,
- complete valve and pump data sheets for program revisions,
- notifying the IST Engineer of maintenance that could affect the baseline data for any IST component,
- overall administration of the relief valve testing program (OM-1),
- administrating the check valve sample disassembly program,
- provide input when evaluating specific component issues (why failed test, baseline changed, etc.).

4.0 OPERATIONS PERFORMANCE TEST GROUP (OTG)

This group is responsible for the following:

- input data into procedure and IST Administrator,
- performing tests,
- accurately recording and notifying MSE of any testing problems,
- initiating a PIP when a test is failed or a problem is encountered,
- documenting test discrepancies on the procedure.

5.0 OPERATIONS PROCEDURE GROUP

This group is responsible for the following:

- updating and maintaining all IST procedures,
- verifying all technical changes with the IST Engineer.

Appendix B:

McGUIRE NUCLEAR STATION 10CFR50, Appendix B, Program Guidance Document

1.0 SCOPE

The Appendix B Program establishes requirements for test programs that monitor plant structures, systems, and components. The Appendix B program assures testing shall be performed in accordance with approved written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents. This program shall include the following:

- Periodic test during plant operation of structures, systems, and components.
- Trending of test parameters at owner specified frequencies.

Test procedures shall include provisions for assuring that all prerequisites and acceptance criteria for the given test have been met. In addition, adequate test instrumentation shall be used and testing performed under suitable environmental conditions (as per 10 CFR 50, App B).

Test frequencies will be as specified in the ASME OM Code unless otherwise documented in Section 6.0, "APPENDIX B PROGRAM POSITIONS/EXCEPTIONS."

Deviations from 'guidelines' will be documented in Section 6.0, "APPENDIX B PROGRAM POSITIONS/EXCEPTIONS."

2.0 PUMP AND VALVE TEST SELECTION CRITERIA

The pumps and valves in this program shall be limited to those pumps and valves not covered in the scope of ASME Section XI or ASME OM Code.

3.0 PROGRAM ELEMENTS

Pump and Valve Selection - This task involves identifying all components that fall within the scope of 10 CFR Part 50, Appendix B scope.

Testing Support - Develop acceptance criteria, necessary test procedures, and establish the correct frequencies for performing operational tests.

Demonstrate Operability - Perform base-line testing (if applicable) of components to ensure functionality of the component and to obtain data for future surveillance activities.

Documentation and Trending -

- ♦ Establish documentation and trending system for all Appendix B components.
- ♦ Establish monitoring system for periodic surveillance testing and performance parameters.
- ♦ Establish feedback mechanism to ensure that results and failures influence the frequency and extent of future testing.

4.0 PROGRAM ORGANIZATION AND RESPONSIBILITIES

General Office IST/Engineering Coordinator - This is the central corporate engineering support for the Nuclear Generation Department. He/she is responsible for the following:

- ♦ General direction for program elements.
- ♦ Program oversight and liaison.
- ♦ Assistance in site program implementation.
- ♦ Industry, regulatory, and corporate interface.
- ♦ Assist stations in resolving generic issues.
- ♦ Provide lead, coordinate and/or interface with other groups to ensure consistent implementation.

Site IST/Engineering Contact - This is the station engineering support for the Nuclear Generation Department. He/she is responsible for the following:

- ♦ Pump and Valve Selection.
- ♦ Categorizing for analysis and testing.
- ♦ Resolution of operability concerns.
- ♦ Station modifications which affect components in the Appendix B program.
- ♦ Operability testing of components.
- ♦ Maintaining Appendix B engineering documents in an auditable format and condition.
- ♦ Maintain working procedures, guidelines, and other documents.
- ♦ Final review and trending of component test data and acceptance criteria.
- ♦ Implement test program changes in response to any corporate and industry direction.

5.0 DEFINITIONS

active: a valve that must perform a mechanical motion during the course of accomplishing a system safety function.

passive: a valve that does not perform a mechanical motion during the course of accomplishing system safety function.

safety-related: required to mitigate the consequences of an accident, shutdown, or maintain shutdown of the reactor.

component: an item in a nuclear power plant such as a vessel, pump, valve, or piping system.

cold shutdown: (see plant technical specifications).

engineering evaluation: an evaluation of indications that exceed allowable acceptance standards to determine if the margins required by the design specifications and construction code are maintained.

exercising (of a valve): the demonstration based on direct or indirect visual or other positive indication that the moving parts function satisfactorily.

full-stroke time: that time interval from initiation of the actuation signal to the end of the actuation cycle.

test: a procedure to obtain information (through measurement or observation) to determine the operational readiness of a component or system while under controlled conditions.

hot standby: (see plant technical specifications).

operational readiness: the ability of a component or system to perform its intended function when required.

owner: the organization legally responsible for the operation, maintenance, safety, and power generation of the nuclear power plant.

normal plant operating conditions: the operating conditions during reactor startup, operation at power, hot standby, and reactor shutdown conditions. (Note: test conditions are excluded).

obturator: valve closure member (disk, gate, plug, ball, etc.)

reference values: one or more values of test parameters measured or determined when the equipment is known to be operating acceptably.

Appendix B: 10CFR50, Program Guidance Document - Continued

6.0 APPENDIX B PROGRAM POSITIONS/EXCEPTIONS

- 6.1 The MNS 10CFR50, Appendix B Program may be administered using the ASME IST Code as guidance for testing and trending.
- 6.2 Relief Requests and Justification for Deferrals will not be submitted for Appendix B components.
- 6.3 Per McGuire's GL 89-04 response, 10 CFR 50, Appendix B manual valves are only stroked at a refueling frequency.
- 6.4 Deviations from standard test practices will be allowed only if substantiated in writing per the methods outlined in approved site directives and procedures.

Appendix C: NOTIFICATION OF PROGRAM CHANGES

The System Engineer shall initiate program changes as changes are made to the respective system, DBDs, or active/passive valve calculations. Notification of external customers (e.g. Regulatory Compliance Group) of such changes to the program will occur by issuing the appropriate administrative mechanism (i.e. PIP, Minor Modification Request, etc.).

To ensure Code compliance for the MNS Pump and Valve Testing Program, the IST Engineer should be notified of any of the following changes:

- changing the active/passive status of a component,
- changing the leakage requirements of the component,
- changing the piping classification of the component (Duke Class and ISI Class),
- something changes with how the component may be tested,
- a commitment is made or changed for testing or operation of a component,
- taking credit for a new function, flow path, etc.,
- a modification to the component is planned which can/will significantly affect the components baseline TAC.

9.0 ENCLOSURES:

Enclosure 9.1

(RESERVED FOR "REVISING THE PROGRAM DOCUMENT")

- Revision 1 (4/27/01): Changed thermal expansion check valve "1(2)NI165" to "1(2)NI-171" in section 4.2.9 to be consistent with the other Loop A check valve 1(2)NI60 which is listed for overpressure protection from thermal expansion of penetration 1(2)M-352. (Reference PIP M-00-1870 CA#2).
- Revised the format under section 4.3.7.
- Pages 1, 8, 9 and 24 revised.
- Revision 2 (8/1/01): Added ASME OM Code - 1995, Subsections ISTC and Appendix II to Applicable Codes
- Added 1995 Code and Information Notice 97-16 to Non-Mandatory References
- Revised description of containment penetration thermal expansion check valve opening requirements and reclassified that as a non-active function in section 4.2.9.
- Added section 4.3.8 to describe Check Valve Condition Monitoring Program
- Revised description of non-intrusive testing in section 4.3.9.
- Revised description of section 4.9 Skid Mounted Valves to incorporate adoption of position by ASME OMB-1977
- Deleted header 4.10.4 for future revision "Engineering Evaluations"
- Deleted header 5.3 for future revision "Miniflow and Full Flow Pump Testing"
- Revised description of section 5.6 Skid Mounted Pumps to incorporate adoption of position by ASME OMB-1977
- Deleted header for future revision "Pump Hydraulic Acceptance Criteria"
- Deleted Enclosure 9.7 "Summary of IST Program Submittal Changes"

Enclosure 9.2

(RESERVED FOR "PROGRAM BASES PHILOSOPHY")

Generic Relief Request

Item Number:

Component Number (s):

Flow Diagram (s):

Function (s):

ISI Class/Duke Class:

Code Category:

Test Requirement (s):

Basis for Relief:

Code Alternative:

Justification for Deferral

Item Number:

Component Number (s):

Flow Diagram (s):

Code Category:

ASME Class:

Function (s):

Test Requirement:

Basis for Deferral:

Test Alternative & Frequency:

Specific Relief Request

Item Number:

Component Number (s):

Flow Diagram (s):

Function:

ASME Class:

Code Category:

Test Requirement:

Basis for Relief:

Alternate Testing:

Enclosure 9.6

System Piping Classification Correlation

<u>Duke System Piping Classification</u>	<u>(1) Safety Related</u>	<u>NRC Quality Group</u>	<u>Duke QA Condition</u>	<u>ANSI Safety Class</u>	<u>Code Des. Criteria (6)</u>	<u>Seismic Pressure Boundary Integrity</u>	<u>Seismic Category</u>	<u>Normally Contains Radioactive Material</u>
A	YES	A	1	1	Class 1, ASME Sect. III	YES	SC-1	YES
B	YES	B	1	2	Class 2, ASME Sect. III	YES	SC-1	YES
C	YES	C	1	3	Class 3, ASME Sect. III	YES	SC-1	YES
E	NO	D(3)	2(4)	NNS(2)	ANSI B31.1.0	NO	N/A	YES
F	YES	-	(4)	NNS(2)	ANSI B31.1.0	YES	SC-1	NO
G	NO	-	-(4)	-	ANSI B31.1.0	NO	N/A	NO
H	NO	-	-(4)	-	Duke Power Spec.	NO	N/A	NO
H (HVAC)	YES	-	-(6)	-	Duke Power Spec	YES	SC-1	NO

NOTES:

- (1) Safety Related as used herein is in accordance with 10CFR50 Appendix A General Design Criteria for Nuclear Power Plants and is applicable to function only; i.e., structures, systems, and components required to function such that the facility can be operated without undue risk to the health and safety of the public are safety related.
- (2) NNS = Non-Nuclear Safety
- (3) Class E piping is equivalent to NRC Quality Group D; i.e., the system is designed to normally carry a radioactive fluid; however, is considered NNS as a component failure would not result in a calculated potential exposure in excess of the limits established by 10 CFR PART 20.
- (4) Class E, G, and H piping systems may also be assigned QA Condition 3 and/or 4 to denote additional requirements for fire protection of safety related components and/ or seismic structural integrity (except pressure boundary) to preclude adverse interactions with safety related structures, systems and components, respectively; refer to Duke Nuclear Guide 1.29.
- (5) Code and Standards Applicability: Duke Power establishes an "effective code date" in accordance with 10CFR50, par. 50.55a for McGuire Nuclear Station. Due to the numerous code and standards references applicable to each station, no attempt is made to specifically identify these references as they are amended, superseded, or substituted. Duke reviews and complies with all or portions of the latest versions of the above Codes and Standards unless materials and/ or design commitments have progressed to a stage that it is not practical to make a change. When only portions of addenda to Codes and Standards are utilized, the appropriate engineering review of the entire agenda assures that the overall intent of the Code Standard is still maintained.
- (6) HVAC Duct Systems may be constructed of either sheet metal or piping materials depending upon the design function and requirements. Non-Safety Related HVAC may be assigned QA Condition 4, SC-11 Support Restraints to preclude adverse interactions with safety related structures, systems, and components. Refer to Duke Nuclear Guide 1.29.
- (7) Seismic Category II hangers may be use on Class E, G, or H piping systems when pressure boundary integrity is not required. See Duke Guide 1.29.

TABLE OF ABBREVIATIONS

<u>Duke System Valve Class</u>	<u>Code Design Criteria</u>	<u>Designed for Seismic Loading</u>	<u>ANS Safety Class</u>
A	Class 1, ASME Section III, 1971	Yes	1
B	Class 2, ASME Section III, 1971	Yes	2
C	Class 3, ASME Section III, 1971	Yes	3
D	Class 2, ASME Section III, 1971	No	2
E	ANSI B31.1.0 (1967)	No	NNS
F	ANSI B31.1.0 (1967)	Yes	NNS
G	ANSI B31.1.0 (1967)	No	--
H	Duke Power Company Specification	No	--

NNS=Non-Nuclear Safety

Numbering Sequence for Relief Request and Justification For Deferral

Examples:

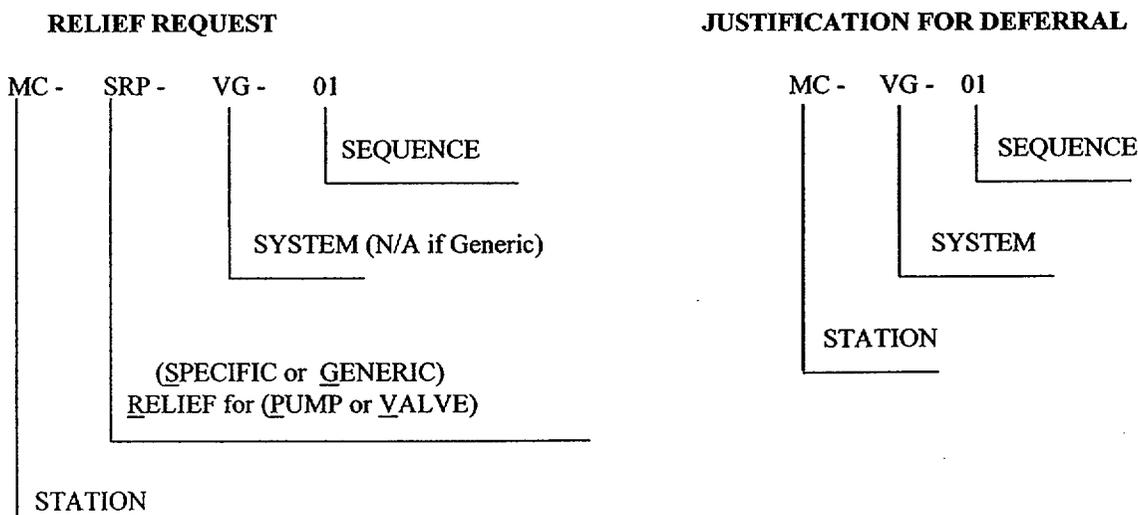


TABLE OF ABBREVIATIONS

VALVE TYPE

	Description
BA	Ball
BF	Butterfly
CK	Check
CT	Control
DI	Diagram
EX	Explosive
GB	Globe
GT	Gate
KT	Kerotest
PG	Plug
PR	Pressure Regulating
RV	Relief
SC	Stop Check
ST	Stop
SV	Solenoid
VB	Vacuum Breaker

TEST TYPE

	Description
BT	New Baseline Test
CSE	Contact System Engineering
CVE	Contact Valve Engineering
CVED	Contact Valve Engineering for DP Test Requirements
EX	Explosive Valve Test
FS	Full Stroke Exercise Valve To Safety Position(s)
FT	Failed To Safe Position
IS	Instrumented Electrical Stroke
LJ	Leak Rate Test Valve To App J Requirements(s)
LT	Leak Rate Test Valve To Section XI Requirements(s)
LTTS	Leak Test Per Tech Spec Requirements
NT	No Test Required
PI	Verify The Valve Remote Position Indication
PIS	Pre And Post Maintenance Instrumented Electrical Stroke
PS	Partial Stroke Exercise Valve
RV	Safety And Relief Valve Test
SD	Sample Disassembly
SFB	System Flow Balance
SP	Special Test For Particular Component Or Situation
ST	Measure Full Stroke Time Of Valve
TTB	Torque Test Bench
US	Functional (Uninstrumented) Stroke Only

