ENCLOSURE 1

IST PROGRAM PLAN

(NMP2-IST-005, REVISION 0)

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March 16, 1998

Mr. Ray Dean
Manager, Engineering
Niagara Mohawk Power Corp.
Nine Mile Point Unit 2

Dear Ray:

The 1989 Edition of ASME Section XI, IWA-2110(a)(1), states that one of the duties of the Inspector (ANII) is to perform a detailed review of the Inspection Plan (IWA-2400) for each inspection interval.

I have completed reviewing Nine Mile Point Unit 2, Second Ten Year Interval Inservice Pump and Valve Testing Program Plan, Document Number NMP2-IST-005. The review included verifying that the following items are in the Program Plan as delineated in ASME Section XI, IWA-2110(a)(1):

a) Examination categories and items, these are not applicable to the pump and valve program plan.

b) Test and Examination Requirements, this is identified in Section II, Pumps, Subsection 4. Titled Testing Requirements and Section III, Valves, Subsection 4. Titled Testing Requirements.

c) Examination Methods, these are not applicable to the pump and valve program plan.

d) Percentage of Parts Selected for Examination, this is identified in Section II, Pumps, Subsection 2. Titled Pump Inservice Testing Scope and Section III Valves, Subsection 2. Titled Valve Inservice Testing.

e) Inservice Test Quantities, this is identified in Section II Pumps, Subsection 5. Titled Test Procedure and Section III Valves, Subsections 5.1 Titled OM-1 Test, 5.2 Titled Inservice Tests for Category A and B Valves (OM-10), 5.3 Titled Inservice Tests for Category C Valves (OM-10), and 5.4 Titled Inservice Tests for Category D valves.

f) Disposition of Test Results, this is identified in Section II, Pumps, Subsection 6, Titled Analyses and Evaluation and Section III, Valves, Subsection 6, Titled Acceptance Criteria and Corrective Action.

g) Test Frequency, this is identified in Section II, Pumps, Subsection 5.1 Titled Frequency of Inservice Tests and Section III, Valves, Subsection 5.1 Titled OM-1 Tests, Subsection 5.2.1 Titled Frequency for Inservice Tests for Category C valves (OM-10) and Subsection 5.4 Titled Inservice Tests for Category D valves.

h) System Pressure Tests, this item is not applicable to the pump and valve testing program plan.

i) Sequence of Successive Examinations, this item is not applicable to the pump and valve testing program plan.

Sincerely,

Lynn D Anderson

Lynn D. Anderson, ANII

LDA/st

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NMP2-IST-005

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION UNIT 2

INSERVICE PUMP AND VALVE TESTING PROGRAM PLAN

SECOND TEN-YEAR INTERVAL

Revision 0

PREPARED BY:	MECHANICAL DESIGN	DATE:	4-Mar-98
REVIEWED BY:	T. Mogren LEAD ENGINEER MECHANICAL DESIGN	DATE:	3/4/98
REVIEWED BY:	A. Shahrouss SUPERVISOR MECHANICAL DESIGN	DATE:	3/4/98
REVIEWED BY:	Keith D. Ward MANAGER TECHNICAL SUPPORT	DATE:	3/10/98
REVIEWED BY:	MANAGER OPERATIONS	DATE:	3/11/98
APPROVED BY:	MANAGER NUCLEAR ENGINEERING	DATE:	3/12/98

EFFECTIVE DATE: APRIL 5, 1998

ERRATA FOR UNIT TWO IST PROGRAM, NMP2-IST-005, REV. 0

1. Section I, Page 24: Change "subsection 6.0" to "subsection 4" in first paragraph
2. Section II, Page 2: add ", subsection 9, Pump Testing Tables" at the end of paragraph 2.1.B
3. Section II, Page 9: Change "subsection 6.0" to "subsection 6" in the last line
4. Section II, Page 10: Change "subsection 6.0" to "subsection 6" in the fourth line
5. Section II, Page 30 : Add 2WCS*P1A, B to Exclusions; RWCU pumps are excluded, and they should be listed in Exclusions
6. Section III, Page 15: add "a" in paragraph b)(1)
7. CCP, Page 5: Delete CCP*V996; this valve is not in the IST Program
8. CSL, Page 1: Change CSL*FV114 from 12" GTV to 10" GLV; the P&ID is incorrect
9. GSN, Page 1: Change GSN*V170 from 1" CHV to 0.5" CHV
10. ICS, Page 5: Change Test Commitment for ICS*PSE117, 118 from "RD-P3" to "RD-T"; this makes the commitment column consistent with the Note.
11. RHS, Page 2: For RHS*FV38C, delete "O" safety position and ST-Q (O); this was a late change in the first interval plan
12. RHS, Page 4: For RHS*MOV112, 113, delete "O" safety position and ST-Q (O); this was a late change in the first interval plan

LIST OF EFFECTIVE SECTIONS AND CHANGE SUMMARY

LIST OF EFFECTIVE SECTIONS

REVISION 0

SUMMARY OF CHANGES

	Description of Change	Reason For Change
1.	LDCR 2-98-IST-002; revise the definition of "Passive" in Sections I, II, and III; correct the pagination in Section II; correct editorial errors in ICS; reclassify from Cat. A to Cat. B and add LK-T for RHS*MOV26A, B and RHS*MOV27A, B: SRAB disapproved the SE that would change them from Cat. A to Cat. B correct editorial errors in SLS; delete SLS-PRR-1; delete the reverse exercise test for SLS*V12 and *V14.	Incorporate comments from Licensing and Technical Support subsequent to the original issue of Revision 0.
2.		
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1. INTRODUCTION

1.1 GENERAL

This document is the Second Ten–Year Program Plan for Inservice Testing (IST) of Pumps and Valves at the Nine Mile Point Nuclear Station Unit 2 (NMP2) in compliance with the requirements of 10 CFR 50.55a(f) and Station Technical Specification 4.0.5. This Program Plan was prepared in accordance with the rules of the ASME Boiler and Pressure Vessel Code, Section XI, 1989, and ASME/ANSI OM–1987 through OMa–1988. Part 1 (OM–1) is used for safety and relief valves; Part 6 (OM–6) for pump testing; and Part 10 (OM–10) for valve testing.

1.2 COMMERCIAL OPERATION DATE AND IST INTERVALS

Nine Mile Point Unit 2 began commercial operation on April 5, 1988, and the First Ten–Year IST Interval began on that date. The legal commercial operation date was established by the New York State Public Service Commission (PSC). Opinion No. 89–37(C) of the New York PSC established April 5, 1988 as the legal date of commercial operation for Nine Mile Point Unit 2. All Nine Mile Point Unit Two initial ISI and IST Code periods and 10–year intervals began on April 5, 1988. Therefore, the Second IST Ten–Year Interval begins on April 5, 1998.

1.3 APPLICABLE CODES

The First 10–Year Interval IST Program Plan complied with ASME Section XI, 1983 Edition through Summer, 1983 addenda. The Second 10–Year Interval IST Program Plan conforms to ASME Section XI, 1989 Edition. This Code Edition directs that pumps shall be tested in accordance with OM–6 and valves shall be tested in accordance with OM–10. OM–10 further directs that "safety and relief valves shall meet the inservice test requirements of Part 1."

Since the First 10–Year IST Program Plan was revised to comply with OMa–1988, Part 6 (OM–6), and OM–1987, Part 1 (OM–1), the major changes in the Second 10–Year IST Program Plan center around the implementation of OMa–1988, Part 10 (OM–10), for all valves other than the safety and relief valves that are tested in accordance with OM–1.

Another consequence of the change in Code editions is that some Relief Requests are no longer required. Relief Requests are covered in detail in Section I–7.

2. IST PROGRAM PLAN ORGANIZATION

The Pump and Valve Inservice Testing Program Plan Document is organized into three sections:

I. Section I presents the general program commitment basis and the conceptual framework used in developing the Program Plan.

II. Section II deals specifically with the Pump Testing Program.

III. Section III deals specifically with the Valve Testing Program.

Sections II and III summarize the respective basis and concepts used to formulate the Pump and Valve Test Tables. Pump testing requirements are summarized in a single Pump Test Table attached to Section II. Valve testing requirements are summarized in Valve Test Tables attached to Section III. The Valve Test Tables are arranged into 30 separate attachments—one for each system.

In those cases where additional discussion of the test requirements for a component is needed, the remarks column of the Test Table contains a note number. These notes follow the Pump Test Table or the Valve Test Tables for each system. Where quarterly testing has been found to be impracticable, a cold shutdown justification (CSJ), a refueling outage justification (ROJ), or a Relief Request (PRR or VRR) is provided following the Pump or Valve Test Table Notes.

3. REGULATORY BASIS AND PROGRAM SCOPE

3.1 10 CFR 50

The fundamental requirement for testing of pumps and valves comes from 10 CFR 50 Appendix A, *General Design Criteria For Nuclear Power Plants*, GDC 1; and Appendix B, *Quality Assurance Criteria For Nuclear Power Plants And Fuel Reprocessing Plants*, Criterion XI.

Appendix A GDC 1 states in part,

> "Structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed."

Appendix B Criterion XI, *Test Control*, states in part,

> "A test program shall be established to assure that all testing required to demonstrate that structures, system, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. The test program shall include, as appropriate, ...operational tests during nuclear power plant operation of structures, system, and components. Test procedures shall include provisions for assuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions."

3.2 ASME BOILER AND PRESSURE VESSEL CODE

The specific regulatory basis for the IST program is 10 CFR 50.55a(f), *Inservice Testing Requirements*. This section of 10 CFR 50 requires the following:

> The testing performed during the second (and successive) 120–month interval must comply with the requirements of the Code Edition incorporated by 10 CFR 50.55a(b) 12 months prior to the start of the interval.

For Nine Mile Point Unit 2, the second 120–month interval begins on April 5, 1998. Therefore, the Code Edition of interest is the one endorsed by NRC in 10 CFR 50.55a as of April 5, 1997. The Code Edition in effect on April 5, 1997 is the 1989 Edition of ASME Boiler and Pressure Vessel Code, Section XI.

Table IWA–1600–1 in the 1989 Edition of ASME B&PV Code Section XI lists Referenced Standards and Specifications, including the following:

Standard or Specification	Revision Date or Indicator
ASME/ANSI OM (Part 1)	1987
ASME/ANSI OM (Part 6)	1987, 1987a
ASME/ANSI OM (Part 10)	1987, 1987a

Title 10 CFR 50.55a(b)(2)(viii) is entitled, "Section XI References to OM Part 4, OM Part 6 and OM Part 10 (Table IWA–16000–1)." This paragraph states, "When using Table IWA–1600–1, "Referenced Standards and Specifications" in the section XI, Division 1, 1987 Addenda, 1988 Addenda, or 1989 Edition, the specified "Revision Date or Indicator" for ASME/ANSI OM Part 4, ASME/ANSI Part 6, and ASME/ANSI Part 10 shall be the OMa–1988 Addenda to the OM–1987 Edition."

Therefore, the Revision Dates for the Parts of ASME/ANSI OM that are in effect for the Second Ten–Year Interval of the Nine Mile Point Unit 2 IST Program are as follows:

Standard or Specification	Revision Date or Indicator
ASME/ANSI OM (Part 1)	1987
ASME/ANSI OM (Part 6)	1988a
ASME/ANSI OM (Part 10)	1988a

3.3 ASME/ANSI OM–1987 (AND OMa–1988 ADDENDA)

Section XI of the 1989 Edition, Subsection IWP, *Inservice Testing of Pumps In Nuclear Power Plants*, states:

> "Pump testing shall be performed in accordance with the requirements stated in ASME/ANSI OM (Part 6)."

Section XI of the 1989 Edition, Subsection IWV, *Inservice Testing of Valves In Nuclear Power Plants*, states:

> "Valve testing shall be performed in accordance with the requirements stated in ASME/ANSI OM (Part 10)."

The three sections of ASME/ANSI OM that pertain to inservice testing of pumps and valves are:

- Part 1 ("OM–1"): *Requirement For Inservice Performance Testing Of Nuclear Power Plant Pressure Relief Devices*
- Part 6 ("OM–6"): *Inservice Testing Of Pumps In Light–Water Reactor Power Plants*
- Part 10 ("OM–10"): *Inservice Testing Of Valves In Light–Water Reactor Power Plants*

The ASME/ANSI OM Standard was revised for the last time in 1989[1]. Title 10 CFR 50, Paragraph 50.55a(b)(2)(vii) requires using OMa–1988 Addenda to ASME/ANSI OM–1987. Title 10 CFR 50, Paragraph 50.55a(b)(2)(viii) also requires using OMa–1988 Addenda to ASME/ANSI OM–1987.

Therefore, the OMa–1988 Addenda to ASME/ANSI OM–1987 is the governing document for inservice testing at Nine Mile Point Unit Two for the second 120–month interval.

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[1] It was replaced by the ASME OM Code. The OM Code was first issued in 1990, revised in the 1995 Edition, and now includes the 1996 Addenda. This Code, ASME OMa Code, 1996, has not yet been incorporated by reference in 10 CFR 50.55a(b).

3.4 GENERIC LETTER 89–04 AND NUREG–1482

USNRC Generic Letter 89–04, *Guidance On Developing Acceptable Inservice Testing Programs*, states,

> "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. Therefore, while 10 CFR 50.55a delineates the testing requirements for ASME Code Class 1, 2, and 3 pumps and valves, the testing of pumps and valves is not to be limited to only those covered by 10 CFR 50.55a." (Generic Letter 89–04, Position 11, *IST Program Scope*)

This IST Program Plan describes the testing requirements and Niagara Mohawk's commitments for testing those ASME Code Class 1, 2, and 3 components that meet the criteria for inclusion in the IST Program. Those criteria are described in Section I–3.7, *Pumps and Valves Included in the IST Program.*

Safety–Related non–ASME–Code components that meet the criteria of 10 CFR 50 Appendix A, GDC 1, are discussed in Section I–3.10, *Non–ASME Class Components.*

NUREG–1482, while voluntary, incorporates the "non–voluntary" guidance in Generic Letter 89–04. In addition, NUREG–1482 provides discussion of some issues that are relevant to IST programs and their implementation.

3.5 VALVE LEAKAGE RATE TESTING

3.5.1 Containment Isolation Valves

OM–10 stipulates that containment isolation valves shall be tested in accordance with 10 CFR 50, Appendix J. Containment isolation valves are tested in accordance with the Nine Mile Point Unit 2 Appendix J Testing Program. This IST Program Plan includes all the valves that are classified as Category A Containment Isolation Valves, consistent with the latest Nine Mile Point Unit 2 Appendix J Testing Program Plan.

3.5.2 Pressure Isolation Valves

In addition, all the valves that are identified as Reactor Coolant Pressure Isolation Valves (PIVs) are included in the IST Program, and they are leak–rate tested to the requirements of OM–10 for Category A containment isolation valves that are also PIVs (OM–10, paragraph 4.2.2.3, *"Leakage Rate for Other Than Containment Isolation Valves"*). The leakage–rate testing of PIVs is also governed by Technical Specifications. There is no conflict between the OM–10 requirements and the Technical Specification. Technical Specification 4.4.3.2.2 imposes an additional requirement on the testing of PIVs. The additional requirement is that leak testing of PIVs shall be conducted "pursuant to Specification 4.0.5 as outlined in the ASME Code Section XI, paragraph IWV-3427(b)...." Paragraph IWV-3427(b) describes the corrective action to be taken for valves ≥6 inches nominal pipe size. This additional

requirement will continue to be met, as it was in the First Ten-Year Interval. The leakage test for PIVs is conducted in accordance with the Technical Specifications.