FREQUENCY	Description
2RF	Every Other Refueling Outage
2Y	Testing Once Every Two Years
6M	Tested Every 6 Months
CM	Condition Monitoring
CS	Tested At Cold Shutdown
CSDRF	Tested Each Cold S/D And Each RFO
ILRT	Tested Every ILRT Outage
M	Tested Once Monthly
NA	No Specified Test Frequency
Note1	See Technical Specification
Note2	6 Month, See Technical Specification
Note3	CSD, Hot Tested Prior To LTOP
NPT	No Periodic Test Required
Q	Tested Once Quarterly
QCS	Tested Quarterly And Each Cold Shut Down
QRF	Tested Quarterly And Each Refueling Outage
RF	Tested Every Refueling Outage
RR	Per Relief Request
RV	Test Relief Valve Per Om-1 Schedule
SD	Disassemble One Valve Per Group Each Refueling Outage
VV	Visual Verification Frequency
W	Tested Once Weekly
Y	Tested Once Yearly

OM-10 VALVE CATEGORIES

Category A Leakage is Critical

Category B Leakage is NOT Critical

Category C Self Actuating (Checks, Reliefs, Etc.,)

DUKE POWER
McGUIRE NUCLEAR STATION

Pump Inservice Testing Program

SECTION 3.0

Revision 26
August 1, 2002

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>FD - Diesel Generator Fuel Oil</i>				SUPPLEMENTAL TEST PROGRAM			
1FDPU0054	Diesel Generator Fuel Oil Transfer Pump 1A	MC-1609-3.0	Gear Positive Displacement	3	Vibration Test Flow/Differential Pressure Test	Tested every 6 months Tested every 6 months	MC-GRP-01, MC-SRP-FD-01 MC-SRP-FD-01
1FDPU0055	Diesel Generator Fuel Oil Transfer Pump 1B	MC-1609-3.1	Gear Positive Displacement	3	Vibration Test Flow/Differential Pressure Test	Tested every 6 months Tested every 6 months	MC-GRP-01, MC-SRP-FD-01 MC-SRP-FD-01
2FDPU0054	Diesel Generator Fuel Oil Transfer Pump 2A	MC-2609-3.0	Gear Positive Displacement	3	Vibration Test Flow/Differential Pressure Test	Tested every 6 months Tested every 6 months	MC-GRP-01, MC-SRP-FD-01 MC-SRP-FD-01
2FDPU0055	Diesel Generator Fuel Oil Transfer Pump 2B	MC-2609-3.1	Gear Positive Displacement	3	Vibration Test Flow/Differential Pressure Test	Tested every 6 months Tested every 6 months	MC-GRP-01, MC-SRP-FD-01 MC-SRP-FD-01

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>KC - Component Cooling</i>							
1KCPU0001	Component Cooling Water Pump 1A1	MC-1573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01
1KCPU0002	Component Cooling Water Pump 1A2	MC-1573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01
1KCPU0003	Component Cooling Water Pump 1B1	MC-1573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01
1KCPU0004	Component Cooling Water Pump 1B2	MC-1573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01
2KCPU0001	Component Cooling Water Pump 2A1	MC-2573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01
2KCPU0002	Component Cooling Water Pump 2A2	MC-2573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01
2KCPU0003	Component Cooling Water Pump 2B1	MC-2573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01
2KCPU0004	Component Cooling Water Pump 2B2	MC-2573-1.0	Centrifugal	3	Vibration Test	Tested once quarterly	MC-GRP-01
					Flow/Differential Pressure Test	Tested once quarterly	MC-SRP-KC-01

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>ND - Residual Heat Removal and Low Head Safety Inj</i>							
1NDPU0001	Residual Heat Removal Pump 1A	MC-1561-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-ND-01 MC-SRP-ND-01
1NDPU0002	Residual Heat Removal Pump 1B	MC-1561-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-ND-01 MC-SRP-ND-01
2NDPU0001	Residual Heat Removal Pump 2A	MC-2561-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-ND-01 MC-SRP-ND-01
2NDPU0002	Residual Heat Removal Pump 2B	MC-2561-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-ND-01 MC-SRP-ND-01

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>NI - Medium Head Safety Injection</i>							
1NIPU0009	Safety Injection Pump 1A	MC-1562-3.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NI-01 MC-SRP-NI-01
1NIPU0010	Safety Injection Pump 1B	MC-1562-3.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NI-01 MC-SRP-NI-01
2NIPU0009	Safety Injection Pump 2A	MC-2562-3.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NI-01 MC-SRP-NI-01
2NIPU0010	Safety Injection Pump 2B	MC-2562-3.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NI-01 MC-SRP-NI-01

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>NS - Containment Spray</i>							
1NSPU0001	Containment Spray Pump 1A	MC-1563-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
1NSPU0002	Containment Spray Pump 1B	MC-1563-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
2NSPU0001	Containment Spray Pump 2A	MC-2563-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
2NSPU0002	Containment Spray Pump 2B	MC-2563-1.0	Vertical Line Shaft Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>NV - Chemical & Volume Control</i>							
INVPU0015	Centrifugal Charging Pump 1A	MC-1554-1.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NV-01 MC-SRP-NV-01
INVPU0016	Centrifugal Charging Pump 1B	MC-1554-1.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NV-01 MC-SRP-NV-01
INVPU0027	Boric Acid Transfer Pump 1A	MC-1554-5.0	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
INVPU0028	Boric Acid Transfer Pump 1B	MC-1554-5.0	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
2NVPU0015	Centrifugal Charging Pump 2A	MC-2554-1.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NV-01 MC-SRP-NV-01
2NVPU0016	Centrifugal Charging Pump 2B	MC-2554-1.0	Centrifugal	2	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01, MC-SRP-NV-01 MC-SRP-NV-01
2NVPU0027	Boric Acid Transfer Pump 2A	MC-2554-5.0	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
2NVPU0028	Boric Acid Transfer Pump 2B	MC-2554-5.0	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>RN - Nuclear Service Water</i>							
1RNPU0003	Nuclear Service Water Pump 1A	MC-1574-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
1RNPU0004	Nuclear Service Water Pump 1B	MC-1574-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
2RNPU0003	Nuclear Service Water Pump 2A	MC-2574-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
2RNPU0004	Nuclear Service Water Pump 2B	MC-2574-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>WN - Diesel Generator Room Sump Pump</i>							
1WNPU0094	Diesel Generator Sump Pump 1A2	MC-1609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None
1WNPU0095	Diesel Generator Sump Pump 1B2	MC-1609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None
1WNPU0096	Diesel Generator Sump Pump 1A3	MC-1609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None
1WNPU0097	Diesel Generator Sump Pump 1B3	MC-1609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None
2WNPU0094	Diesel Generator Sump Pump 2A2	MC-2609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None
2WNPU0095	Diesel Generator Sump Pump 2B2	MC-2609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None
2WNPU0096	Diesel Generator Sump Pump 2A3	MC-2609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None
2WNPU0097	Diesel Generator Sump Pump 2B3	MC-2609-7.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once every two years Tested once every two years	MC-GRP-01 None

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>WZ - Groundwater Monitoring and Sump</i>							
1WZPU0001	Groundwater Drainage Sump A Pump A	MC-1581-1.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
1WZPU0002	Groundwater Drainage Sump A Pump B	MC-1581-1.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
1WZPU0003	Groundwater Drainage Sump B Pump A	MC-1581-1.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
1WZPU0004	Groundwater Drainage Sump B Pump B	MC-1581-1.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
1WZPU0005	Groundwater Drainage Sump C Pump A	MC-1581-1.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
1WZPU0006	Groundwater Drainage Sump C Pump B	MC-1581-1.0	Vertical Line Shaft Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>YC - Control Area Chilled Water</i>							
0YCPU0001	Control Area Chilled Water Pump Train A	MC-1618-1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None
0YCPU0002	Control Area Chilled Water Pump Train B	MC-1618-1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 None

DUKE POWER

McGUIRE NUCLEAR STATION

Valve Inservice Testing Program

SECTION 4.0

Revision 26
August 1, 2002

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
BB - Steam Generator Blowdown Recycle														
1BB0001B	MCFD-1580-1.0 H-02	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0001B	MCFD-2580-1.0 H-02	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1BB0002B	MCFD-1580-1.0 H-04	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0002B	MCFD-2580-1.0 H-04	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1BB0003B	MCFD-1580-1.0 H-10	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0003B	MCFD-2580-1.0 H-12	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1BB0004B	MCFD-1580-1.0 H-10	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0004B	MCFD-2580-1.0 H-10	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1BB0005A	MCFD-1580-1.0 F-02	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0005A	MCFD-2580-1.0 F-02	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1BB0006A	MCFD-1580-1.0 F-04	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0006A	MCFD-2580-1.0 F-04	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1BB0007A	MCFD-1580-1.0 F-12	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0007A	MCFD-2580-1.0 F-12	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1BB0008A	MCFD-1580-1.0 F-10	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2BB0008A	MCFD-2580-1.0 F-10	2	B	Yes	Gate	Air	MC-BB-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
CA - Auxiliary Feedwater															
1CA0007AC	MCFD-1592-1.1	B-10	3	B	Yes	Gate	Rotork	MC-CA-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CA0007A	MCFD-2592-1.1	B-10	3	B	Yes	Gate	Rotork	MC-CA-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CA0008	MCFD-1592-1.1	B-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2CA0008	MCFD-2592-1.1	B-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1CA0009B	MCFD-1592-1.1	C-05	3	B	Yes	Gate	Rotork	MC-CA-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CA0009B	MCFD-2592-1.1	C-05	3	B	Yes	Gate	Rotork	MC-CA-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CA0010	MCFD-1592-1.1	C-05	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2CA0010	MCFD-2592-1.1	C-05	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0011A	MCFD-1592-1.1 B-04	3	B	Yes	Gate	Rotork	MC-CA-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CA0011A	MCFD-2592-1.1 B-04	3	B	Yes	Gate	Rotork	MC-CA-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CA0012	MCFD-1592-1.1 B-03	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2CA0012	MCFD-2592-1.1 B-03	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1CA0015A	MCFD-1592-1.1 D-03	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0015A	MCFD-2592-1.1 D-03	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1CA0018B	MCFD-1592-1.1 D-04	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0018B	MCFD-2592-1.1 D-03	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0022	MCFD-1592-1.1 I-11	3	C	Yes	Three Way	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0022	MCFD-2592-1.1 I-10	3	C	Yes	Three Way	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0026	MCFD-1592-1.1 I-04	3	C	Yes	Three Way	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0026	MCFD-2592-1.1 I-03	3	C	Yes	Three Way	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0031	MCFD-1592-1.1 I-07	3	C	Yes	Three Way	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0031	MCFD-2592-1.1 I-07	3	C	Yes	Three Way	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0036AB	MCFD-1592-1.0 L-10	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0036AB	MCFD-2592-1.0 L-10	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0037	MCFD-1592-1.0 K-14	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0037	MCFD-2592-1.0 K-14	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0038B	MCFD-1592-1.0 J-14	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0038B	MCFD-2592-1.0 J-14	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0040B	MCFD-1592-1.0 G-14	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0040B	MCFD-2592-1.0 G-14	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0041	MCFD-1592-1.0 H-14	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0041	MCFD-2592-1.0 H-14	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0042B	MCFD-1592-1.0 I-14	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0042B	MCFD-2592-1.0 I-14	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0044B	MCFD-1592-1.0 C-11	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0044B	MCFD-2592-1.0 C-11	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0045	MCFD-1592-1.0 C-09	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0045	MCFD-2592-1.0 C-09	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0046B	MCFD-1592-1.0 D-08	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0046B	MCFD-2592-1.0 D-08	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0048AB	MCFD-1592-1.0 K-08	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0048AB	MCFD-2592-1.0 K-08	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0049	MCFD-1592-1.0 H-08	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0049	MCFD-2592-1.0 H-08	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0050B	MCFD-1592-1.0 G-08	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0050B	MCFD-2592-1.0 G-08	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0052AB	MCFD-1592-1.0 K-07	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0052AB	MCFD-2592-1.0 K-07	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0053	MCFD-1592-1.0 H-07	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0053	MCFD-2592-1.0 H-07	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0054AC	MCFD-1592-1.0 G-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0054AC	MCFD-2592-1.0 G-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0056A	MCFD-1592-1.0 C-04	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0056A	MCFD-2592-1.0 C-04	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0057	MCFD-1592-1.0 C-06	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0057	MCFD-2592-1.0 C-06	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0058A	MCFD-1592-1.0 D-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0058A	MCFD-2592-1.0 D-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0060A	MCFD-1592-1.0 G-01	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0060A	MCFD-2592-1.0 G-01	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0061	MCFD-1592-1.0 H-01	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0061	MCFD-2592-1.0 H-01	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0062A	MCFD-1592-1.0 I-01	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0062A	MCFD-2592-1.0 I-01	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0064AB	MCFD-1592-1.0 L-04	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0064AB	MCFD-2592-1.0 L-04	3	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0065	MCFD-1592-1.0 K-01	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2CA0065	MCFD-2592-1.0 K-01	2	C	Yes	Check	Self Actuated	MC-CA-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1CA0066AC	MCFD-1592-1.0 J-01	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0066AC	MCFD-2592-1.0 J-01	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0086A	MCFD-1592-1.1 C-14	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0086A	MCFD-2592-1.1 C-14	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1CA0116B	MCFD-1592-1.1 E-14	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2CA0116B	MCFD-2592-1.1 G-14	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0128	MCFD-1592-1.1 D-13	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2CA0128	MCFD-2592-1.1 H-13	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1CA0165	MCFD-1592-1.1 C-14	3	C	Yes	Check	Self Actuated	MC-CA-02	No	SD	Sample Disassembly	Both (Stroke Test)	2RF	Every other refueling outage	None
2CA0165	MCFD-2592-1.1 C-14	3	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Both (Stroke Test)	CM	Condition Monitoring	MC-GRV-04
1CA0166	MCFD-1592-1.1 F-14	3	C	Yes	Check	Self Actuated	MC-CA-02	No	SD	Sample Disassembly	Both (Stroke Test)	2RF	Every other refueling outage	None
2CA0166	MCFD-2592-1.1 G-14	3	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Both (Stroke Test)	CM	Condition Monitoring	MC-GRV-04
1CA0167	MCFD-1592-1.1 F-02	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2CA0167	MCFD-2592-1.1 H-02	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CA0168	MCFD-1592-1.1 E-06	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2CA0168	MCFD-2592-1.1 H-05	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1CA0232	MCFD-1592-1.1 J-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0232	MCFD-2592-1.1 J-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0235	MCFD-1592-1.1 J4	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0235	MCFD-2592-1.1 J-04	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1CA0238	MCFD-1592-1.1 J07	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2CA0238	MCFD-2592-1.1 J-07	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
CF - Feedwater															
1CF0017AB	MCFD-1591-1.1	K-03	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0017AB	MCFD-2591-1.1	K-03	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0020AB	MCFD-1591-1.1	K-06	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0020AB	MCFD-2591-1.1	K-06	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0023AB	MCFD-1591-1.1	K-09	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0023AB	MCFD-2591-1.1	K-09	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0026AB	MCFD-1591-1.1	H-03	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0026AB	MCFD-2591-1.1	H-03	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CF0028AB	MCFD-1591-1.1 H-06	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0028AB	MCFD-2591-1.1 H-06	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0030AB	MCFD-1591-1.1 H-09	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0030AB	MCFD-2591-1.1 H-09	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0032AB	MCFD-1591-1.1 K-13	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0032AB	MCFD-2591-1.1 K-13	NA	B	Yes	Globe	Air	MC-CF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0035AB	MCFD-1591-1.1 H-13	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0035AB	MCFD-2591-1.1 H-13	2	B	Yes	Gate	Air	MC-CF-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0104AB	MCFD-1591-1.1 K-12	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0104AB	MCFD-2591-1.1 K-12	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CF0105AB	MCFD-1591-1.1 K-09	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0105AB	MCFD-2591-1.1 K-09	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0106AB	MCFD-1591-1.1 K-05	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0106AB	MCFD-2591-1.1 K-05	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0107AB	MCFD-1591-1.1 K-02	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0107AB	MCFD-2591-1.1 K-02	NA	B	Yes	Control	Air	MC-CF-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0118	MCFD-1591-1.1 H-02	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2CF0118	MCFD-2591-1.1 H-02	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CF0119	MCFD-1591-1.1 H-06	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2CF0119	MCFD-2591-1.1 H-06	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1CF0120	MCFD-1591-1.1 H-09	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2CF0120	MCFD-2591-1.1 H-09	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1CF0121	MCFD-1591-1.1 H-13	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2CF0121	MCFD-2591-1.1 H-13	2	C	Yes	Check	Self Actuated	MC-CF-06	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1CF0126B	MCFD-1591-1.1 H-14	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0126B	MCFD-2591-1.1 H-11	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1CF0127B	MCFD-1591-1.1 H-10	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0127B	MCFD-2591-1.1 H-08	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0128B	MCFD-1591-1.1 H-07	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0128B	MCFD-2591-1.1 H-04	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1CF0129B	MCFD-1591-1.1 H-03	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2CF0129B	MCFD-2591-1.1 H-01	2	B	Yes	Gate	Rotork	MC-CF-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
FD - Diesel Generator Fuel Oil														
1FD0005	MCFD-1609-3.0 E-02	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2FD0005	MCFD-2609-3.0 E-03	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1FD0016	MCFD-1609-3.0 H-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2FD0016	MCFD-2609-3.0 H-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1FD0018	MCFD-1609-3.1 I-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2FD0018	MCFD-2609-3.1 I-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1FD0028	MCFD-1609-3.1 E-02	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2FD0028	MCFD-2609-3.1 E-02	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1FD0039	MCFD-1609-3.1 H-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2FD0039	MCFD-2609-3.1 H-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1FD0041	MCFD-1609-3.1 I-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2FD0041	MCFD-2609-3.1 I-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1FD0092	MCFD-1609-3.0 E-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2FD0092	MCFD-2609-3.0 E-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1FD0093	MCFD-1609-3.0 J-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2FD0093	MCFD-2609-3.0 J-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1FD0104	MCFD-1609-3.1 E-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2FD0104	MCFD-2609-3.1 E-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1FD0105	MCFD-1609-3.1 J-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2FD0105	MCFD-2609-3.1 J-14	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
FW - Refueling Water														
1FW0001A	MCFD-1571-1.0 E-11	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2FW0001A	MCFD-2571-1.0 E-11	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1FW0004	MCFD-1571-1.0 D-08	2	A	No	Gate	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2FW0004	MCFD-2571-1.0 D-08	2	A	No	Gate	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1FW0005	MCFD-1571-1.0 C-07	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2FW0005	MCFD-2571-1.0 C-07	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1FW0011	MCFD-1571-1.0 C-02	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2FW0011	MCFD-2571-1.0 C-02	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1FW0013	MCFD-1571-1.0 D-02	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2FW0013	MCFD-2571-1.0 D-02	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1FW0027A	MCFD-1571-1.0 C-12	2	B	Yes	Gate	Rotork	MC-FW-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2FW0027A	MCFD-2571-1.0 C-12	2	B	Yes	Gate	Rotork	MC-FW-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1FW0028	MCFD-1571-1.0 B-11	2	C	Yes	Check	Self Actuated	MC-FW-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2FW0028	MCFD-2571-1.0 B-11	2	C	Yes	Check	Self Actuated	MC-FW-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1FW0032B	MCFD-1571-1.0 E-11	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2FW0032B	MCFD-2571-1.0 E-11	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

McGuire Nuclear Station - IST Submittal for Valves
Interval 2, Revision 26

((08/01/02))

FW- Refueling Water Section 4.1
Page 2 of 4

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1FW0033A	MCFD-1571-1.0 F-11	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2FW0033A	MCFD-2571-1.0 F-11	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1FW0049B	MCFD-1571-1.0 F-10	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2FW0049B	MCFD-2571-1.0 F-10	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1FW0052	MCFD-1571-1.0 I-05	NA	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2FW0052	MCFD-2571-1.0 I-05	NA	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2FW0063	MCFD-2571-1.0 C-03	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1FW0067	MCFD-1571-1.0 C-01	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1FW0074	MCFD-1571-1.0 J-14	3	C	Yes	Check	Self Actuated	MC-FW-03	No	SD	Sample Disassembly	Open to Closed	RF	Tested every refueling outage	None
2FW0074	MCFD-2571-1.0 J-14	3	C	Yes	Check	Self Actuated	MC-FW-03	No	SD	Sample Disassembly	Open to Closed	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
GN - Nitrogen														
1GN0173	MCFD-1602-1.2 K-05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0173	MCFD-2602-1.2 K05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1GN0174	MCFD-1602-1.2 K-06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0174	MCFD-2602-1.2 K06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1GN0177	MCFD-1602-1.2 I-05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0177	MCFD-2602-1.2 I05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1GN0178	MCFD-1602-1.2 I-06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0178	MCFD-2602-1.2 I06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1GN0185	MCFD-1602-1.2 G-05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0185	MCFD-2602-1.2 G05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1GN0186	MCFD-1602-1.2 G-06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0186	MCFD-2602-1.2 G06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1GN0190	MCFD-1602-1.2 D-06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0190	MCFD-2602-1.2 D05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1GN0191	MCFD-1602-1.2 D-05	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2GN0191	MCFD-2602-1.2 D06	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
IA - Containment Personnel Air Lock														
1IA5080	MCFD-1499-IA1 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2IA5080	MCFD-2499-IA1 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1IA5160	MCFD-1499-IA1 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2IA5160	MCFD-2499-IA1 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1IA5260	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5260	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1IA5270	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5270	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5280	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5280	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5290	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5290	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5300	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5300	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5310	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5310	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1IA5320	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5320	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5330	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5330	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5340	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5340	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5350	MCFD-1499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5350	MCFD-2499-IA1 N/A	2	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5360	MCFD-1499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5360	MCFD-2499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1IA5370	MCFD-1499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5370	MCFD-2499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5380	MCFD-1499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5380	MCFD-2499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
1IA5390	MCFD-1499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None
2IA5390	MCFD-2499-IA1 N/A	3	AC	Yes	Check	Self Actuated	MC-IA-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	Note2	6 mo., See Tech Spec	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
KC - Component Cooling															
1KC0001A	MCFD-1573-1.0	C-07	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0001A	MCFD-2573-1.0	C-07	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0002B	MCFD-1573-1.0	C-08	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0002B	MCFD-2573-1.0	C-08	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0003A	MCFD-1573-1.0	C-07	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0003A	MCFD-2573-1.0	C-07	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0005	MCFD-1573-1.0	F-04	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2KC0005	MCFD-2573-1.0	F-04	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0008	MCFD-1573-1.0 F-04	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2KC0008	MCFD-2573-1.0 F-04	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1KC0011	MCFD-1573-1.0 F-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2KC0011	MCFD-2573-1.0 F-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1KC0014	MCFD-1573-1.0 F-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2KC0014	MCFD-2573-1.0 F-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1KC0018B	MCFD-1573-1.0 C-08	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0018B	MCFD-2573-1.0 C-08	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0047	MCFD-1573-4.0 L-12	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0047	MCFD-2573-4.0 L-07	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1KC0050A	MCFD-1573-1.0 K-07	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0050A	MCFD-2573-1.0 K-07	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0051A	MCFD-1573-1.0 J-05	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2KC0051A	MCFD-2573-1.0 J-05	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1KC0053B	MCFD-1573-1.0 K-08	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0053B	MCFD-2573-1.0 K-08	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0054B	MCFD-1573-1.0 J-10	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2KC0054B	MCFD-2573-1.0 J-10	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1KC0056A	MCFD-1573-1.1 E-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2KC0056A	MCFD-2573-1.1 E-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1KC0057A	MCFD-1573-1.1 D-06	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2KC0057A	MCFD-2573-1.1 D-06	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1KC0081B	MCFD-1573-1.1 E-13	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2KC0081B	MCFD-2573-1.1 E-13	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1KC0082B	MCFD-1573-1.1 D-09	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2KC0082B	MCFD-2573-1.1 D-09	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0123	MCFD-1573-1.1 I-06	3	C	Yes	Vacuum Breaker	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2KC0123	MCFD-2573-1.01 I-06	3	C	Yes	Vacuum Breaker	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1KC0228B	MCFD-1573-1.0 K-08	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0228B	MCFD-2573-1.0 K-08	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0230A	MCFD-1573-1.0 K-07	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0230A	MCFD-2573-1.0 K-07	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0279	MCFD-1573-3.1 K-04	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0279	MCFD-2573-3.1 K-04	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0280	MCFD-1573-3.1 D-01	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0280	MCFD-2573-3.1 D-01	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1KC0305B	MCFD-1573-3.1 D-14	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0305B	MCFD-2573-3.1 D-14	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0315B	MCFD-1573-3.1 L-13	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2KC0315B	MCFD-2573-3.1 L-13	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1KC0320A	MCFD-1573-3.1 C-10	2	A	Yes	Diaphragm	Air	MC-KC-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0320A	MCFD-2573-3.1 C-10	2	A	Yes	Diaphragm	Air	MC-KC-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1KC0322	MCFD-1573-3.1	C-09	2	AC	Yes	Check	Self Actuated	MC-KC-06	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0322	MCFD-2573-3.1	C-09	2	AC	Yes	Check	Self Actuated	MC-KC-06	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1KC0332B	MCFD-1573-3.1	D-01	2	A	Yes	Diaphragm	Air	MC-KC-03	Yes	ST LJ	Measure Full-Stroke Time of Valve Leak-Rate Test Valve to App J Requirement(s)	Open to Closed Accident Direction (Closed)	CS RF	Tested at cold shutdown Tested every refueling outage	None None
2KC0332B	MCFD-2573-3.1	D-01	2	A	Yes	Diaphragm	Air	MC-KC-03	Yes	ST LJ	Measure Full-Stroke Time of Valve Leak-Rate Test Valve to App J Requirement(s)	Open to Closed Accident Direction (Closed)	CS RF	Tested at cold shutdown Tested every refueling outage	None None
1KC0333A	MCFD-1573-3.1	G-01	2	A	Yes	Diaphragm	Air	MC-KC-03	Yes	ST LJ	Measure Full-Stroke Time of Valve Leak-Rate Test Valve to App J Requirement(s)	Open to Closed Accident Direction (Closed)	CS RF	Tested at cold shutdown Tested every refueling outage	None None
2KC0333A	MCFD-2573-3.1	G-01	2	A	Yes	Diaphragm	Air	MC-KC-03	Yes	ST LJ	Measure Full-Stroke Time of Valve Leak-Rate Test Valve to App J Requirement(s)	Open to Closed Accident Direction (Closed)	CS RF	Tested at cold shutdown Tested every refueling outage	None None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0338B	<i>MCFD-1573-3.1 D-12</i>	2	A	Yes	Butterfly	Rotork	MC-KC-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0338B	<i>MCFD-2573-3.1 D-12</i>	2	A	Yes	Butterfly	Limitorque	MC-KC-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1KC0340	<i>MCFD-1573-3.1 E-12</i>	2	AC	Yes	Check	Self Actuated	MC-KC-08	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0340	<i>MCFD-2573-3.1 E-12</i>	2	AC	Yes	Check	Self Actuated	MC-KC-08	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1KC0424B	<i>MCFD-1573-3.1 L-04</i>	2	A	Yes	Butterfly	Rotork	MC-KC-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0424B	<i>MCFD-2573-3.1 L-04</i>	2	A	Yes	Butterfly	Limitorque	MC-KC-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0425A	MCFD-1573-3.1 L-06	2	A	Yes	Butterfly	Rotork	MC-KC-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0425A	MCFD-2573-3.1 L-06	2	A	Yes	Butterfly	Limitorque	MC-KC-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1KC0429B	MCFD-1573-4.0 K-12	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0429B	MCFD-2573-4.0 K-07	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1KC0430A	MCFD-1573-4.0 K-10	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2KC0430A	MCFD-2573-4.0 K-08	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1KC0972	MCFD-1573-1.1 J-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2KC0972	MCFD-2573-1.1 K-08	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
<i>KD - Diesel Generator Cooling</i>														
1KD0009	MCFD-1609-1.0 E-14	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
2KD0009	MCFD-2609-1.0 E-14	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1KD0016	MCFD-1609-1.0 C-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2KD0016	MCFD-2609-1.0 C-07	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1KD0018	MCFD-1609-1.0 G-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2KD0018	MCFD-2609-1.0 G-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
1KD0029	MCFD-1609-1.1 E-14	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
2KD0029	MCFD-2609-1.1 E-14	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1KD0036	MCFD-1609-1.1	C-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2KD0036	MCFD-2609-1.1	C-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1KD0038	MCFD-1609-1.1	G-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2KD0038	MCFD-2609-1.1	G-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
LD - Diesel Lube Oil														
1LD0002	MCFD-1609-2.0 J-12	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2LD0002	MCFD-2609-2.0 J-12	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1LD0005	MCFD-1609-2.0 G-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2LD0005	MCFD-2609-2.0 G-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
1LD0032	MCFD-1609-2.1 K-12	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2LD0032	MCFD-2609-2.1 K-12	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1LD0035	MCFD-1609-2.1 I-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2LD0035	MCFD-2609-2.1 I-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1LD0108A	MCFD-1609-2.0	G-12	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2LD0108A	MCFD-2609-2.0	E-12	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1LD0113B	MCFD-1609-2.1	G-12	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2LD0113B	MCFD-2609-2.1	G-12	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
MI - Miscellaneous Instrumentation														
1MI5580	MCFD-1499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2MI5580	MCFD-2499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1MI5581	MCFD-1499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2MI5581	MCFD-2499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1MI5582	MCFD-1499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2MI5582	MCFD-2499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1MI5583	MCFD-1499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2MI5583	MCFD-2499-MI7 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
NB - Boron Recycle															
1NB0103	MCFD-1556-1.1	I-13	3	C	Yes	Check	Self Actuated	MC-NB-03	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
1NB0260B	MCFD-1556-3.0	G-05	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NB0260B	MCFD-2556-3.0	G-05	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NB0262	MCFD-1556-3.0	G-03	2	AC	Yes	Check	Self Actuated	MC-NB-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NB0262	MCFD-2556-3.0	G-03	2	AC	Yes	Check	Self Actuated	MC-NB-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
NC - Reactor Coolant														
1NC0001	MCFD-1553-2.0 J-09	1	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NC0001	MCFD-2553-2.0 K-03	1	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NC0002	MCFD-1553-2.0 J-10	1	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NC0002	MCFD-2553-2.0 K-04	1	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NC0003	MCFD-1553-2.0 J-11	1	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NC0003	MCFD-2553-2.0 K-05	1	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NC0031B	MCFD-1553-2.0 H-06	1	B	Yes	Gate	Rotork	MC-NC-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NC0031B	MCFD-2553-2.0 F-05	1	B	Yes	Gate	Rotork	MC-NC-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NC0032B	MCFD-1553-2.0 J-06	1	B	Yes	Control	Air	MC-NC-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown CSD, hot tested prior to LTOP	None
									ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Note3		None
2NC0032B	MCFD-2553-2.0 G-05	1	B	Yes	Control	Air	MC-NC-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown CSD, hot tested prior to LTOP	None
									ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Note3		None
1NC0033A	MCFD-1553-2.0 H-04	1	B	Yes	Gate	Rotork	MC-NC-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NC0033A	MCFD-2553-2.0 F-03	1	B	Yes	Gate	Rotork	MC-NC-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NC0034A	MCFD-1553-2.0 J-04	1	B	Yes	Control	Air	MC-NC-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown CSD, hot tested prior to LTOP	None
									ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Note3		None
2NC0034A	MCFD-2553-2.0 G-03	1	B	Yes	Control	Air	MC-NC-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown CSD, hot tested prior to LTOP	None
									ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Note3		None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NC0035B	MCFD-1553-2.0 H-02	1	B	Yes	Gate	Rotork	MC-NC-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NC0035B	MCFD-2553-2.0 F-02	1	B	Yes	Gate	Rotork	MC-NC-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NC0036B	MCFD-1553-2.0 J-02	1	B	Yes	Control	Air	MC-NC-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown CSD, hot tested prior to LTOP	None
									ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Note3		None
2NC0036B	MCFD-2553-2.0 G-02	1	B	Yes	Control	Air	MC-NC-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown CSD, hot tested prior to LTOP	None
									ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Note3		None
1NC0053B	MCFD-1553-2.1 I-10	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly Tested every refueling outage	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		None
2NC0053B	MCFD-2553-2.1 H-10	2	A	Yes	Kerotest	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly Tested every refueling outage	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NC0054A	MCFD-1553-2.1 I-08	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0054A	MCFD-2553-2.1 H-09	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NC0056B	MCFD-1553-2.1 E-13	2	A	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0056B	MCFD-2553-2.1 D-14	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NC0057	MCFD-1553-2.1 G-12	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0057	MCFD-2553-2.1 F-13	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Equipment ID	Description	Flow Diagram	Pump Type	ASME Class	Test Type	Frequency	Relief Request
<i>CA - Auxiliary Feedwater</i>							
1CAPU0001	Motor Driven Auxiliary Feedwater Pump 1A	MC-1592-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
1CAPU0002	Motor Driven Auxiliary Feedwater Pump 1B	MC-1592-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
1CAPU0003	Turbine Driven Auxiliary Feedwater Pump #1	MC-1592-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
2CAPU0001	Motor Driven Auxiliary Feedwater Pump 2A	MC-2592-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
2CAPU0002	Motor Driven Auxiliary Feedwater Pump 2B	MC-2592-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE
2CAPU0003	Turbine Driven Auxiliary Feedwater Pump #2	MC-2592-1.1	Centrifugal	3	Vibration Test Flow/Differential Pressure Test	Tested once quarterly Tested once quarterly	MC-GRP-01 NONE