3.5.3 Additional Requirements

Paragraph (b)(2)(vii) of 10 CFR 50.55a modified the requirements of OM–10 for IST of containment isolation valves. Specifically, paragraph (b)(2)(vii) requires that, when using OM–10 for IST, leakage rates for Category A containment isolation valves that do not provide a reactor coolant system pressure isolation function must be analyzed in accordance with paragraph 4.2.2.3(e) of OM–10 and corrective actions for these valves must be made in accordance with paragraph 4.2.2.3(f) of OM–10. The regulations take no other exceptions to the provisions of OM–10. Therefore, Category A valves—both containment isolation valves and reactor coolant system pressure isolation valves—shall be analyzed in accordance with paragraph 4.2.2.3(e) of OM–10 and corrective actions for these valves shall be made in accordance with paragraph 4.2.2.3(f) of OM–10.

3.5.4 Isolation Valves in Potential Bypass Leakage Paths

Certain valves that isolate potential bypass leakage paths are not containment isolation valves. That is, they do not isolate a containment penetration, and they are not listed on USAR Table 6.2–56, *Containment Isolation Provisions for Fluid Lines*. Nevertheless, Technical Specification 4.6.1.2.2, *Primary Containment Leakage*, requires that certain valves in potential bypass leakage paths be leak tested. The valves are listed in Technical Specification Table 3.6.1.2–1, and they are tested in accordance with the Technical Specification. These valves are Category A valves, since their leakage rate is specified by Technical Specification. The valves in potential bypass leakage paths are listed in the IST Program Plan, and they are tested in accordance with the Appendix J Testing Program, as required by Technical Specifications.

3.5.5 Valves in Hydrostatically Tested Lines

Certain containment isolation valves in water–filled lines are leakage rate tested using a hydrostatic test. The testing requirements are specified in Technical Specification 4.6.1.2.3, *Primary Containment Leakage.*

3.6 NMP2 PLANT–SPECIFIC BASIS FOR THE IST PROGRAM

3.6.1 Unit 2 Updated Safety Analysis Report (USAR)

The Unit 2 USAR was used to establish the ASME Code Class for safety–related components. In most cases, the Unit 2 Master Equipment List (MEL) was used for convenience. The MEL was derived from USAR requirements and commitments.

The Nine Mile Point Unit 2 USAR contains a table of active, safety–related valves. This table, Table 3.9A–12, *Active Valves (BOP),* is one of the principal bases for determining whether or not a particular valve is relied upon to provide an active safety–related function. The Unit 2 USAR also contains a table of primary containment isolation valves and penetrations. This table, USAR Table 6.2–56, *Containment Isolation Provisions for Fluid Lines*, is another principal basis for identifying Category A valves.

3.6.2 Unit 2 Technical Specifications

Although the IST Program Plan does not include those surveillance tests required only to comply with Technical Specifications, the Technical Specifications were consulted for every component subject to an IST requirement to ensure that no conflict exists between the Technical Specifications and the IST Program Plan. In some cases, the Technical Specification testing frequency requirement is more restrictive or more conservative than the Code requirement. In those cases there is a note in the IST Valve Table describing the difference and describing how the Technical Specification meets or exceeds the Code requirement. In all cases, the more restrictive test requirement or acceptance criterion will be imposed.

Two Technical Specifications refer specifically to ASME Section XI, Article IWV:

a) A Note to Table 4.3.7.5–1 states that "The Channel Calibration [for the Penetration Flow Path Primary Containment Isolation Valve Position Indication] shall consist of position indication verification using ASME Section XI IWV–3300." The wording in OM–10, paragraph 4.1, "Valve Position Verification," imposes requirements that are identical to those imposed by IWV–3300. Nevertheless, this Program Plan shall comply with the requirement of OM–10, as well as the Technical Specification.

b) Technical Specification 4.4.3.2.2 states, "Each RCS pressure isolation valve specified in Table 3.4.3.2-1 shall be demonstrated OPERABLE by leak testing pursuant to Specification 4.0.5 as outlined in the ASME Code Section XI, paragraph IWV-3427(b) and verifying the leakage of each valve to be within the specified limit...." As described in paragraph 3.5.2, "Pressure Isolation Valves," this Program Plan acknowledges and commits to the additional requirement imposed by Technical Specification 4.4.3.2.2.

3.7 PUMPS AND VALVES INCLUDED IN THE IST PROGRAM

The scope of the Nine Mile Point Unit 2 IST Program is all pumps and valves that meet all of the following requirements:

- ASME Code Class 1, 2, or 3, as listed in the Unit 2 Master Equipment List (MEL)
- Safety–Related, as defined in Section 4, "Definitions," of this Program Plan
- Relied upon to provide a *safety–related function* other than to modulate. The determination of whether or not a component provides a safety function may come from any combination of the following:
    - Unit 2 USAR
    - Technical Specifications
    - USAR Table 3.9A–12, *Active Valves (BOP)*
    - USAR Table 3.9A–6, *Active Pumps, SWEC Scope of Supply*
    - Safety Classification (Appendix B) Determinations performed for specific components

3.8 THE IST BASES DOCUMENT

NUREG–1482, *Guidelines for Inservice Testing at Nuclear Power Plants,* describes guidelines and recommendations for developing and implementing programs for the inservice testing of pumps and valves at commercial nuclear power plants. Paragraph 2.4.4 of NUREG–1482 discusses the IST Bases Document. This paragraph says, in part:

> *The staff recommends that each licensee create a bases document for the IST program.... Bases documents typically have included a description of the methodology used for preparing the IST program, with a list of each pump and valve in a system within the boundaries for a Code class, the basis for including the pump or valve in the IST program or excluding it therefrom, and the basis for the testing applied to each component....*
>
> *Although not required by the NRC, the bases document will help the licensee ensure continuity of the IST program when the responsibilities of personnel or groups change. A bases document will also enable the plant staff to clearly understand the reasons that the components are either in the program or not in the program. This document, though not a "Licensing Basis Document," is a useful reference for reviews performed under 10 CFR 50.59 when changes are made to a facility.*

The purpose of the IST Bases Document is to document the reason that every ASME–Code safety–related component in a system is either included or excluded from the IST Program Plan. Vent and drain valves and certain other valves that are provided solely for maintenance or for operating convenience are not included in the Bases Document. These valves are specifically excluded in OM–10, paragraph 1.2, "Exclusions," and they are not listed separately. The IST basis for an individual component is information taken from the USAR, Technical Specifications, Safety Classification (Appendix B) Determinations, or other licensing–basis source.

Some components have more than one reference for their inclusion in the IST Program. Every effort has been made to ensure that every safety–related component has an adequately documented basis for inclusion or exclusion from the IST Program Plan. Since it only takes one requirement to determine that a particular component be included in the program, there may be references in addition to those listed that also support a component being included in the IST Program Plan. If the references listed in the IST Bases Document change in the future, an additional search may be required to determine if a component is still required to be in the IST Program.

The IST Bases Document was developed to support and to document the IST Program Plan. It is not, however, part of the IST Program Plan, and it is not therefore part of the Licensing Basis.

3.9 COMPONENT EXCLUSIONS AND JUSTIFICATIONS

Components that are not tested as part of the IST Program Plan are not required to be listed with the IST Program. It is convenient, however, to list the Exclusions Tables as an Appendix to the IST Program Plan. Like the IST Bases Document, these Exclusions Tables are not part of the IST Program Plan and are not part of the Licensing Basis.

3.10 NON–ASME CLASS COMPONENTS

As of April 5, 1997, 10 CFR 50.55a(b)(2) stated that references to Section XI of the ASME Boiler and Pressure Vessel Code refer to Class 1, Class 2, and Class 3 components of Section XI, Division I, and include addenda through the 1988 Addenda and editions through the 1989 Edition, subject to certain limitations and modifications. As of April 5, 1997, 10 CFR 50.55a(b)(2)(vii) also stated that the specified revision date for ASME/ANSI OM Part 6 and Part 10 is the OMa–1988 Addenda to the OM–1987 Edition.

Certain non–ASME class safety–related pumps and valves are subject to testing, consistent with 10 CFR 50, Appendix A, GDC 1 and NRC GL 89–04. These non–ASME Code pumps and valves are tested in the Balance of Plant (BOP) Pump and Valve Testing Program.

3.11 Nine Mile Point Unit 2 Balance Of Plant (BOP) Program

Safety–related pumps and valves that provide an active safety function but are non–ASME Code components are tested in the BOP Component Testing Program. Tests are specified to assure satisfactory performance and operational readiness.

4. DEFINITIONS

The terms below, when used in the Inservice Testing Program Plan, are defined as follows:

Active — Any valve that is required to change position to accomplish its safety–related function, or any pump that is relied upon to provide a safety–related function (for example, flow or pressure), other than maintaining a system pressure–retaining boundary.

Passive — Any valve that is not required to change position to accomplish a specific safety–related function, or any pump that is required only to maintain a system pressure–retaining boundary. A pump that is relied upon only to maintain a system pressure boundary is outside the scope of the IST program. Additionally, passive valves are those valves where the normal and safety position are the same, and the valve is not required to change position during any normal plant operating condition, except for operating convenience.

Cold Shutdown Testing — Testing deferred until cold shutdown. Cold shutdown testing shall commence within 48 hours of achieving cold shutdown, and shall continue until testing is complete or until the plant is ready to return to power. Completion of cold shutdown testing is not a prerequisite to return to power, unless the plant is starting up from a refueling outage. Any testing not completed at one cold shutdown shall be preferentially scheduled for testing at subsequent cold shutdowns. Cold shutdown testing of a component is not required if less than 92 days have passed since the last cold shutdown test of that component. In accordance with NUREG-1482, cold shutdown testing may occur while decreasing power or temperature to cold shutdown, or while increasing power or temperature from cold shutdown.

Containment Isolation Valve — Any valve which performs a containment isolation function including the isolation of a bypass leakage path.

IST Stroke Time Acceptance Criterion — The value of stroke time based on the criteria specified in OM-10 paragraph 4.2.1.8. If a measured stroke time exceeds the IST Acceptance Criterion, the valve shall be immediately retested or declared inoperable.

IST Stroke Time Acceptance Criterion	The value of stroke time based on the criteria specified in OM-10 paragraph 4.2.1.8. If a measured stroke time exceeds the IST Acceptance Criterion, the valve shall be immediately retested or declared inoperable.
Limiting Value	The maximum (or minimum) actual value of a measured parameter. The limiting values are based on the current licensing basis, the design basis, or engineering judgment, and they are documented in the Engineering Acceptance Criteria documents.
Maintenance That Could Affect Valve Performance	Examples include, but may not be limited to, the following: Adjustment of stem packing, limit switches, or control system valves, and removal of the bonnet, stem assembly, actuator, obturator, or control system components
Measured Value	The value of a parameter indicated by the instrumentation used to measure the parameter. The instrument accuracy determines the relationship between the measured value and the actual value of the parameter.
Pressure Isolation Valve (PIV)	Any valve which acts as an isolation boundary to prevent intersystem overpressurization between the high pressure Reactor Coolant System and a system having a lower operating or design pressure.
Quarterly	An interval of 92 days.
Reference Value	One or more values of test parameters measure or determined when the equipment is known to be operating acceptably. A pump or valve may have more than one set of reference values.
Refueling	Testing deferred to refueling shall be performed during each scheduled refueling shutdown before returning to power operation, including all testing deferred until cold shutdown.
Required Action Range	The range of measured values between the IST Acceptance Criterion and the Limiting Value (for valves) or between the limits specified for the Required Action Range in OM-6 (for pumps).

Safe Shutdown

The term "safe shutdown" is taken to be the cold shutdown condition, as "cold shutdown" is defined in Unit Two Technical Specifications. Cold Shutdown is Operational Condition 4, and it is the condition in which the Mode Switch is in Shutdown and average reactor coolant temperature is ≤200°F, with some exceptions. For IST purposes, Cold Shutdown is any condition for which average reactor coolant temperature is ≤200°F.

Safety–Related Component

A component identified as safety–related in accordance with the Nuclear procedure that governs the safety classification of items and activities.

Safety–Related Function

A function that is relied upon to provide or accomplish any of the following functions:

a) Achieve or maintain safe shutdown

b) Mitigate the consequences of postulated accidents.

Skid–Mounted Components

1. Pumps integral to or that support operation of major components, even though these pumps may not be located directly on the skid. In general, these pumps are supplied by the manufacturer of the major component. Examples include diesel fuel oil pumps.

2. Valves integral to or that support operation of major components, even though these valves may not be located directly on the skid. In general, these valves are supplied by the manufacturer of the major component. Examples include:

a) diesel fuel oil valves

b) steam admission and trip throttle valves for the reactor core isolation cooling turbine-driven pump

c) solenoid-operated valves provided to control an air-operated valve

5. IST PROGRAM PLAN, GENERAL PROVISIONS

5.1 Scope: Components Included In The IST Program

The IST Program Plan specifies OM–10 testing requirements for the active and passive ASME Code Class 1, 2, and 3 valves and OM–6 for the ASME Code Class 1, 2, and 3 pumps providing a safety–related function. By definition, a safety–related function is one that is required to assure at least one of the following:

A. Capability to shutdown a reactor to the safe shutdown condition; or

B. Capability to maintain the safe shutdown condition; or

C. Capability to mitigate the consequences of an accident.

The following criteria select the pumps and valves included in this Program Plan:

1. Safety–related AND
2. ASME Class 1, 2, or 3 AND
3. Provide an active or passive safety–related function, other than the passive maintenance of the reactor coolant pressure boundary or other system boundary.

Safety–related passive components that must remain in their initial position to provide their safety function are classified as IST Category A or Category B. OM–10 specifies the testing requirements for Category A and Category B passive valves. The IST Program Plan includes the required testing for all Category A and Category B passive valves. OM–10 does not acknowledge the existence of passive Category C valves.

5.2 Quarterly Testing

In general, OM–6 and OM–10 require quarterly testing of components unless it is impracticable to do so. "Quarterly or every 3 months" is defined by Technical Specification 4.0.5 as, "At least once per 92 days." Technical Specification 4.0.2 and 4.0.5 permit a maximum allowable extension not to exceed 25% of the surveillance interval for inservice inspection and testing. For a quarterly interval, the maximum extension is 23 days.

In accordance with NUREG–1482, the Technical Specification permitted interval extension is for surveillance scheduling and shall not be routinely or repeatedly used merely as an operating convenience to extend the surveillance intervals beyond those specified.

This Program Plan specifies quarterly functional testing of pumps and valves unless it has been determined that such testing would:

a) pose an unreasonable safety hazard or radiological hazard to personnel;

b) cause a reactor scram or turbine trip;

c) produce an unpredictable upset condition or transient

d) require a deviation from normal operations that results in a significant risk;

e) require entry into inaccessible station areas;

f) increase the possibility of an inter–system LOCA.

5.3 CODE–SPECIFIED INTERVALS OTHER THAN QUARTERLY

The Code specifies that Class 1 pressure relief valves shall all be tested within each subsequent[2] five-year period with a minimum of 20% of the valves tested within any 24 months. This 24 month interval may not be extended without specific relief from NRC. The earlier Code editions permitted extending the interval to the next refueling. The 1989 Edition and later Editions of the Code do not permit this extension. The 25% surveillance interval extension permitted by Technical Specification cannot be used to extend the 24-month interval until the next refueling outage. (NRC Public Workshop Questions 1.33 and 1.34)

The Code specifies that Category A, Category B, and Category C valves with position indication shall have their position indication tested "at least once every two years." The Code also specifies that RCPB pressure isolation valves and Category A valves other than containment isolation valves shall be seat leakage tested "at least once every two years." The Technical Specifications at Nine Mile Point Unit 2 allow a 25% extension to be applied to all specified surveillance test intervals, unless otherwise noted. The Technical Specifications, however, do not define the biennial or 24-month interval. Therefore, position indication verification and seat leakage tests for Category A valves other than containment isolation valves must be performed at least once every two years. No extension is permitted unless permitted by the Technical Specifications.

2 "subsequent": That is, subsequent to the commercial operation date. For Nine Mile Point Unit 2 the first five-year period began on April 5, 1988. Subsequent periods begin every five years on April 5.

5.4 RELIEF REQUESTS

Where it has been determined that testing to the requirements specified in the Code is not practicable during station operation, at cold shutdowns or during refueling outages and no other alternatives are allowed by the applicable Code, a relief request is prepared. Specific relief requests provide justification for not performing the required testing, and also provide appropriate alternate testing.