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NC0059	MCFD-1553-2.1 H-03	2	C	Yes	Check	Self Actuated	MC-NC-04	No	SD	Sample Disassembly	Closed to Open	RF	Tested every refueling outage	None
2NC0059	MCFD-2553-2.1 K-09	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NC0141	MCFD-1553-4.0 B-06	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0141	MCFD-2553-4.0 C-07	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NC0142	MCFD-1553-4.0 B-05	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0142	MCFD-2553-4.0 B-06	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NC0195B	MCFD-1553-4.0 K-07	2	A	No	Globe	Rotork	None	Yes	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0195B	MCFD-2553-4.0 I-08	2	A	No	Globe	Limitorque	None	Yes	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NC0196A	MCFD-1553-4.0 I-07	2	A	No	Globe	Rotork	None	Yes	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0196A	MCFD-2553-4.0 H-08	2	A	No	Globe	Limitorque	None	Yes	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NC0259	MCFD-1553-4.0 I-07	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0259	MCFD-2553-4.0 H-08	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NC0261	MCFD-1553-4.0 B-07	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NC0261	MCFD-2553-4.0 C-08	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NC0272AC	MCFD-1553-2.1 L-07	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NC0272AC	MCFD-2553-2.1 J-09	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NC0273AC	MCFD-1553-2.1 L-07	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NC0273AC	MCFD-2553-2.1 J-10	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NC0274B	MCFD-1553-2.1 K-07	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NC0274B	MCFD-2553-2.1 I-09	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NC0275B	MCFD-1553-2.1 K-07	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NC0275B	MCFD-2553-2.1 I-10	1	B	Yes	Globe	Solenoid	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NC0284	MCFD-1553-2.1 H-05	NA	C	Yes	Check	Self Actuated	MC-NC-05	No	SD	Sample Disassembly	Closed to Open	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
ND - Residual Heat Removal and Low Head Safety Injection														
1ND0001B	MCFD-1561-1.0 I-13	1	A	Yes	Gate	Rotork	MC-ND-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
									LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
2ND0001B	MCFD-2561-1.0 I-13	1	A	Yes	Gate	Rotork	MC-ND-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
									LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
1ND0002AC	MCFD-1561-1.0 H-13	1	A	Yes	Gate	Rotork	MC-ND-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
									LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
2ND0002AC	MCFD-2561-1.0 H-13	1	A	Yes	Gate	Rotork	MC-ND-01	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
									LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
1ND0003	MCFD-1561-1.0 G-14	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2ND0003	MCFD-2561-1.0 F-14	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1ND0004B	MCFD-1561-1.0 E-12	2	B	Yes	Gate	Rotork	MC-ND-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2ND0004B	MCFD-2561-1.0 E-12	2	B	Yes	Gate	Rotork	MC-ND-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1ND0008	MCFD-1561-1.0 D-08	2	C	Yes	Check	Self Actuated	MC-ND-06	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2ND0008	MCFD-2561-1.0 D-08	2	C	Yes	Check	Self Actuated	None	No	PS	Partial-Stroke Exercise Valve	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CM	Condition Monitoring	MC-GRV-04
1ND0014B	MCFD-1561-1.0 D-03	2	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2ND0014B	MCFD-2561-1.0 D-03	2	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1ND0015B	MCFD-1561-1.0 E-03	2	B	Yes	Gate	Rotork	MC-ND-03	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
2ND0015B	MCFD-2561-1.0 E-03	2	B	Yes	Gate	Rotork	MC-ND-03	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
1ND0019A	MCFD-1561-1.0 H-12	2	B	Yes	Gate	Rotork	MC-ND-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2ND0019A	MCFD-2561-1.0 H-12	2	B	Yes	Gate	Rotork	MC-ND-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1ND0023	MCFD-1561-1.0 J-08	2	C	Yes	Check	Self Actuated	MC-ND-06	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2ND0023	MCFD-2561-1.0 J-08	2	C	Yes	Check	Self Actuated	None	No	PS	Partial-Stroke Exercise Valve	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CM	Condition Monitoring	MC-GRV-04

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1ND0029A	MCFD-1561-1.0 J-03	2	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2ND0029A	MCFD-2561-1.0 J-03	2	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1ND0030A	MCFD-1561-1.0 I-03	2	B	Yes	Gate	Rotork	MC-ND-03	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
2ND0030A	MCFD-2561-1.0 I-03	2	B	Yes	Gate	Rotork	MC-ND-03	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
1ND0056	MCFD-1561-1.0 J-02	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2ND0056	MCFD-2561-1.0 J-02	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1ND0058A	MCFD-1561-1.0 K-03	2	B	Yes	Gate	Rotork	MC-ND-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2ND0058A	MCFD-2561-1.0 K-03	2	B	Yes	Gate	Rotork	MC-NC-02	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1ND0061	MCFD-1561-1.0 F-02	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2ND0061	MCFD-2561-1.0 F-02	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1ND0064	MCFD-1561-1.0 E-02	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2ND0064	MCFD-2561-1.0 E-02	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1ND0067B	MCFD-1561-1.0 B-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2ND0067B	MCFD-2561-1.0 B-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
1ND0068A	MCFD-1561-1.0 L-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None
2ND0068A	MCFD-2561-1.0 L-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1ND0070	MCFD-1561-1.0 K-03	2	C	Yes	Check	Self Actuated	MC-ND-04	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2ND0070	MCFD-2561-1.0 K-03	2	C	Yes	Check	Self Actuated	MC-ND-04	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1ND0071	MCFD-1561-1.0 C-04	2	C	Yes	Check	Self Actuated	MC-ND-05	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2ND0071	MCFD-2561-1.0 C-04	2	C	Yes	Check	Self Actuated	MC-ND-05	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
NF - Ice Condenser System														
1NF0228A	MCFD-1558-4.0 H-13	2	A	Yes	Diaphragm	Air	MC-NF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NF0228A	MCFD-2558-4.0 K-13	2	A	Yes	Diaphragm	Air	MC-NF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NF0229	MCFD-1558-4.0 F-13	2	AC	Yes	Check	Self Actuated	MC-NF-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NF0229	MCFD-2558-4.0 F-13	2	AC	Yes	Check	Self Actuated	MC-NF-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NF0233B	MCFD-1558-4.0 K-12	2	A	Yes	Diaphragm	Air	MC-NF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NF0233B	MCFD-2558-4.0 K-12	2	A	Yes	Diaphragm	Air	MC-NF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NF0234A	MCFD-1558-4.0 K-13	2	A	Yes	Diaphragm	Air	MC-NF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown Tested every refueling outage	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		None
2NF0234A	MCFD-2558-4.0 K-13	2	A	Yes	Diaphragm	Air	MC-NF-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown Tested every refueling outage	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
NI - Medium Head Safety Injection														
1NI0009A	MCFD-1562-1.0 H-09	2	B	Yes	Gate	Rotork	MC-NI-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0009A	MCFD-2562-1.0 H-12	2	B	Yes	Gate	Rotork	MC-NI-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NI0010B	MCFD-1562-1.0 G-09	2	B	Yes	Gate	Rotork	MC-NI-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0010B	MCFD-2562-1.0 G-12	2	B	Yes	Gate	Rotork	MC-NI-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NI0012	MCFD-1562-1.0 G-08	2	C	Yes	Check	Self Actuated	MC-NI-13	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0012	MCFD-2562-1.0 G-09	2	C	Yes	Check	Self Actuated	MC-NI-13	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0015	MCFD-1562-1.0 K-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0015	MCFD-2562-1.0 K-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0017	MCFD-1562-1.0 I-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0017	MCFD-2562-1.0 I-04	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0019	MCFD-1562-1.0 F-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0019	MCFD-2562-1.0 F-04	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0021	MCFD-1562-1.0 D-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0021	MCFD-2562-1.0 C-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0047A	MCFD-1562-2.0 K-05	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NI0047A	MCFD-2562-2.0 K-05	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NI0048	MCFD-1562-2.0 K-03	2	AC	Yes	Check	Self Actuated	MC-NI-21	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NI0048	MCFD-2562-2.0 K-03	2	AC	Yes	Check	Self Actuated	MC-NI-21	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NI0052	MCFD-1562-2.0 E-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0052	MCFD-2562-2.0 E-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0059	MCFD-1562-2.0 D-13	1	AC	Yes	Check	Self Actuated	MC-NI-22	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NI0059	MCFD-2562-2.0 D-13	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0060	MCFD-1562-2.0 D-14	1	AC	Yes	Check	Self Actuated	MC-NI-24	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NI0060	MCFD-2562-2.0 D-14	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0063	MCFD-1562-2.0 I-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0063	MCFD-2562-2.0 I-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0070	MCFD-1562-2.0 H-13	1	AC	Yes	Check	Self Actuated	MC-NI-22	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NI0070	MCFD-2562-2.0 H-13	1	AC	Yes	Check	Self Actuated	None	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0071	MCFD-1562-2.0 H-13	1	AC	Yes	Check	Self Actuated	MC-NI-24	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NI0071	MCFD-2562-2.0 H-14	1	AC	Yes	Check	Self Actuated	None	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0074	MCFD-1562-2.1 J-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
									RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0074	MCFD-2562-2.1 J-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
									RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0081	MCFD-1562-2.1 C-03	1	AC	Yes	Check	Self Actuated	MC-NI-22	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NI0081	MCFD-2562-2.1 C-03	1	AC	Yes	Check	Self Actuated	None	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0082	MCFD-1562-2.1 C-03	1	AC	Yes	Check	Self Actuated	MC-NI-24	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	RF	Tested every refueling outage	None
2NI0082	MCFD-2562-2.1 C-03	1	AC	Yes	Check	Self Actuated	None	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0086	MCFD-1562-2.1 J-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0086	MCFD-2562-2.1 J-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0093	MCFD-1562-2.1 C-08	1	AC	Yes	Check	Self Actuated	MC-NI-22	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NI0093	MCFD-2562-2.1 C-08	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0094	MCFD-1562-2.1 C-08	1	AC	Yes	Check	Self Actuated	MC-NI-24	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	RF	Tested every refueling outage	None
2NI0094	MCFD-2562-2.1 C-08	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0095A	MCFD-1562-2.1 F-12	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NI0095A	MCFD-2562-2.1 F-11	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0096B	MCFD-1562-2.1 E-13	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NI0096B	MCFD-2562-2.1 E-13	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NI0100B	MCFD-1562-3.0 F-13	2	B	Yes	Gate	Rotork	MC-NI-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0100B	MCFD-2562-3.0 F-13	2	B	Yes	Gate	Rotork	MC-NI-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NI0101	MCFD-1562-3.0 F-13	2	C	Yes	Check	Self Actuated	MC-NI-14	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	CS	Tested at cold shutdown	None
2NI0101	MCFD-2562-3.0 F-13	2	C	Yes	Check	Self Actuated	MC-NI-14	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0102	MCFD-1562-3.0 I-13	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0102	MCFD-2562-3.0 I-13	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NI0103A	MCFD-1562-3.0 J-14	2	B	Yes	Gate	Rotork	MC-NI-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0103A	MCFD-2562-3.0 I-14	2	B	Yes	Gate	Rotork	MC-NI-06	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NI0114	MCFD-1562-3.0 I-09	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NI0114	MCFD-2562-3.0 I-09	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NI0115B	MCFD-1562-3.0 H-09	2	B	Yes	Kerotest	Rotork	MC-NI-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0115B	MCFD-2562-3.0 H-09	2	B	Yes	Kerotest	Rotork	MC-NI-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0116	MCFD-1562-3.0 J-09	2	C	Yes	Check	Self Actuated	MC-NI-15	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NI0116	MCFD-2562-3.0 J-09	2	C	Yes	Check	Self Actuated	MC-NI-15	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NI0118A	MCFD-1562-3.0 H-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NI0118A	MCFD-2562-3.0 H-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NI0119	MCFD-1562-3.0 K-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0119	MCFD-2562-3.0 K-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0120B	MCFD-1562-3.0 J-07	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NI0120B	MCFD-2562-3.0 J-07	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NI0121A	MCFD-1562-3.0 J-06	2	B	Yes	Gate	Rotork	MC-NI-04	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0121A	MCFD-2562-3.0 J-06	2	B	Yes	Gate	Rotork	MC-NI-04	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NI0124	MCFD-1562-3.0 J-03	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0124	MCFD-2562-3.0 J-03	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0125	MCFD-1562-3.0 I-03	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
2NI0125	MCFD-2562-3.0 I-03	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
1NI0126	MCFD-1562-3.0 J-02	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS FS	Leak Test per Tech Spec Requirements Full-Stroke Exercise Valve to Safety Position(s)	Accident Direction (Closed) Closed to Open	Note1 CS	Per Tech Spec Tested at cold shutdown	None
2NI0126	MCFD-2562-3.0 J-02	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS FS	Leak Test per Tech Spec Requirements Full-Stroke Exercise Valve to Safety Position(s)	Accident Direction (Closed) Closed to Open	Note1 CS	Per Tech Spec Tested at cold shutdown	None
1NI0128	MCFD-1562-3.0 I-04	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS FS	Leak Test per Tech Spec Requirements Full-Stroke Exercise Valve to Safety Position(s)	Accident Direction (Closed) Closed to Open	Note1 CS	Per Tech Spec Tested at cold shutdown	None
2NI0128	MCFD-2562-3.0 I-04	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS FS	Leak Test per Tech Spec Requirements Full-Stroke Exercise Valve to Safety Position(s)	Accident Direction (Closed) Closed to Open	Note1 CS	Per Tech Spec Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0129	MCFD-1562-3.0 I-03	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
2NI0129	MCFD-2562-3.0 I-03	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
1NI0134	MCFD-1562-3.0 G-04	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS FS	Leak Test per Tech Spec Requirements Full-Stroke Exercise Valve to Safety Position(s)	Accident Direction (Closed) Closed to Open	Note1 CS	Per Tech Spec Tested at cold shutdown	None
2NI0134	MCFD-2562-3.0 H-04	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS FS	Leak Test per Tech Spec Requirements Full-Stroke Exercise Valve to Safety Position(s)	Accident Direction (Closed) Closed to Open	Note1 CS	Per Tech Spec Tested at cold shutdown	None
1NI0135B	MCFD-1562-3.0 E-14	2	B	Yes	Gate	Rotork	MC-NI-25	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0135B	MCFD-2562-3.0 E-14	2	B	Yes	Gate	Rotork	MC-NI-25	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NI0136B	MCFD-1562-3.0 C-14	2	B	Yes	Gate	Rotork	MC-NI-20	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0136B	MCFD-2562-3.0 C-14	2	B	Yes	Gate	Rotork	MC-NI-20	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0143	MCFD-1562-3.0 F-09	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2NI0143	MCFD-2562-3.0 F-09	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
1NI0144B	MCFD-1562-3.0 G-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NI0144B	MCFD-2562-3.0 G-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NI0147A	MCFD-1562-3.0 G-11	2	B	Yes	Kerotest	Rotork	MC-NI-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0147A	MCFD-2562-3.0 G-11	2	B	Yes	Kerotest	Rotork	MC-NI-03	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0148	MCFD-1562-3.0 D-09	2	C	Yes	Check	Self Actuated	MC-NI-15	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NI0148	MCFD-2562-3.0 D-09	2	C	Yes	Check	Self Actuated	MC-NI-15	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NI0150B	MCFD-1562-3.0 E-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NI0150B	MCFD-2562-3.0 E-07	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NI0151	MCFD-1562-3.0 C-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0151	MCFD-2562-3.0 C-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NI0152B	MCFD-1562-3.0 D-06	2	B	Yes	Gate	Rotork	MC-NI-04	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0152B	MCFD-2562-3.0 D-06	2	B	Yes	Gate	Rotork	MC-NI-04	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0156	MCFD-1562-3.0 D-03	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0156	MCFD-2562-3.0 D-03	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0157	MCFD-1562-3.0 D-02	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0157	MCFD-2562-3.0 D-02	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0159	MCFD-1562-3.0 B-04	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0159	MCFD-2562-3.0 B-04	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0160	MCFD-1562-3.0 B-03	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTFS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0160	MCFD-2562-3.0 B-03	1	AC	Yes	Check	Self Actuated	MC-NI-16	No	LTTFS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0161	MCFD-1562-3.1 K-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NI0161	MCFD-2562-3.1 J-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NI0162A	MCFD-1562-3.1 K-11	2	B	Yes	Gate	Rotork	MC-NI-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0162A	MCFD-2562-3.1 K-11	2	B	Yes	Gate	Rotork	MC-NI-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0165	MCFD-1562-3.1 J-03	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0165	MCFD-2562-3.1 J-03	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0167	MCFD-1562-3.1 J-05	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0167	MCFD-2562-3.1 J-05	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0169	MCFD-1562-3.1 J-06	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0169	MCFD-2562-3.1 J-06	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0171	MCFD-1562-3.1 J-07	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0171	MCFD-2562-3.1 J-07	1	AC	Yes	Check	Self Actuated	MC-NI-17	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0173A	MCFD-1562-3.1 I-12	2	B	Yes	Gate	Rotork	MC-NI-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0173A	MCFD-2562-3.1 I-12	2	B	Yes	Gate	Rotork	MC-NI-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NI0175	MCFD-1562-3.1 I-08	1	AC	Yes	Check	Self Actuated	MC-NI-18	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0175	MCFD-2562-3.1 I-08	1	AC	Yes	Check	Self Actuated	None	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0176	MCFD-1562-3.1 H-08	1	AC	Yes	Check	Self Actuated	MC-NI-18	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0176	MCFD-2562-3.1 H-08	1	AC	Yes	Check	Self Actuated	None	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0178B	MCFD-1562-3.1 F-12	2	B	Yes	Gate	Rotork	MC-NI-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0178B	MCFD-2562-3.1 F-12	2	B	Yes	Gate	Rotork	MC-NI-07	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NI0180	MCFD-1562-3.1 F-06	1	AC	Yes	Check	Self Actuated	MC-NI-18	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0180	MCFD-2562-3.1 F-07	1	AC	Yes	Check	Self Actuated	None	No	LTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0181	MCFD-1562-3.1 D-05	1	AC	Yes	Check	Self Actuated	MC-NI-18	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0181	MCFD-2562-3.1 D-08	1	AC	Yes	Check	Self Actuated	None	No	LTTTS	Leak Test per Tech Spec Requirements	Accident Direction (Closed)	Note1	Per Tech Spec	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NI0183B	MCFD-1562-3.0 G-03	2	B	Yes	Gate	Rotork	MC-NI-09	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0183B	MCFD-2562-3.0 G-03	2	B	Yes	Gate	Rotork	MC-NI-09	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NI0184B	MCFD-1562-3.1 D-12	2	B	Yes	Gate	Rotork	MC-NI-10	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0184B	MCFD-2562-3.1 D-12	2	B	Yes	Gate	Rotork	MC-NI-10	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NI0185A	MCFD-1562-3.1 B-12	2	B	Yes	Gate	Rotork	MC-NI-10	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0185A	MCFD-2562-3.1 B-12	2	B	Yes	Gate	Rotork	MC-NI-10	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0332A	MCFD-1562-3.0 L-14	2	B	Yes	Gate	Rotork	MC-NI-11	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0332A	MCFD-2562-3.0 L-14	2	B	Yes	Gate	Rotork	MC-NI-11	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NI0333B	MCFD-1562-3.0 L-12	2	B	Yes	Gate	Rotork	MC-NI-11	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NI0333B	MCFD-2562-3.0 L-12	2	B	Yes	Gate	Rotork	MC-NI-11	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NI0334B	MCFD-1562-3.0 L-11	2	B	Yes	Gate	Rotork	MC-NI-08	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NI0334B	MCFD-2562-3.0 L-11	2	B	Yes	Gate	Rotork	MC-NI-08	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NI0347	MCFD-1562-1.0 I-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0347	MCFD-2562-1.0 I-04	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0348	MCFD-1562-1.0 F-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0348	MCFD-2562-1.0 F-05	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0349	MCFD-1562-1.0 D-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0349	MCFD-2562-1.0 C-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0354	MCFD-1562-1.0 K-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NI0354	MCFD-2562-1.0 K-07	1	C	Yes	Check	Self Actuated	MC-NI-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NI0430A	MCFD-1562-2.0 E-04	2	B	Yes	Kerotest	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2NI0430A	MCFD-2562-2.0 F-04	2	B	Yes	Kerotest	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NI0431B	MCFD-1562-2.0 J-04	2	B	Yes	Kerotest	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2NI0431B	MCFD-2562-2.0 J-04	2	B	Yes	Kerotest	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1NI0436	MCFD-1562-2.1 G-11	2	AC	Yes	Check	Self Actuated	MC-NI-23	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NI0436	MCFD-2562-2.1 G-11	2	AC	Yes	Check	Self Actuated	MC-NI-23	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
NM - Nuclear Sampling															
1NM0003AC	MCFD-1572-1.0	K-03	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0003AC	MCFD-2572-1.0	K-03	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0006AC	MCFD-1572-1.0	J-03	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0006AC	MCFD-2572-1.0	J-03	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0007B	MCFD-1572-1.0	K-06	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0007B	MCFD-2572-1.0	K-06	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NM0022AC	MCFD-1572-1.0 J-12	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0022AC	MCFD-2572-1.0 J-12	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0025AC	MCFD-1572-1.0 K-12	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0025AC	MCFD-2572-1.0 K-12	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0026B	MCFD-1572-1.0 K-08	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0026B	MCFD-2572-1.0 K-09	2	A	Yes	Kerotest	Rotork	MC-NM-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1NM0069	MCFD-1572-1.1	G-09	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0069	MCFD-2572-1.1	G-09	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0072B	MCFD-1572-1.1	I-06	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0072B	MCFD-2572-1.1	I-06	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0075B	MCFD-1572-1.1	I-08	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0075B	MCFD-2572-1.1	I-08	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NM0078B	MCFD-1572-1.1 I-09	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0078B	MCFD-2572-1.1 I-10	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0081B	MCFD-1572-1.1 I-11	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0081B	MCFD-2572-1.1 I-11	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0082A	MCFD-1572-1.1 E-09	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0082A	MCFD-2572-1.1 E-09	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NM0187A	MCFD-1572-3.0 K-01	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0187A	MCFD-2572-3.0 K-01	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0190A	MCFD-1572-3.0 K-02	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0190A	MCFD-2572-3.0 K-02	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0191B	MCFD-1572-3.0 I-02	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0191B	MCFD-2572-3.0 I-02	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0197B	MCFD-1572-3.0 K-05	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0197B	MCFD-2572-3.0 K-05	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0200B	MCFD-1572-3.0 K-06	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0200B	MCFD-2572-3.0 K-06	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NM0201A	MCFD-1572-3.0 I-06	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0201A	MCFD-2572-3.0 I-06	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0207A	MCFD-1572-3.0 K-08	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0207A	MCFD-2572-3.0 K-08	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0210A	MCFD-1572-3.0 K-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0210A	MCFD-2572-3.0 K-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0211B	MCFD-1572-3.0 I-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0211B	MCFD-2572-3.0 I-09	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0217B	MCFD-1572-3.0 K-11	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0217B	MCFD-2572-3.0 K-11	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	TestDirection	Test Frequency	Frequency Description	Relief Request
1NM0220B	MCFD-1572-3.0 K-12	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0220B	MCFD-2572-3.0 K-12	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0221A	MCFD-1572-3.0 I-12	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2NM0221A	MCFD-2572-3.0 I-12	2	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1NM0420	MCFD-1572-1.0 J-03	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0420	MCFD-2572-1.0 J-03	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NM0421	MCFD-1572-1.0 J-12	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NM0421	MCFD-2572-1.0 J-12	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
NS - Containment Spray															
1NS0001B	MCFD-1563-1.0	C-13	2	B	Yes	Gate	Rotork	MC-NS-06	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NS0001B	MCFD-2563-1.0	C-13	2	B	Yes	Gate	Rotork	MC-NS-06	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NS0002	MCFD-1563-1.0	D-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NS0002	MCFD-2563-1.0	D-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NS0003B	MCFD-1563-1.0	B-13	2	B	Yes	Gate	Rotork	MC-NS-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NS0003B	MCFD-2563-1.0	B-13	2	B	Yes	Gate	Rotork	MC-NS-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NS0004	MCFD-1563-1.0	B-12	2	C	Yes	Check	Self Actuated	MC-NS-03	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
										FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NS0004	MCFD-2563-1.0	C-12	2	C	Yes	Check	Self Actuated	MC-NS-03	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
										FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NS0012B	MCFD-1563-1.0 C-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2NS0012B	MCFD-2563-1.0 C-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1NS0013	MCFD-1563-1.0 B-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	RR	Per Relief Request	MC-SRV-NS-01
									PS	Partial-Stroke Exercise Valve	Closed to Open	RF	Tested every refueling outage	MC-SRV-NS-01
2NS0013	MCFD-2563-1.0 B-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									PS	Partial-Stroke Exercise Valve	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1NS0015B	MCFD-1563-1.0 D-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2NS0015B	MCFD-2563-1.0 D-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1NS0016	MCFD-1563-1.0 D-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	RR	Per Relief Request	MC-SRV-NS-01
									PS	Partial-Stroke Exercise Valve	Closed to Open	RF	Tested every refueling outage	MC-SRV-NS-01
2NS0016	MCFD-2563-1.0 D-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									PS	Partial-Stroke Exercise Valve	Closed to Open	CM	Condition Monitoring	MC-GRV-04

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NS0018A	MCFD-1563-1.0 G-13	2	B	Yes	Gate	Rotork	MC-NS-06	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NS0018A	MCFD-2563-1.0 G-13	2	B	Yes	Gate	Rotork	MC-NS-06	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NS0019	MCFD-1563-1.0 H-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NS0019	MCFD-2563-1.0 H-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NS0020A	MCFD-1563-1.0 F-13	2	B	Yes	Gate	Rotork	MC-NS-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NS0020A	MCFD-2563-1.0 F-13	2	B	Yes	Gate	Rotork	MC-NS-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NS0021	MCFD-1563-1.0 F-12	2	C	Yes	Check	Self Actuated	MC-NS-03	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NS0021	MCFD-2563-1.0 F-12	2	C	Yes	Check	Self Actuated	MC-NS-03	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NS0029A	MCFD-1563-1.0 F-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2NS0029A	MCFD-2563-1.0 F-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1NS0030	MCFD-1563-1.0 F-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	RR	Per Relief Request Tested every refueling outage	MC-SRV-NS-01
									PS	Partial-Stroke Exercise Valve	Closed to Open	RF		MC-SRV-NS-01
2NS0030	MCFD-2563-1.0 F-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	CM	Condition Monitoring Condition Monitoring	MC-GRV-04
									PS	Partial-Stroke Exercise Valve	Closed to Open	CM		MC-GRV-04
1NS0032A	MCFD-1563-1.0 H-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2NS0032A	MCFD-2563-1.0 H-04	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1NS0033	MCFD-1563-1.0 H-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	RR	Per Relief Request Tested every refueling outage	MC-SRV-NS-01
									PS	Partial-Stroke Exercise Valve	Closed to Open	RF		MC-SRV-NS-01
2NS0033	MCFD-2563-1.0 H-02	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	CM	Condition Monitoring Condition Monitoring	MC-GRV-04
									PS	Partial-Stroke Exercise Valve	Closed to Open	CM		MC-GRV-04