One general relief request (GVRR–1) has been prepared which addresses specific OM-10 requirements found to be impractical for this station. This relief request concerns series check valves without intermediate test connections. Series check valves in this configuration are tested in accordance with the guidance found in NUREG–1482, Paragraph 4.1.1, *Closure Verification For Series Check Valves Without Intermediate Test Connections*, and relief is sought consistent with the NRC Recommendation in that paragraph. Because of the general nature of this relief request, and the number of components involved, it is presented in Section III and referenced in the individual system sections that contain affected components.

5.5 COLD SHUTDOWN TESTING

Each component covered by the IST Program Plan scope that cannot be tested quarterly has been analyzed to determine when appropriate testing may be performed. If operation of a valve is not practical during station operation, OM–10 allows several options, including part–stroke exercising during normal station operation, and full–stroke exercising at cold shutdown.

Since OM–10 allows testing at cold shutdown, this Program Plan does not request relief for those valves for which testing is delayed until cold shutdown. The IST Program Plan Section III, *Valves*, provides a Cold Shutdown Justification (CSJ) for the delay of testing until cold shutdown. A CSJ is prepared for each valve or group of valves that requires a deferred testing schedule. These justifications are prepared in a format similar to relief requests, and are included following the Valve Test Tables for each system.

5.6 REFUELING OUTAGE TESTING

Similarly, since OM–10 permits testing at refueling outages for those cases where cold–shutdown testing is impracticable, this Program does not request NRC approval for relief for those valves for which testing is delayed until the next refueling outage. Section III, Valves, of the IST Program Plan provides a Refueling Outage Justification (ROJ) that documents the basis for delaying testing until the next refueling outage. A ROJ is prepared for each valve or group of valves that requires deferment until refueling. These justifications are prepared in a format similar to relief requests, and are included following the Valve Cold Shutdown Justifications for each system. The Code change (from IWV to OM–10) resulted in a significant reduction in the number of Relief Requests that must be submitted with the IST Program Plan. Several Relief Requests sought relief in the form of testing on a refueling outage basis for valves that

cannot be tested during power or during cold shutdown. Those Relief Requests have been rewritten and are now Refueling Outage Justifications.

A single General Valve Refueling Outage Justification (GVROJ–1) covers all excess flow check valves to document the impracticability of testing excess flow check valves except during a refueling outage. This GVROJ is presented in Section III and referenced in the individual system sections that contain affected components.

5.7 EXCLUDED COMPONENTS

The Exclusion/Justification Tables contain components which would apparently be found in the IST Program but for special, justifiable technical reasons are excluded from the Plan. Typically, these excluded components principally fall into one of four groups:

1. Power–operated valves or check valves that are not required to perform a specific function as specified in OM–10, Paragraph 1.1, *Scope*
2. Power–operated valves that provide no safety function other than to modulate
3. Thermal relief valves that provide protection to components that are isolated for maintenance. Thermal relief valves that provide over–pressure protection for penetrations or piping within the scope of Generic Letter 96–06 are included in the IST Program Plan, since these thermal relief valves provide a safety function.
4. Pumps that are excluded by OM–6, paragraph 1.2. These are:
   a) drivers, except where the pump and driver form an integral unit and the pump bearings are in the driver
   b) pumps that are supplied with emergency power solely for operating convenience.

The bases for excluding these components may be summarized as follows:

- The component is excluded from testing per OM–6, paragraph 1.2, or OM–10, paragraph 1.2, *Exclusions*. This includes pumps and valves having no safety function that are used for operating convenience, valves used for system control, and valves used only for maintenance or test.
- The component is safety–related, but it provides no function other than maintaining a system pressure boundary. "Passive" means the pump is not required to provide flow or the valve position does not affect the valve's ability to perform its required pressure boundary function. A valve that is relied upon to provide reactor coolant system or containment isolation as part of its safety function is never excluded from the IST Program Plan. The component function has been evaluated by Niagara Mohawk Design Engineering

Components required to operate post–accident have Class 1E power available. Components that are not safety–related, are non–ASME Code (pipe class 4 or N), or do not receive Class 1E power post–accident, are not required to be tested per OM–6 or OM–10 and, consequently, are not contained in the IST Program Plan.

Station Technical Specifications, manufacturers' recommendations, system operating conditions, etc. may suggest additional components which should be included in the overall station testing program, but whose functions fall outside the three IST Program selection criteria listed in Section 3.1. In most cases, those components are tested separately and are not included in the IST Program Plan. The intent of this Program Plan is to include those components that meet all three of the following IST Program selection criteria:

1. ASME Code Class 1, 2, or 3
2. Safety–Related
3. Provide a safety–related function

5.8 INSTRUMENT ACCURACY

5.8.1 Calibration

All instruments used in conducting the tests required by this Program Plan shall be calibrated to standards and traceable to the National Bureau of Standards (for relief valve testing under OM–1), or equivalent. Instruments and instrument loops used for all other testing conducted under the IST Program Plan shall be calibrated in accordance with the Niagara Mohawk Power Corporation Quality Assurance Program. New or repaired instruments shall be calibrated prior to test use.

5.8.2 OM–1 Relief Valve and Vacuum Breaker Testing

Test equipment used in conjunction with the determination of relief valve and vacuum breaker set pressure shall have an overall combined accuracy within +2% to –1% at the pressure of interest. The effect of the overall combined accuracy is that the limits of the actual set pressure may be 1% above to 2% below the indicated (measured) set pressure.

5.8.3 OM–6 Pump Testing

5.8.3.1 Accuracy

Instrument accuracy shall be within the limits of OM–6, Table 1, *Acceptable Instrument Accuracy*. Table 1 is reproduced below for information. Unit Two takes no exception to these requirements.

OM–6, Table 1
Acceptable Instrument Accuracy

Quantity	Percent (Note 1)
Pressure	±2
Flow Rate	±2
Speed	±2
Vibration	±5
Differential Pressure	±2

NOTE:

(1) Percent of full scale for individual analog instruments, percent of total loop accuracy for a combination of instruments, or over the calibrated range for digital instruments.

5.8.3.2 Range

The full–scale range of each analog instrument shall be not greater than three times the reference value. Digital instruments shall be selected such that the reference value shall not exceed 70% of the calibrated range of the instrument. Vibration instruments are excluded from these range requirements.

5.8.3.3 Frequency Response Range – Vibration Measurement

The frequency response range of the vibration measuring transducers and their readout system shall be from one–third minimum pump shaft rotational speed to at least 1,000 Hz.

5.8.4 OM–10 Valve Testing

The stroke time of all power–operated valves shall be measured to at least the nearest second.

5.9 AS–FOUND TESTING

5.9.1 OM–1 Requirements for Testing of Pressure Relief Devices

No maintenance, adjustment, disassembly, or other activity which could affect "as found" set pressure or seat tightness data is permitted prior to testing.

5.9.1.1 ASME Class 1 Main Steam Pressure Relief Valves With Auxiliary Actuating Devices

Tests prior to maintenance or set pressure adjustment, or both, shall be performed in the following sequence:

a) visual examination (VT)

b) as–found seat tightness determination (LA)

c) set pressure determination (RT)

d) determination of compliance with Unit 2 established seat tightness criteria

e) determination of electrical characteristics and pressure integrity of solenoid valves (SO)

f) determination of pressure integrity and stroke capability of air actuator (AO)

g) determination of operation and electrical characteristics of position indicators (VP).

The as–left seat tightness test (LL) and determination of compliance with Unit 2 established seat tightness criteria will be performed prior to returning the valve to service.

5.9.1.2 ASME Classes 2 and 3 Pressure Relief Devices

5.9.1.2.1 Pressure Relief Valves

Tests prior to maintenance or set pressure adjustment, or both, shall be performed in the following sequence:

a) visual examination (VT)

b) seat tightness determination (LA)

c) set pressure determination (RT)

d) determination of compliance with Unit 2 established seat tightness criteria

e) verification of the integrity of the balancing device on balanced valves (BD)

The as–left seat tightness test (LL) and determination of compliance with Unit 2 established seat tightness criteria will be performed prior to returning the valve to service.

5.9.1.2.2 Nonreclosing Pressure Relief Devices

The device shall pass visual examination, in accordance with Niagara Mohawk receipt inspection procedures.

5.9.1.2.3 Vacuum Relief Valves

a) The valves shall be actuated to verify open and close capability (test VR), set pressure (test RT), and performance of any pressure and position sensing accessories (test VP).

b) Compliance with Unit 2 seat tightness criteria shall be determined.

There is no specific requirement to perform vacuum relief valve tests in a particular sequence.

5.9.2 As–Found Testing of Pressure Relief Valves Removed for Maintenance

Pressure relief valves that are removed for maintenance shall receive as–found testing to their IST Program Plan commitment. This as–found testing shall be recorded in the Record of tests. Pressure relief valves that are removed for maintenance shall be replaced with pretested valves.

Valves that are removed and cannot be tested in the as–found condition due to component damage or other reasons shall be considered a failure for the as–found test. Corrective actions shall be in accordance with the Deviation/Event Report (DER) that is required whenever a component in the IST Program fails its required tests. These corrective actions may include the testing of additional valves, but testing of additional valves is neither a specific requirement of OM–1 nor a commitment of this Program Plan.

5.9.3 OM–6 Pump Testing

There are no specific requirements for as–found testing of pumps. The requirements of OM–6, Paragraph 5.6 are the most nearly applicable. Pumps shall be tested in accordance with the test duration requirements of OM–6, Paragraph 5.6, *Duration of Tests*. Testing shall be performed before any maintenance is performed that may affect the results of the required pump tests.

5.9.4 OM–10 Valve Testing

Valves shall be tested in the as–found condition whenever practicable. Specific written guidance describes the as–found condition and provides examples of unacceptable valve operation or maintenance that could affect the results of inservice testing. All valve testing shall be performed in accordance with this written guidance and controlled surveillance procedures.

"Maintenance that could affect valve performance" is defined by OM–10 as, "Adjustment of stem packing, limit switches, or control system valves; removal of the bonnet, stem assembly, actuator, obturator, or control system components...." When a valve or its control system has been replaced, repaired, or has undergone maintenance that could affect the valve's performance, a new reference value shall be determined or the previous value shall be reconfirmed by testing prior to declaring the valve operable.

5.10 Post–Maintenance Testing

Post–maintenance testing shall be performed in accordance with the following paragraphs, as applicable:

a) OM–1: Paragraph 3.4, *Disposition After Testing, Maintenance or Repair, or Both*

b) OM–6: Paragraph 4.4, *Effect of Pump Replacement, Repair, and Maintenance on Reference Values*

c) OM–10: Paragraph 3.4, *Effect of Valve or Actuator Replacement, Repair, and Maintenance on Reference Values*

5.11 Testing At A Refueling Outage Frequency For Components Tested During Power Ascension.

OM–10 requires that valves tested on a refueling outage frequency be tested prior to returning the plant to operation. The Reactor Core Isolation Cooling System (RCIC) is driven by a steam turbine. Technical Specifications requires a demonstration of RCIC system operability following refueling outages. This demonstration is conducted at low steam pressure, and it must be completed within a short time after reaching the required reactor pressure.

Consistent with the guidance in NUREG–1482, §3.1.1.2, *Testing At A Refueling Outage Frequency For Components Tested During Power Ascension*, certain valves in the RCIC system will be tested in accordance with its Technical Specification following refueling outages. This guidance will also be applied to RCIC operability testing following maintenance performed during a cold shutdown. The required post–maintenance testing shall be performed during power ascension as from a refueling outage.

5.12 Acceptance Criteria

NMPC Design Engineering provides the IST pump and valve test acceptance criteria and guidance. The acceptance criteria and guidance are issued and controlled by Engineering through the following Engineering documents:

M2–0003:	ASME OM IST Valve Stroke Time Limit in the Safety Direction
M2–0004:	ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria
M2–0005:	ASME OM IST Check Valve Acceptance Criteria
M2–0006:	ASME OM IST Pump Performance Acceptance Criteria
S2–0003:	Primary Containment Penetrations Requiring Type B or Type C Leak Test for Technical Specifications 3/4.6.1.1, 3/4.6.1.2; 3/4.6.1.3

6. CLARIFICATIONS AND TECHNICAL POSITIONS

6.1 Measured Values and Limiting Values

There are several terms describing measured and limiting values that are used in OM–1, OM–6, and OM–10, as well as throughout the IST Program Plan Document and its associated documents. The following terms are defined here and in subsection 4, *Definitions*:

Measured Value: The value of a parameter indicated by the instrumentation used to measure the parameter. The instrument accuracy determines the relationship between the measured value and the actual value of the parameter.

Limiting Value: The maximum (or minimum) permissible actual value of a measured parameter. When the limiting value is exceeded, the component shall immediately be declared inoperable. A limiting value has no tolerance. The acceptance criteria specified in Technical Specification Lists M2–0003, M2–0004, M2–0005, M2–0006, and S2–0003 contain limiting values.

6.2 Testing the Safety-Related Positions of Valves

Paragraph 4.2.1.2 of OM–10, *Exercising Requirements*, requires, "Valves shall be tested as follows: full–stroke during plant operation to the position(s) required to fulfill its function(s)...."

Paragraph 4.1 of OM–10, *Valve Position Verification*, requires, "Valves with remote position indicators shall be observed locally at least once every 2 years to verify that valve operation is accurately indicated."

Paragraph 4.2.1.4 of OM–10, *Power–Operated Valve Stroke Testing*, requires,

a) "The limiting value(s) of full–stroke time of each power–operated valve shall be specified by the Owner.

b) "The stroke time of all power–operated valves shall be measured to at least the nearest second."

Paragraph 4.2.1.6 of OM–10, *Fail–Safe Valves*, requires, "Valves with fail–safe actuators shall be tested by observing the operation of the actuator upon loss of valve actuating power in accordance with the exercising frequency of 4.2.1.1."

The following practices, conventions, and abbreviations will be used consistently throughout the IST Program Plan Document:

When a Full–Stroke Exercise (FE) is specified for any valve except a check valve, it is specified without a direction. A test specification of "FE" means that the valve is to be stroked over its full range of travel in both directions. This ensures that the valve is always stroked to the position required to fulfill its safety–related function(s). Check

valves are a special case, because their position is flow–actuated. Therefore, the required position(s) of a check valve will always be specified. The required position is specified as "forward" (F), "reverse" (R), or "forward and reverse" (F&R). The test specification for a check valve will therefore be either FE–Q (F), FE–Q (R), or FE–Q (F&R) for a valve with a quarterly testing frequency.

Similarly, when a position indication verification test (PI) is specified, it is specified without specifying the position (O/C). A test specification of "PI" means that the position indication of the valve is to be verified in both the open and the closed positions. This ensures that valve position is always verified in the position required to fulfill its safety–related function. Excess flow check valves are a special case, since they have only a single light.

Valve position indication is verified by locally observing actual valve position at both positions and verifying that valve position is correctly indicated. On valves that have no means of locally observing the actual valve position, valve position is verified by other positive, non–intrusive indications of obturator position.

Although OM–10 only addresses valve movement to the position to fulfill its safety–related functions in the full–stroke exercise requirement, the Nine Mile Point Unit 2 IST Program also adopts this practice for stroke–time testing. The valve tables (Attachments 1–30) in the IST Program Plan list the normal (NORM), safety (SAFE), and fail (FAIL) positions of each valve in the IST Program. These positions are specified as "open" (O), "closed" (C), "open/closed" (OC), "as–is" (AI), or "indeterminate" (DE). The open and closed directions for a check valve correspond to forward and reverse flow, respectively.

All power–operated valves requiring a stroke–time test shall be tested by measuring the time required for the valve to travel to the position(s) required to fulfill its safety–related function(s). In all cases, the direction of the stroke time test shall correspond identically with the safety–related direction (SAFE) of the valve.

6.3 Containment Isolation Valve Testing

Containment isolation valves that are categorized as Category A or A/C valves shall be leak rate tested in accordance with OM–10. OM–10 specifies that the leakage rate test be conducted in accordance with 10 CFR 50, Appendix J. The Nine Mile Point Unit 2 Appendix J Program incorporates Option B of Appendix J, and leakage rate testing shall be performed in accordance with the Appendix J Program. A more frequent test interval than required by Appendix J, Option B may be used for certain containment isolation valves to satisfy Technical Specification requirements, ASME Section XI pressure testing requirements, or IST check valve closure requirements.

Paragraph (b)(2)(vii) of 10 CFR 50.55a modified the requirements of OM–10 for IST of containment isolation valves. Specifically, paragraph (b)(2)(vii) requires that, when using OM–10 for IST, leakage rates for Category A containment isolation valves that do not provide a reactor coolant system pressure isolation function must be analyzed in

accordance with paragraph 4.2.2.3(e) of OM–10 and corrective actions for these valves must be made in accordance with paragraph 4.2.2.3(f) of OM–10. The regulations take no other exceptions to the provisions of OM–10.

Therefore, containment isolation valves shall be analyzed in accordance with paragraph 4.2.2.3(e) of OM–10 and corrective actions shall be made in accordance with paragraph 4.2.2.3(f) of OM–10.

6.4 PRESSURE ISOLATION VALVES

The Code requires that containment isolation valves that are also reactor coolant pressure isolation valves (PIVs) shall be tested in accordance with 10 CFR 50, Appendix J, <u>and</u> in accordance with the OM–10 testing requirements for Category A valves that provide a function other than containment isolation.

At Nine Mile Point Unit 2, there are 27 PIVs listed in the Technical Specifications. Of these, 21 are containment isolation valves (CIVs) and receive a low pressure air test in accordance with the Appendix J Testing Program. Of the 21 PIVs that are also CIVs, 14 are eligible for reduced pressure testing in accordance with OM–10. These 14 valves use a correlation that establishes a screening value for valves that are tested with low pressure air.

Using the screening value, the correlation allows us to establish that a low-pressure air seat leakage value below the screening value corresponds to a high-pressure water test that would be below the acceptance criterion for the PIV. The details of this correlation are included in Safety Evaluation 93–076. The correlation, the Safety Evaluation, and the list of all PIVs are included in the IST Basis Document.

6.5 ACTIVE AND PASSIVE VALVES: CLASSIFICATION

NUREG–1482 states in paragraph 2.4.2, "Valves,"

> "A valve need not be considered active if it is only temporarily removed from service or from its safety position for a short period of time, such as manually opening a sample valve to take a sample while maintaining administrative control over the valve. If the plant is in an operating mode that does not require a passive valve to be maintained in its 'passive' (safety) position, the position of the valve may be changed without imposing IST requirements on the valve. If a valve is routinely repositioned during power operations (or has an active safety function), it is an active valve...."

Valves that are routinely in their required safety-related position during power operation are classified as <u>passive</u>. These valves may infrequently be repositioned temporarily under procedural or other administrative control.

6.6 Valves That Are Tested By Disassembly And Inspection

Certain check valves that cannot be full–flow exercised in accordance with OM–10, paragraph 4.3.2.2, are tested and verified operable by disassembly and inspection on a refueling outage basis, as permitted by OM–10, Paragraph 4.3.2.4(c), *Valve Obturator Movement*. In some cases, valves of the same type and manufacturer are grouped, as described in Generic Letter 89–04, Position 2.

6.7 Control Valves

NUREG–1482, paragraph 4.2.9, "Control Valves With a Safety Function," states,

> "Unless control valves have a safety function which may include a 'fail-safe' function, as valves that respond to system conditions, these valves would be exempt from IST as discussed in... Paragraph 1.2 of OM–10; however, the valves are required to be tested in accordance with the requirements for IST if they perform a safety or fail–safe function."

This was clarified in the NRC Public Workshop held in January, 1997. Question 2.6.3 and the NRC Staff response:

> 2.6.3 – *"NUREG-1482, Section 4.2.9, implies that control valves that have a safety-related modulating function (and no fail-safe function) are not exempt ('...valves are required to be tested in accordance with the requirements for IST if they perform a safety or fail-safe function'). Are these valves required to be in the IST program?"*
>
> Answer: "Valves with only a control or modulating function are exempt per the Code. Control valves with a fail-safe or other safety function (e.g., control valves that are normally closed, but are required to go to an open position, including a throttled position, on an accident signal) are required to be tested to their safety position in accordance with the Code."

Valves that perform no active safety function other than to modulate are excluded from the Nine Mile Point Unit 2 IST Program Plan, as permitted by OM–10, paragraph 1.2(a)(2), *Exclusions,* and the guidance provided by NRC Staff at the workshop.

6.8 Excess Flow Check Valves

Small instrument lines penetrating the containment have excess flow check valves. If an instrument line breaks, the function of the excess flow check valve is to *minimize* the loss of reactor coolant outside the reactor primary containment. The design and function of excess flow check valves is more fully discussed in the General Refueling Outage Justification, GVROJ–1, in Section III, *Valves*.

These valves are designed not to be leak–tight. They have no seat leakage criteria. Therefore, they are not classified as IST Category A. They are classified as Category C, and they are reverse exercise FE (R) tested.

6.9 REFERENCE VALUES

Reference values shall be determined from the results of preservice testing or from the results of the first inservice test. Reference values shall be a point of operation readily duplicated during subsequent tests. All subsequent test results shall be compared to these initial reference values or to new reference values established in accordance with OM–6 or OM–10, as applicable. Reference values shall only be established when the pump or valve is known to be operating acceptably. If the particular parameter being measured or determined can be significantly influenced by other related conditions, then these conditions shall be analyzed.[3]

Consistent with OM–10, reference values shall be determined from the results of preservice testing or from the results of inservice testing. These tests shall be performed under conditions as near as practicable to those expected during subsequent inservice testing. Reference values shall only be established when the component is known to be operating acceptably. If the particular parameter being measured or determined can be significantly influenced by other related conditions, then these conditions shall be analyzed.

Reference values shall be established at the component service condition (hot/cold) unless there is a correlation (for example, for SRVs) between hot and cold, or it is impracticable to establish reference values at the service condition. Testing performed at conditions other than normal service conditions may not meet the established acceptance criteria. Exceptions shall be evaluated to determine if a problem exists.

If it is necessary to establish additional reference values, an inservice test shall first be run at the conditions of an existing set of reference values or, if impractical, at the conditions for which the new reference values are required, and the results analyzed.

Whenever additional reference values are established, the reasons for doing so shall be justified and documented in the record of tests. A typical justification is that associated with certain SOVs that have very short strokes. Their stroke times under normal operating conditions may be significantly different (on a percentage basis) than their stroke times during cold shutdown or refueling.

More than one test condition and more than one reference value may be required to verify proper valve operation at both hot and cold conditions.

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3 Vibration measurements of pumps may be foundation, driver, and piping dependent. Therefore, if initial vibration readings are high and have no obvious relationship to the pump, then vibration measurements should be taken at the driver, at the foundation, and on the piping and analyzed to ensure that the reference vibration measurements are representative of the pump and that the measured vibration levels will not prevent the pump from fulfilling its function.

6.10 SOLENOID–OPERATED AIR VALVES THAT CONTROL AOVS

Several air–operated valves (AOVs) are controlled by solenoid–operated valves (SOVs) that control the air line to the AOV. These SOVs typically have no means of testing. Therefore, since the test procedure for the AOV actuates the SOV, proper operation of the AOV is taken as a satisfactory demonstration that its associated SOV is operating properly. The SOV associated with an AOV is considered to be a skid–mounted component. See the definition of Skid–Mounted Component Section I–4, "Definitions."

6.11 TESTING DURING COLD SHUTDOWNS

Valve exercising to be performed during cold shutdown shall commence within 48 hours of achieving cold shutdown and continue until all testing is complete or the plant is ready to return to power. For extended outages, testing need not begin in 48 hours provided that all valves required to be tested during cold shutdown will be tested before plant startup. All valves tested during cold shutdown outages shall also be tested before startup from refueling outages, unless testing has been completed within the previous 92 days. The Unit Two staff shall make a good faith reasonable effort to schedule and test all cold–shutdown–deferred valves during a cold shutdown.

6.12 COLD SHUTDOWN TESTING DURING EXTENDED SHUTDOWN PERIODS

For any cold shutdown period that lasts beyond 92 days, all required cold–shutdown–deferred testing shall be performed within 92 days of startup. That is, all cold shutdown testing shall be completed within the last 92 days of the shutdown.

6.13 QUARTERLY TESTING

Valve exercising is required by OM–10 at a frequency of "nominally every 3 months." The Nine Mile Point Unit 2 Technical Specifications define quarterly as "at least once per 92 days." Nine Mile Point Unit 2 Technical Specifications permit extending surveillance intervals by 25% for surveillance scheduling and in consideration of plant operating conditions that may not be suitable for conducting the surveillance. It is the specific intent of this Program Plan that the 25–percent extension is not to be used repeatedly merely as an operational convenience to extend surveillance intervals beyond those specified. (Reference: NUREG–1482, Appendix G, Response 6.2–1)

During the First 10–Year Interval, Article IWV of Section XI specified increased testing for certain valves as a result of poor test results. Since OM–10 does not specify increased frequencies for valves with increased stroke time, no specific guidance on intervals for increased frequency is required. If a valve fails to exhibit the required change of obturator position or if its stroke time exceeds the limiting value specified in Technical Specification List M2–0003, *ASME OM IST Valve Stroke Time Limit in the Safety Direction*, the valve shall be dispositioned in accordance with OM–10, paragraph 4.2.1.9, *Corrective Action*.

Acceptance Criteria and Corrective Action are covered in greater detail in Section II, *Pumps*, and Section III, *Valves*.

6.14 OTHER TEST INTERVALS

Nine Mile Point Unit 2 Technical Specification 4.0.5(b) defines several time intervals related to testing performed to implement the IST Program Plan. These time intervals specifically address requirements of ASME BPV Code, Section XI. All testing performed to implement this Program Plan shall use the intervals specified in Technical Specification 4.0.5(b).

In all other cases, the Code is very clear about the required testing interval. Position indication shall be verified, "at least once every two years." Leakage rate tests for Category A valves other than containment isolation valves "shall be conducted at least once every two years."

6.15 SCHEDULING OF INSERVICE TESTS

The surveillance intervals in the revised standard Technical Specifications are incorporated into the Nine Mile Point Unit 2 Technical Specifications. It is the specific intent of this Program Plan that inservice testing will routinely be scheduled to conform to the intervals specified in the IST Program Plan.

NUREG-1482 provides the following guidance concerning interval extensions:

> "Each applicable test is required by Technical Specification to be performed within the specified time interval with a maximum allowable extension not to exceed 25 percent of the test interval. However, the licensee would not extend the test intervals for safety and relief valves defined in OM–1...other than to coincide with a refueling outage...."

> "This recommendation is based on the standard technical specifications which have been developed, reviewed, and approved by the NRC staff. These intervals and extensions apply directly to IST which is a Technical Specification surveillance requirement for certain pumps and valves. In interpretation XI–78–01 for Section XI, the ASME Code Committee clarified the intent of the "2–year" frequency specified in IWV–3300 for position indication verification and IWV–3420 for leak rate testing stating that the intent of the Code test and examination frequency be related to periods of time rather than refueling outages. Refueling outages are referenced to preclude the necessity to shut down the plant for Section XI intent only. The requirement of the Code for Paragraph IWV–3300 is that the valve position indicator test may be done each one to two years without regard to the frequency of the refueling outages. The requirement for Paragraph IWV–3420 is that the valve leak rate test may be done each 1 to 2 years without regard to the frequency of the refueling outages"

Therefore, the following conventions will be followed in the implementation of this Program Plan:

1. Quarterly testing shall be routinely scheduled at intervals not to exceed 92 days. In exceptional cases, the 25% extension allowed by Technical Specification may be used. NUREG–1482, paragraph 6.2, and Nine Mile Point Unit 2 Technical Specification Bases 4.02 specify that the 25% extension is not intended to be used repeatedly as an operational convenience to extend surveillance intervals beyond those specified.
2. Testing specified at a refueling outage frequency shall be performed at each refueling outage.
3. Main Steam SRV testing shall be performed at the intervals specified in the Code and this Program Plan. All SRVs (ASME Class 1) shall be tested at least once during each 5-year inspection period.
4. All leakage rate testing performed under the Appendix J Testing Program shall be performed at the intervals specified in the Appendix J Testing Program Plan.
5. Valve position indication testing shall be performed at least once every two years. The wording of ASME OM–10 and the Code Interpretation make it clear that the intent of the requirement is to perform testing at least once every two years. Therefore, the 25% extension does not apply to valve position testing.
6. Leakage rate testing performed in accordance with OM–10, paragraph 4.2.2.3, *"Leakage Rate Testing for Other Than Containment Isolation Valves,"* shall be performed at least once every two years. The 25% extension does not apply to this leakage test. The test abbreviation for this test is "LK," and this test applies to RCPB Pressure Isolation Valves and a few others. This is <u>not</u> the Appendix J test "LJ."

(References: NUREG–1482, paragraph 3.1.3, *"Scheduling of Inservice Tests"*; NUREG-1482, section 6.0, *"REVISED STANDARD TECHNICAL SPECIFICATIONS"*)

7. RELIEF REQUESTS DISCUSSION

7.1 GENERAL

Written relief requests, as allowed by 10 CFR 50.55a(f)(5), are discussed in Section 7.2 for general relief requests and Section 7.3 for specific pumps and valves. Relief Requests provide justification for:

1. Performing tests that are impracticable during operation, cold shutdown, and refueling outages;
2. The use of alternate testing methods when code requirements are impracticable, and where the alternate methods provide equal or greater assurance of pump and valve operational readiness.

Each relief request includes the following information:

- Relief request number
- System
- Pump or valve component identification number
- IST Category (valves only)
- ASME Class
- Function
- Code Testing requirement
- Basis for relief
- Alternate testing

7.2 RELIEF REQUEST CHANGES FOR THE SECOND INTERVAL PROGRAM PLAN

The Second Interval IST Program Plan has the following changes in Relief Requests: Delete GVRR–1, GVRR–2, GVRR–3, and GVRR–5. Renumber GVRR–4 to become GVRR–1, and reword it for improved clarity. GVRR–1, GVRR–2, GVRR–3, and GVRR–5 are no longer required.

a) GVRR–1 sought relief to use the Appendix J leakage testing requirements in place of the IWV requirements. Since OM–10 *requires* the use of Appendix J for seat leakage testing, no relief is needed.

b) GVRR–2 sought relief from the Type C test for Category A excess flow check valves. The excess flow check valves have been reclassified from Category A/C to Category C. No leakage rate testing is required for Category C valves. Therefore, GVRR–2 is no longer needed. Since excess flow check valves were not, are not, and cannot be leakage rate tested, this represents no change in actual valve testing.

c) GVRR–3 sought relief from the 50% stroke time deviation criterion in IWV for rapid–acting valves. OM–10 explicitly addresses rapid–acting valves, and no relief is sought from the OM–10 requirements. Therefore, this GVRR is no longer needed.

d) GVRR–5 addressed an issue that did not require relief. It simply cited a Position in Generic Letter 89–04. The technical issue was reference values, and the use of reference values rather than the previous test results to evaluated possible valve performance degradation. Since OM–10 specifically addresses the determination and use of reference values, neither relief nor other justification is required.

7.3 GENERAL RELIEF REQUESTS

General Relief Requests are used when a relief request applies to pumps or valves in general; for example, all containment isolation valves that are Type C tested, or all centrifugal pumps. The Nine Mile Point Unit 2 Second Interval IST Program Plan has **one** General Valve Relief Request and **no** General Pump Relief Requests.

These relief requests are numbered as follows:

GVRR–*Y* or GPRR–*Y* where:

GVRR = Generic Valve Relief Request;

GPRR = Generic Pump Relief Request;

Y = Sequential Number

7.4 SPECIFIC RELIEF REQUESTS

There are **no** specific valve relief requests and **no** specific pump relief requests. The specific valve relief requests and the specific pump relief request in the first ten-year interval IST program plan were deleted.