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NS0038B	MCFD-1563-1.0 J-05	2	B	Yes	Gate	Rotork	MC-NS-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NS0038B	MCFD-2563-1.0 J-05	2	B	Yes	Gate	Rotork	MC-NS-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NS0041	MCFD-1563-1.0 J-03	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	RR	Per Relief Request Tested every refueling outage	MC-SRV-NS-01
									PS	Partial-Stroke Exercise Valve	Closed to Open	RF		MC-SRV-NS-01
2NS0041	MCFD-2563-1.0 J-03	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									PS	Partial-Stroke Exercise Valve	Closed to Open	CM		MC-GRV-04
1NS0043A	MCFD-1563-1.0 K-05	2	B	Yes	Gate	Rotork	MC-NS-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NS0043A	MCFD-2563-1.0 K-05	2	B	Yes	Gate	Rotork	MC-NS-01	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NS0046	MCFD-1563-1.0 K-03	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	RR	Per Relief Request Tested every refueling outage	MC-SRV-NS-01
									PS	Partial-Stroke Exercise Valve	Closed to Open	RF		MC-SRV-NS-01
2NS0046	MCFD-2563-1.0 K-03	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									PS	Partial-Stroke Exercise Valve	Closed to Open	CM		MC-GRV-04

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request		
1NS0140	MCFD-1563-1.0	G-05	2	AC	Yes	Check	Self Actuated	MC-NS-04	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None	
										SD	Sample Disassembly	Both (Stroke Test)	2RF		Every other refueling outage	None
										LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF		Tested every refueling outage	None
1NS0141	MCFD-1563-1.0	C-05	2	AC	Yes	Check	Self Actuated	MC-NS-04	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None	
										SD	Sample Disassembly	Both (Stroke Test)	2RF		Every other refueling outage	None
										LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF		Tested every refueling outage	None
1NS0161	MCFD-1563-1.0	G08	2	C	Yes	Check	Self Actuated	MC-NS-07	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None	
										FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF		Tested every refueling outage	None
2NS0161	MCFD-2563-1.0	G-09	2	AC	Yes	Check	Self Actuated	None	No	PS	Partial-Stroke Exercise Valve	Closed to Open	CM	Condition Monitoring	MC-GRV-04	
										FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM		Monitoring	MC-GRV-04
										LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	CM		Condition Monitoring	MC-GRV-04

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NS0163	MCFD-1563-1.0 D08	2	C	Yes	Check	Self Actuated	MC-NS-07	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2NS0163	MCFD-2563-1.0 D-09	2	AC	Yes	Check	Self Actuated	None	No	PS	Partial-Stroke Exercise Valve	Closed to Open	CM	Condition Monitoring	MC-GRV-04
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM		MC-GRV-04
									LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	CM	Condition Monitoring	MC-GRV-04
1NS5550B	MCFD-1499-NS8 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NS5550B	MCFD-2499-NS8 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1NS5551A	MCFD-1499-NS8 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2NS5551A	MCFD-2499-NS8 N/A	2	A	Yes	Solenoid	Solenoid	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
<i>NV - Chemical & Volume Control</i>														
1NV0007B	MCFD-1554-1.2 J-10	2	B	Yes	Globe	Rotork	MC-NV-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0007B	MCFD-2554-1.2 J-11	2	B	Yes	Globe	Rotork	MC-NV-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0029	MCFD-1554-1.0 C-01	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0029	MCFD-2554-1.0 C-02	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0031	MCFD-1554-1.0 D-02	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0031	MCFD-2554-1.0 D-02	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0035A	MCFD-1554-1.2 K-07	2	B	Yes	Gate	Air	MC-NV-19	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0035A	MCFD-2554-1.2 K-07	2	B	Yes	Gate	Air	MC-NV-19	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1NV0045	MCFD-1554-1.0	C-08	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0045	MCFD-2554-1.0	C-08	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0047	MCFD-1554-1.0	D-08	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0047	MCFD-2554-1.0	D-08	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0061	MCFD-1554-1.1	C-01	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0061	MCFD-2554-1.1	C-02	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0063	MCFD-1554-1.1	D-02	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0063	MCFD-2554-1.1	D-02	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1NV0077	MCFD-1554-1.1	C-08	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0077	MCFD-2554-1.1	C-08	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0079	MCFD-1554-1.1	D-08	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0079	MCFD-2554-1.1	D-08	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0094AC	MCFD-1554-1.1	J-13	2	B	Yes	Gate	Rotork	MC-NV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0094AC	MCFD-2554-1.1	J-13	2	B	Yes	Gate	Rotork	MC-NV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0095B	MCFD-1554-1.1	H-13	2	B	Yes	Gate	Rotork	MC-NV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0095B	MCFD-2554-1.1	H-13	2	B	Yes	Gate	Rotork	MC-NV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0141A	MCFD-1554-2.0 B-08	2	B	Yes	Gate	Rotork	MC-NV-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0141A	MCFD-2554-2.0 B-08	2	B	Yes	Gate	Rotork	MC-NV-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0142B	MCFD-1554-2.0 B-07	2	B	Yes	Gate	Rotork	MC-NV-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0142B	MCFD-2554-2.0 B-07	2	B	Yes	Gate	Rotork	MC-NV-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0143	MCFD-1554-2.0 B-07	2	C	Yes	Check	Self Actuated	MC-NV-15	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV0143	MCFD-2554-2.0 B-06	2	C	Yes	Check	Self Actuated	MC-NV-15	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NV0150B	MCFD-1554-2.0 F-02	2	B	Yes	Kerotest	Rotork	MC-NV-08	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0150B	MCFD-2554-2.0 F-02	2	B	Yes	Kerotest	Limiterque	MC-NV-08	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0151A	MCFD-1554-2.0 G-02	2	B	Yes	Kerotest	Rotork	MC-NV-08	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0151A	MCFD-2554-2.0 G-02	2	B	Yes	Kerotest	Rotork	MC-NV-08	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0170	MCFD-1554-2.0 C-08	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NV0170	MCFD-2554-2.0 C-08	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1NV0218	MCFD-1554-3.0 J-05	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2NV0218	MCFD-2554-3.0 J-05	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
1NV0221A	MCFD-1554-3.1 H-01	2	B	Yes	Gate	Rotork	MC-NV-06	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
2NV0221A	MCFD-2554-3.1 H-01	2	B	Yes	Gate	Rotork	MC-NV-06	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0222B	MCFD-1554-3.1 I-01	2	B	Yes	Gate	Rotork	MC-NV-06	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
2NV0222B	MCFD-2554-3.1 I-01	2	B	Yes	Gate	Rotork	MC-NV-06	Yes	ST	Measure Full-Stroke Time of Valve	Both (Stroke Test)	CS	Tested at cold shutdown	None
1NV0223	MCFD-1554-3.1 I-02	2	C	Yes	Check	Self Actuated	MC-NV-11	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	CS	Tested at cold shutdown	None
2NV0223	MCFD-2554-3.1 I-02	2	C	Yes	Check	Self Actuated	MC-NV-11	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	CS	Tested at cold shutdown	None
1NV0225	MCFD-1554-3.1 F-05	2	C	Yes	Check	Self Actuated	MC-NV-10	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NV0225	MCFD-2554-3.1 F-05	2	C	Yes	Check	Self Actuated	MC-NV-10	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0227	MCFD-1554-3.1 E-06	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2NV0227	MCFD-2554-3.1 E-06	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
1NV0229	MCFD-1554-3.1 I-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NV0229	MCFD-2554-3.1 I-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0231	MCFD-1554-3.1 F-10	2	C	Yes	Check	Self Actuated	MC-NV-10	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2NV0231	MCFD-2554-3.1 F-10	2	C	Yes	Check	Self Actuated	MC-NV-10	No	PS	Partial-Stroke Exercise Valve	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1NV0233	MCFD-1554-3.1 E-10	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2NV0233	MCFD-2554-3.1 E-10	2	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
1NV0244A	MCFD-1554-3.0 K-08	2	B	Yes	Gate	Rotork	MC-NV-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0244A	MCFD-2554-3.0 K-08	2	B	Yes	Gate	Rotork	MC-NV-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1NV0245B	MCFD-1554-3.0	K-09	2	B	Yes	Gate	Rotork	MC-NV-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0245B	MCFD-2554-3.0	K-09	2	B	Yes	Gate	Rotork	MC-NV-05	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0261	MCFD-1554-3.1	J-03	2	C	Yes	Check	Self Actuated	MC-NV-13	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV0261	MCFD-2554-3.1	J-03	2	C	Yes	Check	Self Actuated	MC-NV-13	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NV0263	MCFD-1554-3.1	J-11	2	C	Yes	Check	Self Actuated	MC-NV-13	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV0263	MCFD-2554-3.1	J-11	2	C	Yes	Check	Self Actuated	MC-NV-13	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0264	MCFD-1554-3.1 J-10	2	C	Yes	Check	Self Actuated	MC-NV-07	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV0264	MCFD-2554-3.1 J-10	2	C	Yes	Check	Self Actuated	MC-NV-07	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NV0265B	MCFD-1554-3.1 J-09	2	B	Yes	Kerotest	Rotork	MC-NV-09	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
2NV0265B	MCFD-2554-3.1 J-09	2	B	Yes	Kerotest	Rotork	MC-NV-09	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	CS	Tested at cold shutdown	None
1NV0383	MCFD-1554-5.0 E-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None
2NV0383	MCFD-2554-5.0 F-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1NV0386	MCFD-1554-5.0	C-06	3	C	Yes	Check	Self Actuated	None	No	FS	Closed to Open	Q	Tested once quarterly	None	
										FS	Open to Closed	Q	Tested once quarterly	None	
2NV0386	MCFD-2554-5.0	D-06	3	C	Yes	Check	Self Actuated	None	No	FS	Closed to Open	Q	Tested once quarterly	None	
										FS	Open to Closed	Q	Tested once quarterly	None	
1NV0457A	MCFD-1554-1.2	I-07	2	B	Yes	Gate	Air	MC-NV-19	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0457A	MCFD-2554-1.2	I-07	2	B	Yes	Gate	Air	MC-NV-19	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0458A	MCFD-1554-1.2	J-07	2	B	Yes	Gate	Air	MC-NV-19	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2NV0458A	MCFD-2554-1.2	J-07	2	B	Yes	Gate	Air	MC-NV-19	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1NV0482	MCFD-1554-2.0	D-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2NV0482	MCFD-2554-2.0	D-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0810	MCFD-1554-1.0 D-03	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0810	MCFD-2554-1.0 D-03	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0811	MCFD-1554-1.0 D-10	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0811	MCFD-2554-1.0 D-10	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0812	MCFD-1554-1.1 D-03	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0812	MCFD-2554-1.1 D-03	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1NV0813	MCFD-1554-1.1 D-10	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2NV0813	MCFD-2554-1.1 D-10	1	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV0849AC	MCFD-1554-1.3 F-08	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		
2NV0849AC	MCFD-2554-1.3 F-08	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		
1NV1002	MCFD-1554-1.3 F-10	2	AC	Yes	Check	Self Actuated	MC-NV-14	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	RF	Tested every refueling outage	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		
2NV1002	MCFD-2554-1.3 F-10	2	A,C	Yes	Check	Self Actuated	MC-NV-14	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	RF	Tested every refueling outage	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF		
1NV1007	MCFD-1554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV1007	MCFD-2554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1NV1008	MCFD-1554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV1008	MCFD-2554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NV1009	MCFD-1554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV1009	MCFD-2554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NV1010	MCFD-1554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV1010	MCFD-2554-1.3 F-13	2	C	Yes	Check	Self Actuated	MC-NV-17	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1NV1046	MCFD-1554-3.0 H-12	2	C	Yes	Check	Self Actuated	MC-NV-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2NV1046	MCFD-2554-3.0 H-12	2	C	Yes	Check	Self Actuated	MC-NV-12	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
RF - Fire Protection - Interior															
1RF0821A	MCFD-1599-2.2	E-05	2	A	Yes	Diaphragm	Air	MC-RF-02	No	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RF0823	MCFD-1599-2.2	E-07	2	AC	Yes	Check	Self Actuated	MC-RF-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RF0832A	MCFD-1599-2.2	I-05	2	A	Yes	Diaphragm	Air	MC-RF-02	No	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RF0834	MCFD-1599-2.2	I-08	2	AC	Yes	Check	Self Actuated	MC-RF-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
RN - Nuclear Service Water														
0RN0002B	MCFD-1574-1.0 K-10	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0003A	MCFD-1574-1.0 K-10	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0004AC	MCFD-1574-1.0 F-13	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0005B	MCFD-1574-1.0 E-12	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0007A	MCFD-1574-1.0 J-09	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0009B	MCFD-1574-1.0 D-09	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
0RN0010AC	MCFD-1574-1.0 G-11	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0011B	MCFD-1574-1.0 F-11	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0012AC	MCFD-1574-1.0 I-11	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
0RN0013A	MCFD-1574-1.0 J-11	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
0RN0014A	MCFD-1574-1.0 I-13	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0015B	MCFD-1574-1.0 F-13	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0016A	MCFD-1574-1.1 J-03	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0016A	MCFD-2574-1.1 J-03	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0018B	MCFD-1574-1.1 E-02	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0018B	MCFD-2574-1.1 E-02	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0021A	MCFD-1574-1.1 J-02	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0021A	MCFD-2574-1.1 J-02	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0022A	MCFD-1574-1.1 H-05	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0022A	MCFD-2574-1.1 H-05	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0025B	MCFD-1574-1.1 C-04	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0025B	MCFD-2574-1.1 C-04	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0026B	MCFD-1574-1.1 G-05	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0026B	MCFD-2574-1.1 G-05	3	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0028	MCFD-1574-1.1 J-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2RN0028	MCFD-2574-1.1 J-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0030	MCFD-1574-1.1 E-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2RN0030	MCFD-2574-1.1 E-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1RN0040A	MCFD-1574-1.1 I-12	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0040A	MCFD-2574-1.1 I-12	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0041B	MCFD-1574-1.1 F-12	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0041B	MCFD-2574-1.1 F-12	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0042A	MCFD-1574-4.0 B-09	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0042A	MCFD-2574-4.0 B-09	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0043A	MCFD-1574-1.1 F-12	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0043A	MCFD-2574-1.1 F-12	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0063B	MCFD-1574-1.0 I-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0063B	MCFD-2574-4.0 L-10	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0064A	MCFD-1574-1.0 I-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0064A	MCFD-2574-4.0 L-11	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0068A	MCFD-1574-1.1 K-12	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0068A	MCFD-2574-1.1 L-12	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0069A	MCFD-1574-2.0 K-03	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0069A	MCFD-2574-2.0 K-07	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0070A	MCFD-1574-2.0 F-03	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0070A	MCFD-2574-2.0 E-06	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0086A	MCFD-1574-2.0 D-09	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0086A	MCFD-2574-2.0 D-12	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0089A	MCFD-1574-2.0 J-10	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0089A	MCFD-2574-2.0 J-12	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0103A	MCFD-1574-2.1 C-06	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0103A	MCFD-2574-2.1 C-06	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0112A	MCFD-1574-2.0 I-06	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0112A	MCFD-2574-2.0 I-08	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0114A	MCFD-1574-2.1 B-11	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0114A	MCFD-2574-2.1 B-11	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0117A	MCFD-1574-2.0 I-08	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0117A	MCFD-2574-2.0 I-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0126A	MCFD-1574-2.1 D-09	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0126A	MCFD-2574-2.1 D-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0130A	MCFD-1574-2.1 C-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0130A	MCFD-2574-2.1 C-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0134A	MCFD-1574-2.1 C-07	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0134A	MCFD-2574-2.1 C-07	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0137A	MCFD-1574-2.1 H-07	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0137A	MCFD-2574-2.1 H-07	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0140A	MCFD-1574-2.0 E-13	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0140A	MCFD-2574-2.0 E-14	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
0RN0147AC	MCFD-1574-1.0 H-02	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
0RN0148AC	MCFD-1574-1.0 H-03	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
0RN0149A	MCFD-1574-1.0 J-07	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0150A	MCFD-1574-1.0 I-06	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0151B	MCFD-1574-1.0 F-06	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0152B	MCFD-1574-1.0 E-07	3	B	Yes	Butterfly	Limiterorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