8. PUMP AND VALVE P&IDs

A listing of all the P&IDs identifying ASME Class 1, 2, and 3 safety–related pumps and valves is included in Table 2.3–1.

TABLE 2.3–1

PUMP AND VALVE (IST) PROGRAM P&IDs

PID Number	System Name	System Code	Valve Table (Section III) Attachment Number
20	Breathing Air	AAS	1
13	Reactor Building Closed Loop Cooling Water	CCP	2
82	Containment Atmosphere Monitoring System	CMS	3
61	Containment Purge And Standby Gas	CPS	4
33	High Pressure Core Spray	CSH	5
32	Low Pressure Core Spray	CSL	6
67	Drywell Equipment Drains	DER	7
63	Reactor Building Equipment and Floor Drains	DFR	8
104	Diesel Generator Starting Air	EGA	9
104	Diesel Generator Fuel Oil	EGF	10
43	Fire Protection Water	FPW	11
6	Feedwater System	FWS	12
88	Nitrogen System / Containment Inerting	GSN	13
62	DBA H_2 Recombiner	HCS	14
53	Control Building HVAC	HVK	15
19	Instrument And Service Air	IAS	16
35	Reactor Core Isolation Cooling (RCIC)	ICS	17
28	Nuclear Boiler Instrumentation	ISC	18

TABLE 2.3–1

PUMP AND VALVE (IST) PROGRAM P&IDs

PID Number	System Name	System Code	Valve Table (Section III) Attachment Number
81	Containment Leakage Monitoring System	LMS	19
1	Main Steam	MSS	20
ISPT–EM38	Neutron Monitoring system	NMS	21
29	Reactor Recirculation	RCS	22
30	Control Rod Drive Hydraulics	RDS	23
31	Residual Heat Removal	RHS	24
19	Service Air System	SAS	25
38	Spent Fuel Pool Cooling And Cleanup	SFC	26
36	Standby Liquid Control System	SLS	27
1	Main Steam Line SRV Vacuum Relief	SVV	28
11	Service Water	SWP	29
37	Reactor Water Cleanup	WCS	30

9. REFERENCES

The following documents were used to prepare the Nine Mile Point Unit 2 Second 10–Year Interval IST Program Plan, the IST Bases, and the Exclusions and Justification document.:

1. 10 CFR 50.55a(f), *Inservice Testing Requirements*
2. OMa–1988 addenda to ANSI/ASME OM–1987:
    - Part 1 (OM–1), "Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices"
    - Part 6 (OM–6), "Inservice Testing of Pumps in Light–Water Reactor Power Plants".
    - Part 10, (OM–10), "Inservice Testing of Valves in Light–Water Reactor Power Plants".
3. ASME Boiler and Pressure Vessel Code Section XI, *Rules for Inservice Inspection of Nuclear Power Plant Components*, 1989 Edition.
4. Updated Safety Analysis Report (USAR), Nine Mile Point Nuclear Station Unit 2.
5. Nine Mile Point Unit 2 Safety Evaluation Report, NUREG–1047
6. Nine Mile Point Unit 2 Technical Specifications.
7. Nine Mile Point Unit 2 Master Equipment List (MEL)
8. Nine Mile Point Unit 2 First Ten–Year Interval IST Program Plan, NMP2–IST–001, Rev. 5
9. Nine Mile Point Unit 2 Main Steam Line SRVs are tested in accordance with Maintenance Procedure N2–MMP–SRV–100, “Dikkers Safety Relief Valve Testing.”
10. NRC Generic Letter 89–04, dated April 3, 1989, "Guidance on Developing Acceptable Inservice Testing Programs" and "Minutes to Public Meeting on Generic Letter 89–04".
11. NRC Regulatory Guide 1.26, "Quality Group Classification and Standards for Water–, Steam, and Radioactive–Waste–Containing Components of Nuclear Power Plants".
12. NUREG–1482, *Guidelines For Inservice Testing At Nuclear Power Plants*, April, 1995, including Appendices A through H.

13. Documents pertaining to the establishment of the Unit Two commercial operation date:
    - New York Public Service Commission Opinion No. 89–37(C) effective March 14, 1991, establishing April 5, 1988 as the commercial operation date.
    - Internal memo date May 20, 1991, from G D Wilson to M A Egap transmitting the PSC Opinion and confirming the April 5, 1988 date.
    - Internal memo dated May 22, 1991, from A G Vierling to NMP2 ISI/IST File confirming the April 5, 1988 date.
    - Internal memo dated July 16, 1997, from Gail M. Ahern to Gary D. Wilson confirming the April 5, 1988 date.
14. Safety Classification (Appendix B) Determinations, identified by number in the IST Bases sections that rely upon the Safety Class Determinations for the determination of a component safety–related function.
15. NMPC Internal Correspondence: Jeff Neyhard to Performance Group File, March 20, 1996, File Code NMP90831; Subject: "NMP2 Position Paper for Target Rock Solenoid Valve Position Indication Testing"

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SECTION II, PUMPS

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SECTION II, PUMPS

1. PUMP PROGRAM INTRODUCTION

The ASME Class 1, 2, and 3 pumps that are within the scope of OM–6 and the Inservice Testing Program, as defined in Section II, Paragraph 2.0,*Pump Inservice Testing Scope*, shall be tested in accordance with the ASME/ANSI OM–6. Tables listing the pumps, including all applicable testing requirements and frequencies, are contained in this Section. A descriptive key to the information in the Pump table is also in this Section.

When the pump testing requirements of the applicable Code cannot be met for any reason, a Relief Request is provided at the end of this Section. There are no Pump Relief Requests for the Second Ten–Year Interval.

Substantial portions of OM–6 are quoted or paraphrased in this Section. The intent of this is to provide a restatement of the Code requirements and, in some cases, to provide clarification of how the Nine Mile Point Unit 2 IST Pump Testing Program meets the Code requirements.

2. PUMP INSERVICE TESTING SCOPE

2.1 INTRODUCTION

The scope of the Pump IST Program includes certain ASME Class 1, 2, and 3 safety–related centrifugal and positive displacement type pumps. The pumps covered are those that are provided with an emergency power source and are required to provide a safety–related function. By definition, a safety–related function is one that is required to assure at least one of the following:

A. Capability to achieve or maintain safe shutdown; or

B. Capability to mitigate the consequences of postulated accidents.

These safety–related pumps are found within the ASME Class 1, 2, and 3 boundaries. The pumps within this scope are listed in Section II, subsection 9,*Pump Testing Tables.*

2.2 EXCLUSIONS

The following are excluded from testing in the IST Program Plan:

A. Drivers except where the pump and driver form an integral unit and the pump bearings are in the driver;

B. Pumps that are supplied with emergency power solely for operating convenience.

Although there is no requirement to do so, the pumps that are excluded from the IST Program Plan are listed in a separate table in subsection 10, *Pump Exclusions And Justifications.* The intent of including the Pump Exclusion Table in the Program Plan is simply to document the decisions and justificatons for the exclusions. The IST Bases Document provides additional information on excluded components.

3. DEFINITIONS

Active

Any valve that is required to change position to accomplish its safety–related function, or any pump that is relied upon to provide a safety–related function (for example, flow or pressure), other than maintaining a system pressure–retaining boundary.

Passive

Any valve that is not required to change position to accomplish a specific safety–related function, or any pump that is required only to maintain a system pressure–retaining boundary. A pump that is relied upon only to maintain a system pressure boundary is outside the scope of the IST program. Additionally, passive valves are those valves where the normal and safety position are the same, and the valve is not required to change position during any normal plant operating condition, except for operating convenience.

Inservice Test

A test to determine the operational readiness of a pump.

Instrument Accuracy

The allowable inaccuracy of an instrument loop bases on the square root of the sum of the squares (SRSS) of the inaccuracies of each instrument or component in the loop.

Instrument Loop

Two or more instruments or components working together to provide a single output (for example, a pressure transmitter, its signal conditioning devices, and its readout or output device).

Record of Tests

The Record of Tests is the written record that contains the data actually taken during pump performance testing. This written record (typically a Working Copy of an approved station procedure) contains the information specified by the Code or by the IST Program Plan or its implementing procedures. Although the test data may be entered into a computerized database for ease of data analysis, the Record of Tests is the written record of the as–performed test.

Vertical Line Shaft Pump	A vertically suspended turbine–type pump where the pump driver and the pumping element are connected by a line shaft within an enclosing column including liquid–lubricated bearings, making pump bearing vibration measurements impracticable.

4. TESTING REQUIREMENTS

4.1 REFERENCE VALUES

Reference values shall be established from the results of preservice testing or from the results of the first inservice test. The reference values shall be at points of operation readily duplicated during subsequent tests. All subsequent tests shall be compared to these initial reference values or to new reference values established in accordance with OM–6, paragraphs 4.4 and 4.5. Reference values shall only be established when the pump is known to be operating acceptably.

The reference values shall be established by an approved station procedure. The reference values for each test record shall be recorded in the Record of Tests.

4.2 EFFECT OF PUMP REPLACEMENT, REPAIR, AND MAINTENANCE ON REFERENCE VALUES

When a reference value or set of values may have been affected by repair, replacement, or routine servicing of a pump, a new reference value or set of values shall be determined, or the previous value shall be reconfirmed, by an inservice test run prior to declaring the pump operable. Deviations between the previous set and the new set of reference values shall be identified. Verification that the new values represent acceptable pump operation shall be placed in the record of tests.

4.3 TO ESTABLISH AN ADDITIONAL SET OF REFERENCE VALUES

If it is necessary or desirable for some reason other than that discussed in the previous paragraph (Effect of Pump Replacement, Repair, and Maintenance on Reference Values), to establish an additional set of reference value, an inservice test shall first be run at the conditions of an existing set of reference values and the results analyzed. If operation is acceptable (see paragraph 5.1, *"Acceptance Criteria"*), a second test run at the new reference conditions shall follow as soon as practicable. The results of this second test shall establish the additional set of reference values. The test run, data collection, and data analysis to determine the new set of reference values shall be performed using the controlled, approved Station procedure for this task. Whenever an additional set of reference values is established, the reasons for establishing the new set of reference values shall be justified and documented in the record of tests.

4.4 INSTRUMENTATION

The following information is repeated from Section I of this Program Plan Document. It contains the same requirements as subsection 4.6, *"Instrumentation,"* in OM–6. All instrumentation used to perform pump performance testing under the IST Program Plan shall meet or exceed the requirements in OM–6, unless specific relief is granted by the NRC in an approved relief request.

4.4.1 General

4.4.1.1 Quality

Instrument accuracy shall be within the limits of OM–6, Table 1, which is reproduced below. Station instruments meeting these requirements are acceptable.

OM–6, TABLE 1

ACCEPTABLE INSTRUMENT ACCURACY

Quantity	Percent [Note (1)]
Pressure	± 2
Flow Rate	± 2
Speed	± 2
Vibration	± 5
Differential Pressure	± 2

NOTE:

(1) Percent of full–scale for individual analog instruments, percent of total loop accuracy for a combination of instruments, or over the calibrated range for digital instruments. See Definitions.

4.4.1.2 Range

a) The full–scale range of each analog instrument shall be not greater than three times the reference value. That is:

$$[\text{full–scale range}] \leq [3 * (\text{reference value})].$$

b) Digital instruments shall be selected such that the reference value shall not exceed 70% of the calibrated range of the instrument.

c) Vibration instruments are excluded from the range requirements of (a) and (b) above.

4.4.1.3 Instrument Location

The sensor location shall be established and documented in the inservice test plan for each pump. The sensor location shall be appropriate for the parameter being measured. The established and documented sensor location shall be used for subsequent tests. Instruments that are position–sensitive shall be either permanently mounted or some unambiguous provision shall be made to duplicate their position during each test.

4.4.1.4 Calibration

Instruments and instrument loops shall be calibrated in accordance with the Nine Mile Point Unit 2 Quality Assurance Program. New or repaired instruments shall be calibrated prior to being used for pump performance tests.

4.4.1.5 Fluctuations

Symmetrical damping devices or averaging techniques may be used to reduce instrument fluctuations. Hydraulic instruments may be damped by using gauge snubbers or by throttling small valves in instrument lines.

4.4.1.6 Frequency Response Range

The frequency response range of the vibration measuring transducers and their readout system shall be from one–third minimum pump shaft rotational speed to at least 1000 Hz.

4.4.2 Pressure Measurement

4.4.2.1 Gage Lines

If the presence or absence of liquid in a gage line could produce a difference of more than 0.25% in the indicated value of the measured pressure, means shall be provided to assure or determine the presence or absence of liquid as required for the static correction used.

4.4.2.2 Differential Pressure

When determining the differential pressure across a pump any of the following may be used:

- a differential pressure gauge
- a differential pressure transmitter that provides direct measurement of pressure difference
- the difference between the pressure at a point in the inlet (suction) pipe and the pressure at a point in the discharge pipe.

4.4.3 Rotational Speed Measurements

Rotational speed ("pump speed") measurements of variable speed pumps shall be taken by a method which meets the requirements of paragraph 4.4.1,*General.* That is, the accuracy, range, location, and calibration of the speed instruments shall meet the requirements of OM–6.

4.4.4 Vibration Measurements

a) On centrifugal pumps, measurements shall be taken in a plane approximately perpendicular to the rotating shaft in two orthogonal directions on each accessible pump bearing housing. Measurements also shall be taken in the axial direction on each accessible pump thrust bearing housing.

b) On vertical line shaft pumps, measurements shall be taken on the upper motor bearing housing in three orthogonal directions, one of which is the axial direction.

c) On reciprocating pumps, the location shall be on the bearing housing of the crankshaft, approximately perpendicular to both the crankshaft and the line of plunger travel.

d) If a portable vibration indicator is used, the reference points shall be clearly identified on the pump to permit subsequent duplication in both location and plane.

4.4.5 Flow Rate Measurements

Flow rate shall be measured using a rate or quantity meter installed in the pump test circuit. If a meter does not indicate the flow rate directly, the pump test record shall include the method used to reduce the data.

5. TESTING METHODS

5.1 FREQUENCY OF INSERVICE TESTS

An inservice test shall be run on each pump in the IST Program at least once every 92 days, except as provided by the Code or by an NRC–approved relief request. The specific exceptions to the quarterly test in the Code are as follows:

5.1.1 Pumps in Regular Use

Paragraph 5.3 of OM–6 specifies the conditions for the exception to quarterly testing for pumps in regular use.

5.1.2 Pumps in Systems Out of Service

Paragraph 5.4 of OM–6 specifies the conditions for the exception to quarterly testing for pumps in systems out of service.

5.1.3 Pumps Lacking the Required Fluid Inventory

Paragraph 5.5 of OM–6 specifies the conditions for the exception to quarterly testing for pumps lacking the required fluid inventory.

5.2 TEST PROCEDURE

Inservice tests shall be conducted with the pump operating at the specified test reference conditions. The test parameters shown in OM–6, Table 2 shall be determined and recorded. The test shall be conducted per OM–6 as follows:

a) The pump shall be operated at nominal motor speed for constant speed drives. The pump speed shall be adjusted to the reference speed for variable speed drives.

b) The flow resistance of the system shall be varied until the flow rate equals the reference value. The pressure shall then be determined and compared to its reference value. Alternatively, the flow rate may be varied until the pressure equals the reference value. The flow rate shall be determined and compared to the reference flow rate value.

c) Where system resistance cannot be varied, the flow rate and pressure shall be determined and compared to their respective reference values.

d) Pressure, flow rate, and vibration (displacement or velocity) shall be determined and compared with their corresponding reference values. All deviations from the reference values shall be compared with the limits given in OM–6, Table 3. Corrective action shall be taken as prescribed in OM–6, paragraph 6.1, and subsection 6, *"Analysis and Evaluation,"* of this Program Plan Document.

e) Pressure (or differential pressure) and flow rate shall also be compared to the Limiting Value specified in M2–0006: *ASME OM IST Pump Performance Acceptance Criteria.* Corrective action shall be taken as prescribed in OM–6, paragraph 6.1, and subsection 6, *"Analysis and Evaluation,"* of this Program Plan Document.