McGuire Nuclear Station - IST Submittal for Valves
Interval 2, Revision 26

((08/01/02))

RN- Nuclear Service Water Section 4.1
Page 8 of

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0161B	MCFD-1574-1.1 B-13	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0161B	MCFD-2574-1.1 B-12	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0162B	MCFD-1574-3.0 K-03	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0162B	MCFD-2574-3.0 J-07	3	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0166A	MCFD-1574-2.0 J-02	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0166A	MCFD-2574-2.0 I-01	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0170B	MCFD-1574-3.0 I-01	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0170B	MCFD-2574-3.0 I-01	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0171B	MCFD-1574-3.0 E-03	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0171B	MCFD-2574-3.0 F-07	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0187B	MCFD-1574-3.0 E-10	3	B	Yes	Butterfly	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0187B	MCFD-2574-3.0 F-12	3	B	Yes	Butterfly	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0190B	MCFD-1574-3.0 J-10	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0190B	MCFD-2574-3.0 J-12	3	B	Yes	Butterfly	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0204B	MCFD-1574-3.1 C-05	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0204B	MCFD-2574-3.1 C-05	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0213B	MCFD-1574-3.0 J-06	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0213B	MCFD-2574-3.0 J-08	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0215B	MCFD-1574-3.1 B-11	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0215B	MCFD-2574-3.1 B-11	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0218B	MCFD-1574-3.0 I-08	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0218B	MCFD-2574-3.0 I-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0227B	MCFD-1574-3.1 E-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0227B	MCFD-2574-3.1 E-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0231B	MCFD-1574-3.1 C-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0231B	MCFD-2574-3.1 C-10	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0235B	MCFD-1574-3.1 E-07	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0235B	MCFD-2574-3.1 E-07	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0238B	MCFD-1574-3.1 I-07	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0238B	MCFD-2574-3.1 I-07	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0240B	MCFD-1574-3.0 E-13	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0240B	MCFD-2574-3.0 F-13	3	B	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0252B	MCFD-1574-4.0 E-02	2	A	Yes	Diaphragm	Air	MC-RN-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RN0252B	MCFD-2574-4.0 E-02	2	A	Yes	Diaphragm	Air	MC-RN-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RN0253A	MCFD-1574-4.0 C-02	2	A	Yes	Diaphragm	Rotork	MC-RN-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RN0253A	MCFD-2574-4.0 C-02	2	A	Yes	Diaphragm	Rotork	MC-RN-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RN0276A	MCFD-1574-4.0 J-02	2	A	Yes	Diaphragm	Rotork	MC-RN-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RN0276A	MCFD-2574-4.0 J-02	2	A	Yes	Diaphragm	Rotork	MC-RN-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RN0277B	MCFD-1574-4.0 I-02	2	A	Yes	Diaphragm	Air	MC-RN-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RN0277B	MCFD-2592-4.0 H-02	2	A	Yes	Diaphragm	Air	MC-RN-02	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RN0279B	MCFD-1574-1.0 K-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0279B	MCFD-1574-1.0 C-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0280	MCFD-1574-1.0 K-03	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
0RN0283AC	MCFD-1574-1.0 F-02	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0284B	MCFD-1574-1.0 F-02	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1RN0296A	MCFD-1574-1.0 I-01	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0296A	MCFD-2574-1.1 L-13	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0297B	MCFD-1574-1.0 G-02	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2RN0297B	MCFD-2574-3.0 L-05	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1RN0299A	MCFD-1574-1.0 K-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2RN0299A	MCFD-1574-1.0 C-02	3	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0301AC	MCFD-1574-1.0 G-10	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
0RN0302B	MCFD-1574-1.0 F-10	3	B	Yes	Butterfly	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
RV - Containment Ventilation Cooling Water															
1RV0032A	MCFD-1604-3.0	K-10	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0032A	MCFD-2604-3.0	K-10	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RV0033B	MCFD-1604-3.0	K-12	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0033B	MCFD-2604-3.0	K-12	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RV0076A	MCFD-1604-3.0	C-12	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0076A	MCFD-2604-3.0	C-12	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RV0077B	MCFD-1604-3.0 C-10	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0077B	MCFD-2604-3.0 C-10	2	A	Yes	Butterfly	Rotork	MC-RV-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RV0079A	MCFD-1604-3.0 K-07	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0079A	MCFD-2604-3.0 K-07	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RV0080B	MCFD-1604-3.0 K-05	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0080B	MCFD-2604-3.0 K-06	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RV0101A	MCFD-1604-3.0 C-05	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0101A	MCFD-2604-3.0 C-05	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RV0102B	MCFD-1604-3.0 C-07	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0102B	MCFD-2604-3.0 C-07	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1RV0445	MCFD-1604-3.0 J-12	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0445	MCFD-2604-3.0 J-12	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1RV0446	MCFD-1604-3.0 B-12	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2RV0446	MCFD-2604-3.0 B-12	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
SA - Main Steam To Auxiliary Equipment														
1SA0001	MCFD-1593-1.2 D-04	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2SA0001	MCFD-2593-1.2 D-04	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1SA0002	MCFD-1593-1.2 F-02	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2SA0002	MCFD-2593-1.2 F-02	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1SA0005	MCFD-1593-1.2 F-04	2	C	Yes	Check	Self Actuated	MC-SA-01	No	SD	Sample Disassembly	Open to Closed	SD	Disassem one vlv per grp ea. RFO	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2SA0005	MCFD-2593-1.2 F-04	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Open to Closed	CM	Condition Monitoring	MC-GRV-04
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SA0006	MCFD-1593-1.2 F-04	2	C	Yes	Check	Self Actuated	MC-SA-01	No	SD	Sample Disassembly	Open to Closed	SD	Disassem one vlv per grp ea. RFO	None
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
2SA0006	MCFD-2593-1.2 F-03	2	C	Yes	Check	Self Actuated	None	No	SD	Sample Disassembly	Open to Closed	CM	Condition Monitoring	MC-GRV-04
									FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CM	Condition Monitoring	MC-GRV-04
1SA0048ABC	MCFD-1593-1.2 E-04	2	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2SA0048ABC	MCFD-2593-1.2 E-04	2	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1SA0049AB	MCFD-1593-1.2 F-02	2	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2SA0049AB	MCFD-2593-1.2 F-02	2	B	Yes	Gate	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1SA0077	MCFD-1593-1.2 D-05	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2SA0077	MCFD-2593-1.2 D-05	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SA0078	MCFD-1593-1.2 H-02	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2SA0078	MCFD-2593-1.2 H-02	2	B	Yes	Gate	Manual	MC-SA-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
SM - Main Steam														
1SM0001AB	MCFD-1593-1.3 I-14	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2SM0001AB	MCFD-2593-1.3 K-13	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1SM0003AB	MCFD-1593-1.3 C-14	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2SM0003AB	MCFD-2593-1.3 H-13	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1SM0005AB	MCFD-1593-1.0 I-14	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2SM0005AB	MCFD-2593-1.0 I-14	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
1SM0007AB	MCFD-1593-1.0 C-14	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
2SM0007AB	MCFD-2593-1.0 C-14	2	B	Yes	Globe	Air	MC-SM-01	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SM0009AB	MCFD-1593-1.3 I-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SM0009AB	MCFD-2593-1.3 J-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SM0010AB	MCFD-1593-1.3 C-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SM0010AB	MCFD-2593-1.3 G-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SM0011AB	MCFD-1593-1.0 I-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SM0011AB	MCFD-2593-1.0 I-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SM0012AB	MCFD-1593-1.0 C-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SM0012AB	MCFD-2593-1.0 C-13	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SM0083	MCFD-1593-1.0 D-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None
2SM0083	MCFD-2593-1.0 D-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SM0089	MCFD-1593-1.0 J-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None
2SM0089	MCFD-2593-1.0 J-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None
1SM0095	MCFD-1593-1.3 D-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None
2SM0095	MCFD-2593-1.3 D-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None
1SM0101	MCFD-1593-1.3 J-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None
2SM0101	MCFD-2593-1.3 J-03	2	B	Yes	Kerotest	Air	None	Yes	FT	Failed to Safe Position	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
SV - Main Steam Relief to Atmosphere														
1SV0001AB	MCFD-1593-1.3 L-05	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SV0001AB	MCFD-2593-1.3 L-05	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SV0002	MCFD-1593-1.3 K-06	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0002	MCFD-2593-1.3 K-06	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
1SV0003	MCFD-1593-1.3 K-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0003	MCFD-2593-1.3 K-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
1SV0004	MCFD-1593-1.3 K-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0004	MCFD-2593-1.3 K-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SV0005	MCFD-1593-1.3 K-11	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0005	MCFD-2593-1.3 K-11	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
1SV0006	MCFD-1593-1.3 K-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0006	MCFD-2593-1.3 K-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
1SV0007ABC	MCFD-1593-1.3 G-05	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SV0007ABC	MCFD-2593-1.3 G-05	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SV0008	MCFD-1593-1.3 E-06	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0008	MCFD-2593-1.3 E-06	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	TestDirection	Test Frequency	Frequency Description	Relief Request
1SV0009	MCFD-1593-1.3 E-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0009	MCFD-2593-1.3 E-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1SV0010	MCFD-1593-1.3 E-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0010	MCFD-2593-1.3 E-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1SV0011	MCFD-1593-1.3 E-11	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0011	MCFD-2593-1.3 E-11	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1SV0012	MCFD-1593-1.3 E-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0012	MCFD-2593-1.3 E-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SV0013AB	MCFD-1593-1.0 L-04	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SV0013AB	MCFD-2593-1.0 L-04	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SV0014	MCFD-1593-1.0 K-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0014	MCFD-2593-1.0 K-05	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1SV0015	MCFD-1593-1.0 K-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0015	MCFD-2593-1.0 K-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1SV0016	MCFD-1593-1.0 K-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0016	MCFD-2593-1.0 K-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SV0017	MCFD-1593-1.0 K-10	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0017	MCFD-2593-1.0 K-10	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1SV0018	MCFD-1593-1.0 K-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0018	MCFD-2593-1.0 K-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1SV0019AB	MCFD-1593-1.0 G-04	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2SV0019AB	MCFD-2593-1.0 G-05	2	B	Yes	Control	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1SV0020	MCFD-1593-1.0 E-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2SV0020	MCFD-2593-1.0 E-05	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1SV0021	MCFD-1593-1.0 E-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0021	MCFD-2593-1.0 E-07	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
1SV0022	MCFD-1593-1.0 E-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0022	MCFD-2593-1.0 E-09	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
1SV0023	MCFD-1593-1.0 E-10	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0023	MCFD-2593-1.0 E-10	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
1SV0024	MCFD-1593-1.0 E-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0
2SV0024	MCFD-2593-1.0 E-12	2	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,0

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
<i>VB - Breathing Air</i>														
1VB0049B	<i>MCFD-1605-3.1 G-02</i>	<i>2</i>	<i>A</i>	<i>Yes</i>	<i>Kerotest</i>	<i>Rotork</i>	<i>None</i>	<i>Yes</i>	<i>ST</i>	<i>Measure Full-Stroke Time of Valve</i>	<i>Open to Closed</i>	<i>Q</i>	<i>Tested once quarterly</i>	<i>None</i>
									<i>LJ</i>	<i>Leak-Rate Test Valve to App J Requirement(s)</i>	<i>Accident Direction (Closed)</i>	<i>RF</i>	<i>Tested every refueling outage</i>	<i>None</i>
2VB0049B	<i>MCFD-2605-3.1 F-02</i>	<i>2</i>	<i>A</i>	<i>Yes</i>	<i>Kerotest</i>	<i>Rotork</i>	<i>None</i>	<i>Yes</i>	<i>ST</i>	<i>Measure Full-Stroke Time of Valve</i>	<i>Open to Closed</i>	<i>Q</i>	<i>Tested once quarterly</i>	<i>None</i>
									<i>LJ</i>	<i>Leak-Rate Test Valve to App J Requirement(s)</i>	<i>Accident Direction (Closed)</i>	<i>RF</i>	<i>Tested every refueling outage</i>	<i>None</i>
1VB0050	<i>MCFD-1605-3.1 E-04</i>	<i>2</i>	<i>AC</i>	<i>Yes</i>	<i>Check</i>	<i>Self Actuated</i>	<i>MC-VB-01</i>	<i>No</i>	<i>LJ</i>	<i>Leak-Rate Test Valve to App J Requirement(s)</i>	<i>Accident Direction (Closed)</i>	<i>RF</i>	<i>Tested every refueling outage</i>	<i>None</i>
2VB0050	<i>MCFD-2605-3.1 E-04</i>	<i>2</i>	<i>AC</i>	<i>Yes</i>	<i>Check</i>	<i>Self Actuated</i>	<i>MC-VB-01</i>	<i>No</i>	<i>LJ</i>	<i>Leak-Rate Test Valve to App J Requirement(s)</i>	<i>Accident Direction (Closed)</i>	<i>RF</i>	<i>Tested every refueling outage</i>	<i>None</i>

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	TestDirection	Test Frequency	Frequency Description	Relief Request
VC - Control Room and Area Ventilation														
1VC0001A	MCFD-1578-1.0 I-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1VC0002A	MCFD-1578-1.0 I-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1VC0003B	MCFD-1578-1.0 I-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1VC0004B	MCFD-1578-1.0 H-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1VC0009A	MCFD-1578-1.0 E-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1VC0010A	MCFD-1578-1.0 D-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1VC0011B	MCFD-1578-1.0 E-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1VC0012B	MCFD-1578-1.0 D-13	NA	B	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
VE - Annulus Ventilation															
1VE0005A	MCFD-1564-1.0	G-04	2	A	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VE0005A	MCFD-2564-1.0	G-04	2	A	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VE0006B	MCFD-1564-1.0	G-04	2	A	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VE0006B	MCFD-2564-1.0	G-04	2	A	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VE0008A	MCFD-1564-1.0	J-02	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
2VE0008A	MCFD-2564-1.0	J-02	2	B	Yes	Gate	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VE0010A	MCFD-1564-1.0 H-03	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VE0010A	MCFD-2564-1.0 H-03	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VE0011	MCFD-1564-1.0 H-03	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VE0011	MCFD-2564-1.0 H-03	2	A	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
VG - Diesel Generator Starting Air														
1VG0033	MCFD-1609-4.0 L-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0033	MCFD-2609-4.0 L-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1VG0034	MCFD-1609-4.0 I-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0034	MCFD-2609-4.0 I-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1VG0035	MCFD-1609-4.0 G-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0035	MCFD-2609-4.0 G-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1VG0036	MCFD-1609-4.0 C-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0036	MCFD-2609-4.0 C-07	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