Vibration measurements are to be broadband (unfiltered). If velocity measurements are used, they shall be peak. If displacement amplitudes are used, they shall be peak–to–peak.

OM–6, TABLE 2

INSERVICE TEST PARAMETERS

Quantity	**Remarks**
Speed: N	For variable speed pumps
Differential Pressure: ΔP	Centrifugal Pumps, including vertical line shaft pumps
Discharge Pressure: P	Positive Displacement Pumps
Flow Rate: Q	
Vibration:	
Displacement, V_d	Peak–to–Peak
Velocity, V_v	Peak

5.3 Duration of Tests

After pump conditions are as stable as the system permits, each pump shall be run at least two minutes, in accordance with the requirements of OM–6. At the end of this time, at least one measurement or observation of each of the quantities required shall be made or recorded.

6. ANALYSES AND EVALUATION

6.1 ACCEPTANCE CRITERIA

If the pump test data fall within the Alert Range defined by OM–6, Table 3, the frequency of testing shall be doubled until the cause of the deviation is determined and the condition is corrected. If the pump test data fall within the Required Action Range defined by OM–6, Table 3 or the Limiting Value specified in M2–0006: *ASME OM IST Pump Performance Acceptance Criteria*, the pump shall be declared inoperable until the cause of the deviation has been determined and the condition is corrected.

When the test data are outside of the Acceptable Range on OM–6, Table 3, the instruments involved may be recalibrated and the test rerun.

OM–6 TABLE 3[1]

RANGES FOR TEST PARAMETERS

TABLE 3a[2]

Pump Type	Pump Speed	Test Parameter	Acceptable Range	Alert Range	Required Action Range
Centrifugal and vertical line shaft[3]	< 600 rpm	V_d or V_v	≤2.5 V_r	>2.5 V_r to 6 V_r or >10.5 mils	>6 V_r or >22 mils
Centrifugal and vertical line shaft[3]	≥600 rpm	V_d or V_v	≤2.5 V_r	>2.5 V_r to 6 V_r or >10.5 mils	>6 V_r or >0.70 in./sec
Reciprocating	....	V_d or V_v	≤2.5 V_r	>2.5 V_r to 6 V_r	>6 V_r

TABLE 3b

		Alert Range		Required Action Range	
Test Parameter	Acceptable Range	Low	High	Low	High
P (Positive displacement pumps)	0.93 to 1.10 P_r	0.90 to < 0.93 P_r	....	< 0.90 P_r	>1.10 P_r
ΔP (Vertical line shaft pumps)	0.95 to 1.10 ΔP_r	0.93 to < 0.95 ΔP_r	....	< 0.93 ΔP_r	>1.10 ΔP_r
Q (Positive displacement vertical line shaft pumps)	0.95 to 1.10 Q_r	0.93 to < 0.95 Q_r	....	< 0.93 Q_r	>1.10 Q_r
ΔP (Centrifugal pumps)	0.90 to 1.10 ΔP_r	....	....	< 0.90 ΔP_r	>1.10 ΔP_r
Q (Centrifugal pumps)	0.90 to 1.10 Q_r	....	....	< 0.90 Q_r	>1.10 Q_r

[1] General Note: The subscript r denotes reference value.

[2] Vibration parameter per OM–6, Table 2. V_r is vibration reference value in the selected units.

[3] Refer to OM–6, Figure 1 to establish displacement limits for pumps with speeds ≥600 rpm or velocity limits for pumps with speeds <600 rpm.

6.2 TIME ALLOWED FOR ANALYSIS OF TESTS

All test data shall be analyzed within 96 hours after the completion of a test.

7. RECORDS AND REPORTS

7.1 PUMP RECORDS

The pump record required by OM–6 contains the following information:

a) the manufacturer, the manufacturer model number, and the serial number or other identification number

b) a copy or a summary of the manufacturer's acceptance test report, if available.

c) a copy of the pump manufacturer's operating limits.

7.2 INSERVICE TEST PLANS

The inservice test plan required by OM–6, paragraph 7.2, shall be in a controlled and approved station procedure and shall include at least the following information required by OM–6, paragraph 7.2:

a) the hydraulic circuit to be used

b) the location and type of measurement for the required test parameters

c) the reference values

d) the method of determining reference values that are not directly measured by instrumentation

7.3 RECORD OF TESTS

The Record of Tests is the written record that contains the data actually taken during pump performance testing. The following requirements for the contents of the Record of Tests are more comprehensive that those in OM–6. This Program Plan requires the recording of the reference values, the limits of the Alert Range, and the limits of the Required Action Range, in addition to the requirements of OM–6. The Record of Test for each test shall include the following:

a) the pump Component ID (Equipment Part Number, EPN)

b) the date of the test

c) the reason for the test
   - post–maintenance
   - routine inservice test
   - establishing reference values

d) the values of the measured parameters

e) the reference value

f) the upper and lower limits of the Alert Range

g) the upper and lower limits of the Required Action Range

h) identification of the instruments used

i) comparison with the allowable ranges of test values and an analysis of the deviations

j) requirements for corrective action

k) evaluation and justification for changes to reference values

l) the signature of the person or persons responsible for conducting and analyzing the test.

7.4 RECORD OF CORRECTIVE ACTIONS

A record of corrective action shall be maintained in accordance with OM–6, paragraph 7.4, *Record of Corrective Action.* The record of corrective action shall include the following:

a) a summary of the corrections made

b) the subsequent inservice tests

c) verification that the new values represent acceptable operation in accordance with OM–6, paragraph 4.4, *Effect of Pump Replacement, Repair, and Maintenance on Reference Values*

d) the signature of the individual responsible for corrective action and verification of results.

8. PUMP TEST TABLE - NOMENCLATURE

8.1 PUMP PROGRAM TABLE DESCRIPTION

8.1.1 Pump Table Summary

The ASME Class 1, 2, and 3 Pump IST Program Table (Section II) contains a listing of all the safety–related pumps included in the Nine Mile Point Unit 2 IST Program. These Tables identify the inservice test parameters to be measured, the applicable Relief Requests, and any applicable remarks. A column for testing frequency was not included since all the required pump testing shall be performed quarterly[4].

[4] Quarterly is defined in Section 1.0 of the Program Plan as an interval of 92 days.

8.1.2 Pump Program Table Format

The Pump IST Program Tables provide the following information:

Note: The numbers in parentheses correspond to those found on the following sample pump (IST) Program Table.

(1) PUMP ID: The pump component identification number;

(2) SYSTEM ID: 3–digit abbreviation for the pump's specific system;

(3) ASME CLASS: ASME Code Class;

(4) P&ID / COORD: Piping and Instrumentation Drawing where pump is located and location coordinates of the pump on the P&ID;

(5) PARAMETERS: This column lists the test parameters that shall be measured. The parameters listed are those required by OM–6, Table 2, as directed by paragraph 5.2, *Test Procedure*, of OM–6, unless alternate testing is provided by Relief Request. The following is a description of the measured parameters:

a. SPEED – Pump Speed (required only for variable speed pumps)

b. DISCH PRESS – Discharge pressure for positive displacement pumps

c. DIFF. PRESS – Pump differential pressure

d. FLOW – Pump flow rate

e. VIBRATION – Pump vibration velocity or displacement

(6) REMARKS: Any additional pertinent information

The body of the Pump Testing Requirements Table contains either "N/R" or "Y" for the parameters Speed, Discharge Pressure, Differential Pressure, Flow, and Vibration. "Y" means the parameter is tested; "N/R" means testing the parameter is not required.

8.2 Sample Pump Testing Table

SECOND TEN YEAR INTERVAL—PUMPS
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

PUMP ID	SYSTEM ID	ASME CLASS	P&ID/ COORD	SPEED	DISCH PRESS	DIFF. PRESS	FLOW	VIBRATION	REMARKS
(1)	(2)	(3)	(4)	(5a)	(5b)	(5c)	(5d)	(5e)	(6)

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(1) Component ID in MEL2

(2) System 3-letter abbreviation

(3) ASME Code Class: 1, 2, or 3

(4) P&ID Sheet Number and Coordinate

(5a) Y = pump speed test is required

(5b) Y = pump discharge pressure is required

(5c) Y = pump differential pressure (ΔP) is required

(5d) Y = pump discharge flow is required

(5e) Y = pump vibration measurement is required

(6) Remarks

(7) "Original" or LDCR number, if LDCRs are posted against the current revision

(8) Development Date (date printed)

(9) Program plan document number in CDS

(10) Revision number

9. PUMP TESTING TABLES

PUMP ID	SYSTEM ID	ASME CLASS	P&ID/ COORD	SPEED	DISCH PRESS	DIFF. PRESS	FLOW	VIBRATION	REMARKS
2CSH*P1	CSH	2	33B H–7	N/R	N/R	Y	Y	Y	
2CSL*P1	CSL	2	32A B–8	N/R	N/R	Y	Y	Y	
2EGF*P1A	EGF	3	104C E–6	N/R	N/R	Y	Y	Y	
2EGF*P1B	EGF	3	104B E–8	N/R	N/R	Y	Y	Y	
2EGF*P1C	EGF	3	104C C–6	N/R	N/R	Y	Y	Y	
2EGF*P1D	EGF	3	104B E–4	N/R	N/R	Y	Y	Y	
2EGF*P2A	EGF	3	104B E–4	N/R	N/R	Y	Y	Y	
2EGF*P2B	EGF	3	104B C–4	N/R	N/R	Y	Y	Y	
2HVK*P1A	HVK	3	53A C–6	N/R	N/R	Y	Y	Y	
2HVK*P1B	HVK	3	53A C–10	N/R	N/R	Y	Y	Y	
2ICS*P1	ICS	2	35D G–9	Y	N/R	Y	Y	Y	

PUMP ID	SYSTEM ID	ASME CLASS	P&ID/ COORD	SPEED	DISCH PRESS	DIFF. PRESS	FLOW	VIBRATION	REMARKS
2RHS*P1A	RHS	2	31F D–7	N/R	N/R	Y	Y	Y	
2RHS*P1B	RHS	2	31E E–2	N/R	N/R	Y	Y	Y	
2RHS*P1C	RHS	2	31G D–6	N/R	N/R	Y	Y	Y	
2SFC*P1A	SFC	3	38B E–3	N/R	N/R	Y	Y	Y	
2SFC*P1B	SFC	3	38A E–10	N/R	N/R	Y	Y	Y	
2SLS*P1A	SLS	2	36A H–5	N/R	Y	N/R	Y	Y	
2SLS*P1B	SLS	2	36A H–9	N/R	Y	N/R	Y	Y	
2SWP*P1A	SWP	3	11B C–9	N/R	N/R	Y	Y	Y	
2SWP*P1B	SWP	3	11A H–5	N/R	N/R	Y	Y	Y	
2SWP*P1C	SWP	3	11A H–10	N/R	N/R	Y	Y	Y	
2SWP*P1D	SWP	3	11A D–5	N/R	N/R	Y	Y	Y	

PUMP ID	SYSTEM ID	ASME CLASS	P&ID/ COORD	SPEED	DISCH PRESS	DIFF. PRESS	FLOW	VIBRATION	REMARKS
2SWP*P1E	SWP	3	11B H-9	N/R	N/R	Y	Y	Y	
2SWP*P1F	SWP	3	11A D-10	N/R	N/R	Y	Y	Y	
2SWP*P2A	SWP	3	11J J-6	N/R	N/R	Y	Y	Y	
2SWP*P2B	SWP	3	11J J-6	N/R	N/R	Y	Y	Y	

10. PUMP EXCLUSIONS AND JUSTIFICATIONS TABLE

PUMP ID	SYSTEM ID	ASME CLASS	P&ID / COORD	JUSTIFICATION
2CMS*P2A	CMS	N	82A L–6	Sample Pump. This pump is not relied upon to provide an active safety function. This is a non–ASME Code pump and is therefore not subject to Code testing requirements.
2CMS*P2B	CMS	N	82A B–6	Sample Pump. This pump is not relied upon to provide an active safety function. This is a non–ASME Code pump and is therefore not subject to Code testing requirements.
2CSH*P2	CSH	2	33B H–9	System Pressure ("Keep–Fill" or "Jockey") Pump. The keep–fill function provides no active safety function. (Safety Classification (Appendix B) Determination No. 89–032; 90–291)
2CSL*P2	CSL	2	32A E–6	System Pressure ("Keep–Fill" or "Jockey") Pump. The keep–fill function provides no active safety function. (Safety Classification (Appendix B) Determination No. 89–032; 90–291)
2EGF*P3	EGF	3	104F D–7	2EGS*EG1 Motor–Driven Standby Fuel Oil Booster Pump. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGF*P4	EGF	3	104F D–7	2EGS*EG3 Motor–Driven Standby Fuel Oil Booster Pump. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGF*P5	EGF	N	104F D–6	2EGS*EG1 Engine Driven Fuel Oil Booster Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGF*P6	EGF	N	104F D–6	2EGS*EG3 Engine Driven Fuel Oil Booster Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.

PUMP ID	SYSTEM ID	ASME CLASS	P&ID / COORD	JUSTIFICATION
2EGF*P9	EGF	N	104F I–2	2EGS*EG2 Motor Driven Fuel Oil Booster Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGF*P10	EGF	N	104F I–2	2EGS*EG2 Engine Driven Fuel Oil Booster Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P1	EGO	N	104E B–4	2EGS*EG2 AC Motor–Driven Lube Oil Circulating Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P1A	EGO	3	104E D–9	2EGS*EG1 Lube Oil Circulating Pump. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P1B	EGO	3	104E D–9	2EGS*EG3 Lube Oil Circulating Pump. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P2	EGO	N	104E A–4	2EGS*EG2 AC Motor–Driven Turbo–Charger Lube Oil (Soak–Back) Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P3	EGO	N	104E B–4	2EGS*EG2 DC Motor–Driven Turbo–Charger Lube Oil (Soak–Back) Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.

PUMP ID	SYSTEM ID	ASME CLASS	P&ID / COORD	JUSTIFICATION
2EGO*P4	EGO	N	104E B–4	2EGS*EG2 DC Lube Oil Circulating Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P5A	EGO	N	104E D–8	2EGS*EG1 Engine–Driven Lube Oil Circulating Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P5B	EGO	N	104E D–8	2EGS*EG3 Engine–Driven Lube Oil Circulating Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P6A	EGO	N	104E E–4	2EGS*EG2 Lube Oil Pump for Crankshaft and Bearings. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P6B	-EGO	N	104E D–4	2EGS*EG2 Piston Cooling Lube Oil Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGO*P7	EGO	N	104E D–4	2EGS*EG2 Engine–Driven Scavenging Lube Oil Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGS*P1A	EGS	3	104D G–9	Electric Motor–Driven Jacket Water Circulating Pump. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGS*P1B	EGS	3	104D G–9	Electric Motor–Driven Jacket Water Circulating Pump. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.

PUMP ID	SYSTEM ID	ASME CLASS	P&ID / COORD	JUSTIFICATION
2EGS*P2A	EGS	N	104D D–3	2EGS*EG1 Engine–Driven Jacket Cooling Water Circulating Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2EGS*P2B	EGS	N	104D D–3	2EGS*EG3 Engine–Driven Jacket Cooling Water Circulating Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2HVK*CHL1A–P	HVK	N	53A B–4	2HVK*CHL1A–C Auxiliary Oil Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2HVK*CHL1B–P	HVK	N	53A B–9	2HVK*CHL1B–C Auxiliary Oil Pump. This is a non–ASME Code pump and is therefore not subject to Code testing requirements. This pump is tested in the BOP Pump and Valve Testing Program. See IST Bases for Pumps.
2ICS*P2	ICS	2	35D G–5	System Pressure ("Keep–Fill" or "Jockey") Pump. The keep–fill function provides no active safety function. (Safety Classification (Appendix B) Determination No. 89–032; 90–291)
2MSS*P1 through 2MSS*P20	MSS	N	N/A	Reactor Recirculation System Jet Pump Assemblies. These pumps are not relied upon to provide an active safety function. They are non–ASME Code pumps and are therefore not subject to Code testing requirements.
2RCS*P1A	RCS	1	29B D–10	Reactor Recirculation System Driving Flow Pump. This pumps is not relied upon to provide an active safety function.

PUMP ID	SYSTEM ID	ASME CLASS	P&ID / COORD	JUSTIFICATION
2RCS*P1B	RCS	1	29C D–10	Reactor Recirculation System Driving Flow Pump. This pumps is not relied upon to provide an active safety function.
2RHS*P2	RHS	2	31G F–4	System Pressure ("Keep–Fill" or "Jockey") Pump. The keep–fill function provides no active safety function. (Safety Classification (Appendix B) Determination No. 89–032; 90–291)
2WCS-P1A	WCS	3	37B D–3	This ASME Class pump is not safety related. The Cleanup System outside the primary containment isolation valves does not provide a safety-related function.
2WCS-P1B	WCS	3	37B D–6	This ASME Class pump is not safety related. The Cleanup System outside the primary containment isolation valves does not provide a safety-related function.

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1. VALVE PROGRAM INTRODUCTION

The ASME Class 1, 2, and 3 valves that are within the scope of the Inservice Testing Program, as defined in Paragraph 2.0, *"Valve Inservice Testing Scope,"* shall be tested in accordance with the ASME/ANSI OMa–1988, Part 10 (OM–10). Tables listing the valves, including all applicable testing requirements and frequencies, are contained in this Section. A descriptive key to the information in the Valve Table is also in this Section.

When the valve testing requirements of the applicable Code cannot be met for any reason, a Relief Request is provided. There is one General Valve Relief Request and no specific Valve Relief Requests for the Second Ten–Year Interval.

When valve testing must be deferred to cold shutdown, cold shutdown test justifications are provided at the end of each respective system Valve Table in this Section. When it is not practicable to test a valve either quarterly or during cold shutdown, a refueling outage test justification is provided at the end of each respective system, following the cold shutdown test justifications, if any. When the valve testing requirements of the applicable Code cannot be met for any reason, Relief Requests are provided at the end of each respective system Valve Table following the refueling outage test justifications, if any.

2. VALVE INSERVICE TESTING SCOPE

2.1 INTRODUCTION

The scope of the valve IST program includes those ASME Class 1, 2, and 3 safety–related valves that are relied upon to provide an active or passive safety–related function. By definition, a safety–related function is one that is required to assure at least one of the following:

A. Capability to achieve or maintain safe shutdown; or

B. Capability to mitigate the consequences of postulated accidents.

The pressure–relief devices covered are those for protecting systems or portions of systems which perform a required safety–related function. The scope of the IST Program Plan includes those pressure–relief valves that are the subject of Generic Letter 96–06.

These safety–related valves are found within the ASME Class 1, 2, and 3 boundaries.

2.2 TECHNICAL POSITIONS

This Section provides the positions used to clarify Code requirements as they apply to the implementation of this program:

2.2.1 Passive Valves

Passive valves are those valves that are required to maintain their position to provide a safety–related function. Valves that are normally in the position required to fulfill their safety–related function are generally classified as passive. Certain valves are infrequently manipulated to the position opposite their safety–related position. If these infrequently manipulated valves are under procedural or other administrative control for an infrequent and reasonably brief evolution, the valves are classified as passive.

If the position of a valve has no safety significance, the valve is not passive in this sense. The valve pressure–retaining boundary (body, bonnet, etc.) may be relied upon to maintain a system pressure boundary, but the valve position is not safety–significant. For valves where the position has no safety significance and the valve pressure–retaining boundary is relied upon only to maintain a system boundary, the valve is excluded from the IST Program. These exclusions are documented in the Exclusion Tables and the IST Bases.

2.2.2 Vacuum Relief Valves

OM–1 "provides general requirements for periodic performance testing and monitoring of pressure relief devices utilized in nuclear power plant systems...." Section 2 of OM–1 "defines the rules and requirements for performance testing pressure relief devices for boiling water reactor nuclear power plants." The definition of overpressure, as used in OM–1, is the definition given in "Article 7000 of the applicable Subsection of Section III of the ASME Boiler and Pressure Vessel Code." The definition of overpressure in ASME B&PV Code Section III NC–7111 (Class 2) and ND–7111 (Class 3) is as follows:

> **NC/ND–7111:** ...(2) Changes in differential pressure resulting from thermal imbalances, vapor condensation, and other similar phenomena, capable of causing an internal or external pressure increase of sufficient duration to be compatible with the dynamic response characteristics of the pressure relief devices listed in this Article.

Footnote 2 to NC/ND–7150, "Acceptable Pressure Relief Devices," states:

> A pressure relief device is designed to open to prevent a rise of internal fluid pressure in excess of a specified value due to exposure to emergency or upset conditions. It may also be designed to prevent excessive internal vacuum. It may be a pressure relief valve, a non–reclosing pressure relief device, or a vacuum relief valve.

NUREG–1482 goes on to say, "To meet Code requirements, vacuum breakers that are simple check valves are required to be full–stroke exercised in accordance with ...Paragraph 4.3.2 of OM–10 at the specified frequency...."

No vacuum relief valves (vacuum breakers) in the Nine Mile Point Unit 2 IST Program are "simple check valves." They are specially designed as vacuum relief valves, and one of their distinguishing design characteristics is that they have a setpoint. Moreover, the Engineering Acceptance Criteria for these valves (Technical Specification List M2–0004) specify a setpoint. The Engineering Acceptance Criteria for check valves (Technical Specification List M2–0005) specify a flow rate. On the basis that the vacuum relief valves are not simple check valves and that the specified parameter of interest is pressure, the vacuum relief valves in the Nine Mile Point Unit 2 IST Program are tested in accordance with OM–1.

2.2.3 Check Valve Normal Position

By design and construction, swing check valves close when there is no flow through them. In systems that are not running during normal plant operation, the normal position of the swing check valves is taken to be closed. In systems that are running during normal plant operation, the normal position of the check valves may be either open, closed, or partially open. For swing check valves in normally running systems, the NORM position of the valve will be designated as "OC"; for swing check valves in systems not normally running during plant operation, the NORM position of the valve will be designated as "C."

2.2.4 Check Valve Full/Partial Stroke

In most cases, full design flow through a check valve requires less than maximum mechanical obturator movement. As used in this program, with the exception of testable check valves, the term "full stroke" refers to the ability of the valve to pass accident flow or design flow and not necessarily the full mechanical travel of the obturator. Forward flow full–stroke testing shall be by any method that verifies the valve is capable of passing accident flow or design flow. Any test that verifies less than full accident flow or design flow capability is considered a partial–stroke test.

2.2.5 Testable Check Valve Tests

Nine Mile Point Unit 2 has several testable check valves in Engineered Safety Feature injection lines. These testable check valves are equipped with an air–operated test actuator. The test actuator can only move the valve obturator when the differential pressure across the check valve is approximately 0 psid. The test actuator cannot shut the check valve when there is forward flow through the valve (it is not a stop check valve). The test actuator cannot open the valve when there is a reverse differential pressure across the valve. The purpose of the test actuator is to permit exercising the valve in piping sections that do not normally have flow, such as ECCS injection lines to the reactor vessel.

Since the test actuator is designed only to permit exercising the testable check valve, attempting to measure the stroke time of a testable check valve using the air–operated test actuator would not produce meaningful information concerning the possible degradation of the check valve's performance. Therefore, no attempt is made to measure stroke time on testable check valves using the air–operated test actuator. Similarly, no fail–safe test is specified for testable check valves.

2.2.6 Valve Position Indicator Verification

Verification of proper indication of remote position indication shall normally be accomplished by locally observing the position of the valve and comparing it with the remote indication. However, certain valves such as solenoid–operated and excess flow check valves are not equipped with a local means to verify position. Therefore, position shall be verified by the positive, non-intrusive observation of system parameters such as flow or pressure during valve cycling, in conjunction with valve light indicators. An NMPC internal memorandum (Jeff Neyhard to Performance Group File, March 20, 1996; File Code NMP90831) describes a method that has been found to be satisfactory for Target Rock SOVs. This method has been reviewed by, and received the concurrence of, the IST Program Manager and the Authorized Nuclear Inservice Inspector.

For excess flow check valves, position indication testing may be performed at the Technical Specification test frequency, which meets or exceeds the OM–10 test frequency.

2.2.7 Valves Excluded by OM–10

A. Operating Convenience Valves – Valves used only for operating convenience, such as vent, drain, instrument, and test valves.

B. System Control Valves – Valves used only for system control, such as pressure–regulating valves.

C. Maintenance Valves – Valves which are used only to isolate systems or components to perform maintenance, including relief valves that provide overpressure protection for a component that is isolated only for maintenance.

D. Valves in External Control Protection Systems – systems responsible for sensing plant conditions and providing signals for valve operation.

2.2.8 Thermal Relief Valves

We use the term “thermal relief valve” to mean a valve 1 inch nominal pipe size or smaller that was specified, purchased, and installed to prevent overpressurization of a portion of a system in the event the system becomes isolated. Thermal relief valves do not provide a safety–related function, as defined in this Program Plan document. (reference: Safety Classification (Appendix B) DeterminationNo. 91–033)

At Nine Mile Point Unit 2, the thermal relief valves have been placed into the balance of plant (BOP) program. They will be tested, using all applicable OM–1 tests, at least once every 10 years.

2.3 CLARIFICATIONS OF CODE REQUIREMENTS

2.3.1 Increased Testing Frequencies of Certain Category C and D Valves

The testing frequencies for certain Category C and D valves have been increased in compliance with Technical Specification, manufacturer's recommendations, or USAR commitments. Although the IST Program Plan specifies and commits to the Code–required testing frequency, the Valve Table Notes list the reference where the increased frequency requirement can be found.

2.3.2 Reactor Coolant System Pressure Isolation Valves

Reactor Coolant System Pressure Isolation Valves (PIVs) are Category A valves. OM-10, paragraph 4.2.2.2 *"[Seat Leakage for] Containment Isolation Valves,"* requires that containment isolation valves that are also PIVs shall additionally be tested in accordance with paragraph 4.2.2.3, *"Leakage Rate for Other Than Containment Isolation Valves."* The Code–required frequency of this additional test is at least once every two years.

The Nine Mile Point Unit 2 PIVs are listed in Technical Specification Table 3.4.3.2–1, *"Reactor Coolant System Pressure Isolation Valves,"* and the Technical Specification requires that these valves be leakage rate tested at a frequency that equals or exceeds the Code frequency. Since testing at a frequency greater than the Code frequency is permitted by the Code, no exception is taken to the Code requirement, and no relief is requested.

Certain of the PIVs may use a correlation that permits using the Appendix J air test (LJ) data to satisfy the PIV seat leakage test (LK). If this correlation is used, the test will be performed at the interval specified for the PIV seat leakage test (LK). The Code–specified frequency is at least once every two years, as described in this Program Plan, Section I, subsection 6.15, "Scheduling of Inservice Tests."

2.3.3 Valves Not Subject to Type A or Type C Testing

USAR Table 6.2–56, *"Containment Isolation Provisions for Fluid Lines,"* lists the primary containment penetrations and lists the valves that isolate each penetration. This table also identifies the Appendix J testing requirements for each penetration (Type A, Type B, Type C, or N/A).

Certain containment penetrations and their isolation valves are listed in Table 6.2–56 with "Type Test" = "N/A". The reason a test is not required is explained in a Note accompanying the table. The containment isolation valves that are not subject to Type A or Type C testing have been extracted from USAR Table 6.2–56 and placed in the IST Program Bases Document as a separate table, entitled, *"Valves in Lines Not Type A or Type C Tested."* This table is provided for information only, and it is not part of the USAR or this Program Plan Document.

The exemption from Type C testing for these valves was granted in the Nine Mile Point Unit Two SER, NUREG–1047, and therefore no relief is requested.

2.3.4 Containment Isolation Valves in Hydrostatically Tested Lines

The containment isolation valves in hydrostatically tested lines are a subset of the valves that are listed with "Type Test" = "N/A" in USAR Table 6.2–56. Technical Specification 4.6.1.2.3 specifies the required testing for this group of valves. The Technical Specification does not, however, specify the valves subject to hydrostatic testing. The Technical Specification requires that the testing be performed in accordance with the Appendix J Testing Program Plan.

The Appendix J Testing Program Plan identifies certain containment isolation valves that are to be water tested. Those valves are further identified by a Note in the Appendix J Testing Program Plan. The Note confirms that these are the valves to be hydrostatically tested in accordance with Technical Specifications. Additionally, the containment isolation valves in hydrostatically tested lines are identified by a Note in NIP–DES–04, *"List of Controlled Lists."*

The valves that comprise this subset are identified by a separate column on the Table of Valves in Lines Not Type A or Type C Tested in the IST Bases Document. This separate column indicates those valves that are hydrostatically tested and for which the Note in the Appendix J Testing Program Plan and NIP–DES–04 applies.

The Table of Valves in Lines Not Type A or Type C Tested in the IST Bases Document is provided for information only, and it is not part of the USAR or this Program Plan Document.

2.3.5 As-Found Testing of Pressure Relief Valves Removed for Maintenance

Pressure relief valves that are removed for maintenance shall receive as-found testing to their IST Program Plan commitment. This as-found testing shall be recorded in the Record of tests. Pressure relief valves that are removed for maintenance shall be replaced with pretested valves and shall be treated as valves that are replaced in lieu of testing in accordance with the applicable paragraph for Class 1 or Classes 2 and 3 for partial complement replacements.

2.3.6 Cold Shutdown Test Justification Discussion

2.3.6.1 Code Requirements

The Code permits that valve testing that is impracticable during operation may be performed during cold shutdown.

Specifically, OM–10 paragraph 4.2.1.2, *"Exercising Requirements,"* requires that valves shall be tested as follows:

a) full–stroke during plant operation to the position(s) required to fulfill its function(s)

b) if full–stroke exercising during plant operation is not practicable, it may be limited to part–stroke during plant operation and full–stroke during cold shutdowns

c) if exercising is not practicable during plant operation, it may be limited to full stroke exercising during cold shutdowns

d) if exercising is not practicable during plant operation and full–stroke during cold shutdowns is also not practicable, it may be limited to part–stroke during cold shutdowns, and full stroke during refueling outages

e) if exercising is not practicable during plant operation or cold shutdowns, it may be limited to full–stroke during refueling outages

f) valves full–stroke exercised at cold shutdowns shall be exercised during each cold shutdown, except as specified in (g) below. Such exercise is not required if the time period since the previous full–stroke exercise is less than 3 months.

g) valve exercising during cold shutdown shall commence within 48 hours of achieving cold shutdown, and continue[1] until all testing is complete or the plant is ready to return to power. For extended outages, testing need not be commenced in 48 hours provided all valves required to be tested during cold shutdowns will be tested prior to plant startup. However, it is not the intent of OM–10 to keep the plant in cold shutdown in order to complete cold shutdown testing.

h) all valve testing required to be performed during a refueling outage shall be completed prior to returning the plant to operation.

[1] Nine Mile Point Unit 2 will make a good faith, reasonable effort to complete all valve testing that is deferred until cold shutdown.

2.3.6.2 IST Program Cold Shutdown Justifications

Justification for this delay of testing is provided by the cold shutdown test justifications (CSJ) following each system Valve Table. Each cold shutdown test justification contains the following information:

a) cold shutdown test justification number

b) system

c) valve identification number

d) IST category

e) function

f) quarterly test requirements

g) cold shutdown test justification

h) quarterly partial stroke testing (as applicable)

i) cold shutdown testing that will be performed

2.3.6.3 Cold Shutdown Justification Numbering

The cold shutdown test justifications are numbered as follows:

XXX–CSJ–*Y* where:

XXX	=	system designation
CSJ	=	valve cold shutdown test justification
Y	=	sequential number

2.3.7 Refueling Outage Test Justification Discussion

2.3.7.1 Code Requirements

The Code permits that valve testing that is impracticable during plant operation and cold shutdown may be performed during refueling. The justification for this delay of testing is provided by the refueling outage test justifications (ROJ) located following each system Valve Table.