McGuire Nuclear Station - IST Submittal for Valves
Interval 2, Revision 26

((08/01/02))

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VG0061	MCFD-1609-4.0 K-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0061	MCFD-2609-4.0 K-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
1VG0062	MCFD-1609-4.0 K-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0062	MCFD-2609-4.0 K-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
1VG0063	MCFD-1609-4.0 H-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0063	MCFD-2609-4.0 I-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
1VG0064	MCFD-1609-4.0 I-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0064	MCFD-2609-4.0 H-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VG0065	MCFD-1609-4.0 E-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0065	MCFD-2609-4.0 F-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
1VG0066	MCFD-1609-4.0 F-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0066	MCFD-2609-4.0 E-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
1VG0067	MCFD-1609-4.0 C-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0067	MCFD-2609-4.0 C-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
1VG0068	MCFD-1609-4.0 C-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None
2VG0068	MCFD-2609-4.0 C-02	3	B	Yes	Solenoid	Solenoid	MC-VG-02	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	RF	Tested every refueling outage	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	TestDirection	Test Frequency	Frequency Description	Relief Request
1VG0079	MCFD-1609-4.0 I-11	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0079	MCFD-2609-4.0 I-11	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1VG0080	MCFD-1609-4.0 D-11	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0080	MCFD-2609-4.0 C-11	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1VG0083	MCFD-1609-4.0 J-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0083	MCFD-2609-4.0 J-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
1VG0084	MCFD-1609-4.0 D-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03
2VG0084	MCFD-2609-4.0 D-10	3	C	Yes	Relief	Self Actuated	None	No	RV	Safety and Relief Valve Test	Closed to Open	RV	Test relief valve per OM-1 schedule	MC-GRV-01,02,03

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VG0115	MCFD-1609-4.0 K-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2VG0115	MCFD-2609-4.0 K-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1VG0116	MCFD-1609-4.0 H-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2VG0116	MCFD-2609-4.0 H-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1VG0117	MCFD-1609-4.0 F-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2VG0117	MCFD-2609-4.0 F-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1VG0118	MCFD-1609-4.0 C-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
2VG0118	MCFD-2609-4.0 C-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
VI - Instrument Air														
1VI0040	MCFD-1605-1.3 H-04	2	AC	Yes	Check	Self Actuated	MC-VI-03	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0040	MCFD-2605-1.3 J-13	2	AC	Yes	Check	Self Actuated	MC-VI-03	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI0124	MCFD-1605-1.2 D-03	2	AC	Yes	Check	Self Actuated	MC-VI-02	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0124	MCFD-2605-1.2 B-04	2	AC	Yes	Check	Self Actuated	MC-VI-02	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI0129B	MCFD-1605-1.17 J-06	2	A	Yes	Kerotest	Rotork	MC-VI-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0129B	MCFD-2605-1.3 J-11	2	A	Yes	Kerotest	Rotork	MC-VI-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VI0148B	MCFD-1605-1.14 C-04	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0148B	MCFD-2605-1.2 E-03	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI0149	MCFD-1605-1.2 I-03	2	AC	Yes	Check	Self Actuated	MC-VI-02	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0149	MCFD-2605-1.2 E-05	2	AC	Yes	Check	Self Actuated	MC-VI-02	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI0150B	MCFD-1605-1.14 B-03	2	A	Yes	Kerotest	Rotork	MC-VI-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0150B	MCFD-2605-1.2 C-02	2	A	Yes	Kerotest	Rotork	MC-VI-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VI0160B	MCFD-1605-1.17 C-06	2	A	Yes	Kerotest	Rotork	MC-VI-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0160B	MCFD-2605-1.3 D-11	2	A	Yes	Kerotest	Rotork	MC-VI-04	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	CS	Tested at cold shutdown	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI0161	MCFD-1605-1.3 E-04	2	AC	Yes	Check	Self Actuated	MC-VI-03	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0161	MCFD-2605-1.3 D-13	2	AC	Yes	Check	Self Actuated	MC-VI-03	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI0362A	MCFD-1605-1.2 I-02	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VI0362A	MCFD-2605-1.2 D-04	2	A	Yes	Kerotest	Limitorque	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	TestDirection	Test Frequency	Frequency Description	Relief Request
1VI0368	MCFD-1605-1.3 I-07	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2VI0368	MCFD-2605-1.3 I-07	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1VI0372	MCFD-1605-1.3 I-08	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2VI0372	MCFD-2605-1.3 I-08	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
1VI0373	MCFD-1605-1.3 C-07	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
2VI0373	MCFD-2605-1.3 C-07	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	CS	Tested at cold shutdown	None
1VI0374	MCFD-1605-1.3 C-08	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None
2VI0374	MCFD-2605-1.3 C-08	NA	C	Yes	Check	Self Actuated	MC-VI-01	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	CS	Tested at cold shutdown	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VI1906	MCFD-1605-1.13 L-09	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI1907	MCFD-1605-1.13 L-12	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI1914	MCFD-1605-1.13 H-01	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VI1915	MCFD-1605-1.13 J-01	B	A/C	Yes	Check	Self Actuated	None	No	LT	Leak-Rate Test Valve to Section XI Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
VP - Containment Purge														
1VP0001B	MCFD-1576-1.0 I-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0001B	MCFD-2576-1.0 I-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
1VP0002A	MCFD-1576-1.0 I-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0002A	MCFD-2576-1.0 I-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
1VP0003B	MCFD-1576-1.0 K-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0003B	MCFD-2576-1.0 K-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
1VP0004A	MCFD-1576-1.0 K-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0004A	MCFD-2576-1.0 K-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VP0006B	MCFD-1576-1.0 E-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0006B	MCFD-2576-1.0 E-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
1VP0007A	MCFD-1576-1.0 E-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0007A	MCFD-2576-1.0 E-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
1VP0008B	MCFD-1576-1.0 D-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0008B	MCFD-2576-1.0 D-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
1VP0009A	MCFD-1576-1.0 D-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0009A	MCFD-2576-1.0 D-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
1VP0010A	MCFD-1576-1.0 J-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0010A	MCFD-2576-1.0 J-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VP0011B	MCFD-1576-1.0 J-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0011B	MCFD-2576-1.0 J-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
1VP0012A	MCFD-1576-1.0 I-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0012A	MCFD-2576-1.0 I-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
1VP0013B	MCFD-1576-1.0 I-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0013B	MCFD-2576-1.0 I-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
1VP0015A	MCFD-1576-1.0 F-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0015A	MCFD-2576-1.0 F-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
1VP0016B	MCFD-1576-1.0 F-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0016B	MCFD-2576-1.0 F-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VP0017A	MCFD-1576-1.0 B-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0017A	MCFD-2576-1.0 B-07	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
1VP0018B	MCFD-1576-1.0 B-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0018B	MCFD-2576-1.0 B-06	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
1VP0019A	MCFD-1576-1.0 B-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
2VP0019A	MCFD-2576-1.0 B-08	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Reverse Direction	6M	Tested every 6 months	None
1VP0020B	MCFD-1576-1.0 B-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None
2VP0020B	MCFD-2576-1.0 B-09	2	A	No	Butterfly	Air	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	6M	Tested every 6 months	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
VQ - Containment Air Release & Addition														
1VQ0001A	MCFD-1585-1.0 J-04	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VQ0001A	MCFD-2585-1.0 J-04	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VQ0002B	MCFD-1585-1.0 J-06	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VQ0002B	MCFD-2585-1.0 J-06	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VQ0005B	MCFD-1585-1.0 E-06	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VQ0005B	MCFD-2585-1.0 E-06	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VQ0006A	MCFD-1585-1.0 E-03	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VQ0006A	MCFD-2585-1.0 E-03	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
VS - Station Air															
1VS0012B	MCFD-1605-2.2	K-05	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VS0012B	MCFD-2605-2.2	F-08	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VS0013	MCFD-1605-2.2	I-05	2	AC	Yes	Check	Self Actuated	MC-VS-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VS0013	MCFD-2605-2.2	H-08	2	AC	Yes	Check	Self Actuated	MC-VS-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
<i>VX - Containment Air Return & Hydrogen Skimmer</i>														
1VX0001A	MCFD-1557-1.0 I-03	2	B	Yes	Butterfly	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2VX0001A	MCFD-2557-1.0 I-03	2	B	Yes	Butterfly	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1VX0002B	MCFD-1557-1.0 I-12	2	B	Yes	Butterfly	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
2VX0002B	MCFD-2557-1.0 I-12	2	B	Yes	Butterfly	Limiterque	None	Yes	ST	Measure Full-Stroke Time of Valve	Closed to Open	Q	Tested once quarterly	None
1VX0030	MCFD-1557-1.0 J-03	2	AC	Yes	Check	Self Actuated	MC-VX-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VX0030	MCFD-2557-1.0 J-03	2	AC	Yes	Check	Self Actuated	MC-VX-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VX0031A	MCFD-1557-1.0 J-13	2	A	Yes	Diaphragm	Air	None	Yes	ST LJ	Measure Full-Stroke Time of Valve Leak-Rate Test Valve to App J Requirement(s)	Open to Closed Accident Direction (Closed)	Q RF	Tested once quarterly Tested every refueling outage	None None
2VX0031A	MCFD-2557-1.0 J-13	2	A	Yes	Diaphragm	Air	None	Yes	ST LJ	Measure Full-Stroke Time of Valve Leak-Rate Test Valve to App J Requirement(s)	Open to Closed Accident Direction (Closed)	Q RF	Tested once quarterly Tested every refueling outage	None None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1VX0033B	MCFD-1557-1.0 J-12	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VX0033B	MCFD-2557-1.0 J-12	2	A	Yes	Diaphragm	Air	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VX0034	MCFD-1557-1.0 K-12	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VX0034	MCFD-2557-1.0 K-12	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1VX0040	MCFD-1557-1.0 K-03	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2VX0040	MCFD-2557-1.0 K-03	2	A	No	Diaphragm	Manual	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
WL - Liquid Waste Recycle														
1WL0001B	MCFD-1565-1.1 L-11	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0001B	MCFD-2565-1.1 L-11	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL0002A	MCFD-1565-1.1 K-13	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0002A	MCFD-2565-1.1 K-13	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL0024	MCFD-1565-1.1 J-14	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0024	MCFD-2565-1.1 J-14	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1WL0039A	MCFD-1565-1.1 J-05	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0039A	MCFD-2565-1.1 J-05	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL0041B	MCFD-1565-1.1 K-05	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0041B	MCFD-2565-1.1 K-05	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL0064A	MCFD-1565-1.0 J-03	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0064A	MCFD-2565-1.0 J-03	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1WL0065B	MCFD-1565-1.0 K-05	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0065B	MCFD-2565-1.0 K-05	2	A	Yes	Diaphragm	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL0264	MCFD-1565-1.0 J-02	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0264	MCFD-2565-1.0 J-02	2	AC	Yes	Relief	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL0321A	MCFD-1565-7.0 H-07	2	A	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0321A	MCFD-2565-7.0 I-05	2	A	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1WL0322B	MCFD-1565-7.0 I-06	2	A	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0322B	MCFD-2565-7.0 H-04	2	A	Yes	Butterfly	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL0385	MCFD-1565-7.0 H-07	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL0385	MCFD-2565-7.0 J-05	2	AC	No	Check	Self Actuated	None	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1WL1301B	MCFD-1565-1.0 G-03	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL1301B	MCFD-2565-1.0 G-03	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
									LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
1WL1302A	MCFD-1565-1.0	E-09	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2WL1302A	MCFD-2565-1.0	E-04	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	TestDirection	Test Frequency	Frequency Description	Relief Request
WN - Diesel Generator Room Sump Pump														
1WN0003	MCFD-1609-7.0 L-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01
2WN0003	MCFD-2609-7.0 L-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01
1WN0005	MCFD-1609-7.0 K-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01
2WN0005	MCFD-2609-7.0 K-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01
1WN0007	MCFD-1609-7.0 J-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	2Y	Tested once every two years	MC-SRV-WN-01
2WN0007	MCFD-2609-7.0 J-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	2Y	Tested once every two years	MC-SRV-WN-01
1WN0011	MCFD-1609-7.0 F-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01
2WN0011	MCFD-2609-7.0 F-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01

Valve	FlowDiagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	TestDirection	Test Frequency	Frequency Description	Relief Request
1WN0013	MCFD-1609-7.0 E-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01
2WN0013	MCFD-2609-7.0 E-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	2Y	Tested once every two years	MC-SRV-WN-01
1WN0015	MCFD-1609-7.0 D-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	2Y	Tested once every two years	MC-SRV-WN-01
2WN0015	MCFD-2609-7.0 D-11	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Open to Closed	2Y	Tested once every two years	MC-SRV-WN-01

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
<i>WZ - Groundwater Monitoring and Sump</i>															
1WZ0001	MCFD-1581-1.0	G-03	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1WZ0003	MCFD-1581-1.0	G-05	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1WZ0005	MCFD-1581-1.0	G-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1WZ0007	MCFD-1581-1.0	G-06	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1WZ0009	MCFD-1581-1.0	G-10	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None
1WZ0011	MCFD-1581-1.0	G-13	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Both (Stroke Test)	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
YC - Control Area Chilled Water														
1YC0002A	MCFD-1618-1.0 H-02	3	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1YC0013	MCFD-1618-1.0 K-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1YC0014	MCFD-1618-1.0 K-10	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1YC0054	MCFD-1618-1.0 H-09	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0076	MCFD-1618-1.0 H-04	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0083B	MCFD-1618-1.0 F-02	3	B	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
1YC0094	MCFD-1618-1.0 C-09	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None
1YC0095	MCFD-1618-1.0 C-10	3	C	Yes	Check	Self Actuated	None	No	FS	Full-Stroke Exercise Valve to Safety Position(s)	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1YC0113	MCFD-1618-1.0 F-09	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0135	MCFD-1618-1.0 F-04	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0148	MCFD-1618-2.0 E-02	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0162	MCFD-1618-2.0 E-03	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0176	MCFD-1618-2.0 E-05	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0190	MCFD-1618-2.0 E-07	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0204	MCFD-1618-2.0 E-08	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0218	MCFD-1618-2.0 E-10	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0232	MCFD-1618-2.0 E-12	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0246	MCFD-1618-2.0 E-14	3	B	Yes	Control	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request
1YC0347	MCFD-1618-4.0 G-05	3	B	Yes	Gate	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None
1YC0357	MCFD-1618-4.0 G-12	3	B	Yes	Gate	Air	None	No	FT	Failed to Safe Position	Closed to Open	Q	Tested once quarterly	None

Valve	Flow Diagram	ASME Class	Valve Catg.	Active	Valve Type	Actuator Type	JOD	PI	Test Type	Test Type Description	Test Direction	Test Frequency	Frequency Description	Relief Request	
YM - Demineralized Water															
1YM0115B	MCFD-1601-2.4	C-09	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2YM0115B	MCFD-1601-2.4	C-09	2	A	Yes	Kerotest	Rotork	None	Yes	ST	Measure Full-Stroke Time of Valve	Open to Closed	Q	Tested once quarterly	None
										LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
1YM0116	MCFD-1601-2.4	C-11	2	AC	Yes	Check	Self Actuated	MC-YM-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None
2YM0116	MCFD-1601-2.4	C-04	2	AC	Yes	Check	Self Actuated	MC-YM-01	No	LJ	Leak-Rate Test Valve to App J Requirement(s)	Accident Direction (Closed)	RF	Tested every refueling outage	None