2.3.7.2 *IST Program Refueling Outage Test Justifications*

Each refueling outage test justification contains the following information:

a) refueling outage test justification number

b) system

c) valve identification number

d) IST category

e) function

f) quarterly test requirements

g) refueling outage test justification

h) quarterly partial stroke testing (as applicable)

i) cold shutdown testing (including both partial stroke and full stroke, as applicable)

j) refueling outage testing that will be performed

2.3.7.3 *Refueling Outage Test Justification Numbering*

The refueling outage test justifications are numbered as follows:

XXX–ROJ–*Y*, where:

XXX	=	system designation
ROJ	=	valve refueling outage test justification
Y	=	sequential number

3. DEFINITIONS

Active
: Any valve that is required to change position to accomplish its safety–related function, or any pump that is relied upon to provide a safety–related function (for example, flow or pressure), other than maintaining a system pressure–retaining boundary.

Passive
: Any valve that is not required to change position to accomplish a specific safety–related function, or any pump that is required only to maintain a system pressure–retaining boundary. A pump that is relied upon only to maintain a system pressure boundary is outside the scope of the IST program. Additionally, passive valves are those valves where the normal and safety position are the same, and the valve is not required to change position during any normal plant operating condition, except for operating convenience.

As-Found
: The condition of a valve prior to maintenance, adjustment, or any other activity that could affect the seat tightness, stroke time, or set pressure of a valve or pressure relief valve. Valves shall not be stroked prior to testing. Valves that are normally open shall be stroked closed using only the power-operated actuator prior to leakage testing. The first close stroke shall be timed.

Auxiliary Actuating Device
: A device requiring an external energy source to provide inservice remote actuation capability of a pressure relief valve with inlet static pressure below set pressure.

Exercising
: The demonstration based on direct visual or indirect positive indications that the moving parts of a valve function.

Full Complement
: All the valves in a particular valve group; that is, all the valves of a particular valve type, manufacturer, system application, and service media.

Full-Stroke Time
: The time interval from the initiation of the actuating signal to the indication of the end of the operating stroke.

Inservice Testing Frequencies	Technical Specification 4.0.2 and 4.0.5 permit a maximum allowable extension not to exceed 25% of the surveillance interval for inservice inspection and testing. In accordance with NUREG-1482, the Technical Specification permitted interval extension is for surveillance scheduling and shall not be routinely or repeatedly used merely as an operating convenience to extend the surveillance intervals beyond those specified.
Maintenance on a Pressure Relief Device	Action taken to prevent of correct deficiencies in the overpressure protection function of a pressure relief device.
Maintenance That Could Affect Valve Performance	Examples include, but may not be limited to, the following: Adjustment of stem packing, limit switches, or control system valves, and removal of the bonnet, stem assembly, actuator, obturator, or control system components
Partial Complement	All the pressure relief devices in a particular valve group that are scheduled for inservice testing in a particular interval. If four valves in a group are scheduled for testing in a particular 24 or 48-month interval, a partial complement is four valves.
Quarterly or Every 3 Months	Quarterly or every 3 months is defined by Technical Specification 4.0.5 as, "At least once per 92 days." Technical Specification 4.0.2 and 4.0.5 permit a maximum allowable extension not to exceed 25% of the surveillance interval for inservice inspection and testing. For a quarterly interval, the maximum extension is 23 days.
Valve Group	Valves of the same manufacturer, type, system application, and service media. Valves of the same type and manufacturer that have different system applications or service media shall be in different groups.

4. TESTING REQUIREMENTS

Active and passive valves in Categories A, B, C, and D, as defined in OM–10, paragraph 1.4, shall be tested in accordance with the paragraphs listed in Table 1 of OM–10. Table 1 of OM–10 is reproduced in a slightly modified form below. The following table is for information only and is provided as a convenience to the reader. The intent of the Nine Mile Point Unit 2 IST Program Plan is to comply with Table 1 in OM–10.

OM–10 TABLE 1

INSERVICE TEST REQUIREMENTS

(ALL PARAGRAPH NUMBERS REFER TO OM–10)

IST Category	Valve Function	Leakage Test	Exercise Test Procedure	Special Test Procedure [Note (1)]	Position Indication Verification
A	Active	para. 4.2.2	para. 4.2.1	[Note (1)]	para. 4.1
A	Passive	para. 4.2.2	None	None	para. 4.1
B	Active	None	para. 4.2.1	[Note (1)]	para. 4.1
B	Passive	None	None	None	para. 4.1
C (safety and relief)	Active	None [Note 2]	para 4.3.1	None	para. 4.1
C (check)	Active	None [Note 2]	para. 4.3.2	None	para. 4.1
D	Active	None	None	para. 4.4	None

NOTES:

(1) Note additional requirement for fail–safe valves. See OM–10, paragraph 4.2.1.6.

(2) When more than one distinguishing category characteristic is applicable, all requirements of each of the individual categories are applicable, although duplication or repetition of common testing requirements is not necessary.

5. TESTING METHODS

5.1 OM–1 TESTS

5.1.1 General

At Nine Mile Point Unit 2, the main steam safety relief valves (SRVs) are ASME Class 1 Pressure Relief Devices. They are classified as IST Category C, and they are tested at the frequency specified in OM–1 for Class 1 Pressure Relief Devices. The main steam SRVs provide the Code–required overpressure protection in the self–actuated safety mode of operation. The power–operated safety–relief mode does not provide any Code–required overpressure protection or any other safety–related function. They do, however, have auxiliary actuating devices that fit the description of *auxiliary actuating device*[2] in OM–1. Therefore, the applicable paragraph of OM–1 subsection 3.3, *"Periodic Testing,"* for BWR SRVs is 3.3.1.1, *"Main Steam Pressure Relief Valves With Auxiliary Actuating Devices."*

Seven SRVs at Unit 2 are also Automatic Depressurization System (ADS) valves. In their function as ADS valves, these valves are not actuated by reactor pressure or a signal derived from reactor pressure. They are denoted in the MSS Valve Table as (ADS). Since all SRVs receive the same Code–required testing at the Code–specified frequency, the ADS valves receive testing that demonstrates their continued operability as SRVs. In addition, any Technical Specification–required testing of ADS valves will be performed in addition to the Code–required tests.

All ASME Class 2 and 3 Pressure Relief Devices are tested to the requirements of OM-1, paragraph 3.3.2, *"ASME Classes 2 and 3 Pressure Relief Devices"* This includes the following devices at Unit 2:

- Pressure Relief Valves (OM–1, paragraph 3.3.2.1)
- Nonreclosing Pressure Relief Devices (OM–1, paragraph 3.3.2.2)
- Vacuum Relief Valves (OM–1, paragraph 3.3.2.3)

No maintenance, adjustment, disassembly or other activity that could affect the "as found" set pressure or seat tightness data is permitted prior to testing. When on–line testing is performed to satisfy the periodic testing requirements, the visual examination may be performed out of sequence. The Code does not specify the method of the visual examination, saying only that, "Visual examination shall be performed in accordance with the Owner's inspection procedures and shall be documented." The visual examination performed for OM–1 shall be performed in accordance with Nine Mile

[2] Defined in OM–1 as, "a device requiring an external energy source to provide inservice remote actuation of a pressure relief valve with inlet static pressure below set pressure." This adequately describes the actuators used by ADS.

Point Unit 2 approved procedures, and the visual examination shall be documented in the Record of Tests.

Each of these valve types and their required testing is discussed below.

5.1.2 Test Frequency

5.1.2.1 ASME Class 1 Pressure Relief Valves (the SRVs at Unit 2)

a) *"Subsequent" 5 year periods.* A "subsequent" 5–year period starts on April 5, 1998. All SRVs shall be tested within each subsequent 5–year period, with a minimum of 20% of the valves tested within any 24 months. At Nine Mile Point Unit 2, 20% of 18 is four SRVs. This 20% shall be previously untested valves, if they exist.

b) *Replacement With Pretested Valves*

   (1) The testing requirement may be satisfied by installing a partial complement of pretested valves to replace those valves that had been in service. "A partial complement" means all of those valves scheduled for testing in a given 24–month interval. If the testing requirement is satisfied by installing a partial complement of pretested valves, the valves that were removed shall be set pressure tested prior to the resumption of electric power generation.

   (2) The testing requirement may also be satisfied by installing a full complement of pretested valves in place of valves that had been in service. "A full complement" means all 18 SRVs. If the testing requirement is satisfied by installing a full complement of pretested valves, the valves that were removed from service shall be set pressure tested within 12 months of removal from the system.

c) *Acceptance Criteria.* For those valves tested by replacement that fail to meet the set pressure acceptance criteria, the cause shall be determined and evaluated to determine the need for additional tests. If the replaced valves exceed the stamped set pressure criteria by 3% or greater, the requirements for valves not meeting acceptance criteria shall be met.

d) *Valves Not Meeting Acceptance Criteria*

(1) For SRVs that fail the set pressure test required for replacement of a partial complement, additional SRVs shall be set pressure tested on the basis of two additional SRVs to be tested for each valve failure up to the total number of SRVs (18). If any of the additional SRVs tested exceeds the stamped set pressure criteria by 3% or greater, then all SRVs shall be tested.

(2) Any SRV exceeding its stamped set pressure by 3% or greater shall be repaired or replaced. The cause of the failure shall be determined and corrected. The SRV shall successfully pass a retest before it is returned to service.

5.1.2.2 ASME Class 2 and 3 Pressure Relief Devices

Pressure Relief Valves, Including Vacuum Relief Valves

a) *Subsequent 10 Year Periods.* A "subsequent" 10–year period begins on April 5, 1998. All valves of each type and manufacture shall be tested within each subsequent 10–year period, with a minimum of 20% of the valves tested within any 48 months. This 20% shall be previously untested valves, if they exist.

b) *Replacement With Pretested Valves*

(1) The testing requirement may be satisfied by installing a partial complement of pretested valves to replace those valves that had been in service. "A partial complement" means all of those valves scheduled for testing in given 48–month interval. If the testing requirement is satisfied by installing a partial complement of pretested valves, the valves that were removed shall be set pressure tested within 3 months of removal from the system.

(2) The testing requirement may also be satisfied by installing a full complement of pretested valves in place of valves that had been in service. "A full complement" means all valves of a particular type and manufacture. If the testing requirement is satisfied by installing a full complement of pretested valves, the valves that were removed from service shall be set pressure tested within 12 months of removal from the system.

c) *Acceptance Criteria.* For those valves tested by replacement, if any valves fail to meet the set pressure acceptance criteria, the cause shall be determined and evaluated to determine the need for additional tests. If the replaced valves exceed the stamped set pressure criteria by 3% or greater, the requirements for valves not meeting acceptance criteria shall be met.

d) *Valves Not Meeting Acceptance Criteria*

(1) For valves that fail the set pressure test required for replacement of a partial complement, additional valves shall be set pressure tested on the basis of two additional valves to be tested for each valve failure up to the total number of valves of the same type and manufacture. If any of the additional valves tested exceeds the stamped set pressure criteria by 3% or greater, then all valves of the same type and manufacture shall be tested.

(2) Any valve exceeding its stamped set pressure by 3% or greater shall be repaired or replaced. The cause of the failure shall be determined and corrected. The valve shall successfully pass a retest before it is returned to service.

Nonreclosing Pressure Relief Devices

Class 2 and Class 3 nonreclosing pressure relief devices shall be replaced every 5 years, unless historical data indicates a requirement for a more frequent replacement.

5.1.3 Periodic Testing

5.1.3.1 ASME Class 1 Main Steam Pressure Relief Valves (SRVs)

The following testing requirements are in OM–1, paragraph 3.3.1.2. Tests prior to maintenance or set pressure adjustment, or both, shall be performed in the following sequence:

a) visual examination [Test Code VT]

b) seat tightness determination [Test Code LA]

c) set pressure determination [Test Code RT]

d) determination of compliance with the seat tightness criteria in Technical Specification List M2–0004, *"ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria."*

e) determination of electrical characteristics and pressure integrity of solenoid valves (SO)

f) determination of pressure integrity and stroke capability of air actuator (AO)

g) determination of operation and electrical characteristics of position indiators (VP).

The as–left seat tightness test (LL) and determination of compliance with Unit2 established seat tightness criteria will be performed prior to returning the valve to service.

5.1.3.2 ASME Class 2 and 3 Pressure Relief Valves

The following testing requirements are in OM–1, paragraph 3.3.2.1. Tests prior to maintenance or set pressure adjustment, or both, shall be performed in the following sequence:

a) visual examination [Test Code VT]

b) seat tightness determination [Test Code LA]

c) set pressure determination [Test Code RT]

d) determination of compliance with the seat tightness criteria in Technical Specification List M2–0004, *"ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria."*

e) verification of the integrity of the balancing device on balanced valves [Test Code BD]

5.1.3.3 Non–Reclosing Pressure Relief Devices

The following testing requirements are in OM–1, paragraph 3.3.2.2. The device shall pass visual examination in accordance with an approved receiving inspection procedure.

5.1.3.4 Vacuum Relief Valves

The following testing requirements are in OM–1, paragraph 3.3.2.3.

a) The valves shall be actuated to verify:

- open and close capability [Test Code VR]
- set pressure [Test Code RT]
- performance of any pressure and position sensing accessories [Test Code VP]

b) Compliance with Technical Specification List M2–0004, *"ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria,"* shall be determined

5.1.4 Disposition After Testing, Maintenance or Repair, or Both

5.1.4.1 ASME Class 1 Main Steam Line SRVs

Main Steam Line SRVs shall be dispositioned in accordance with the requirements of OM-1, paragraph 3.4.1.1, *"Main Steam Pressure Relief Valves With Auxiliary Actuating Devices."*

5.1.4.2 ASME Classes 2 and 3 Pressure Relief Devices

Pressure Relief Valves

ASME Class 2 and Class 3 Pressure Relief Valves shall be dispositioned in accordance with the requirements of OM-1, paragraph 3.4.2.1, *"Pressure Relief Valves."*

Non-Reclosing Pressure Relief Devices

ASME Class 2 and Class 3 Non-Reclosing Pressure Relief Devices shall be dispositioned in accordance with the requirements of OM-1, paragraph 3.4.2.2,*"Nonreclosing Pressure Relief Devices."* The device shall pass visual examination in accordance with an approved Nine Mile Point Unit 2 receiving inspection procedure.

Vacuum Relief Valves

ASME Class 2 and Class 3 Vacuum Relief Valves shall be dispositioned in accordance with the requirements of OM-1, paragraph 3.4.2.3,*Vacuum Relief Valves.*

5.1.5 Test Methods

5.1.5.1 *Set Pressure Testing*

Set Pressure Testing shall be performed in accordance with OM–1, paragraph 4.1,*Set Pressure Testing.*

5.1.5.2 *Seat Tightness Testing*

Seat Tightness Testing shall be performed in accordance with OM–1, paragraph 4.2, *Seat Tightness Testing.*

5.1.5.3 *Alternative Test Media*

Alternative Test Media may be used in accordance with OM–1, paragraph 4.3, *Alternative Test Media.*

5.2 INSERVICE TESTS FOR CATEGORY A AND B VALVES (OM–10)

5.2.1 Frequency

5.2.1.1 *Valve Position Verification*

Valve position indication shall be observed locally at least once every 2 years.

5.2.1.2 *Exercising Test Frequency*

Active Category A and B valves shall be tested quarterly. At Nine Mile Point Unit 2, "quarterly" means at least once every 92 days.

5.2.1.3 *Containment Isolation Valves*

Containment isolation valves shall be leakage rate tested at the frequency specified in the Nine Mile Point Unit 2 Appendix J Testing Program.

5.2.1.4 *Category A Valves Other Than Containment Isolation Valves*

Category A valves that provide a function other than containment isolation shall be seat leakage tested at least once every 2 years.

5.2.2 Testing Requirements

FE: The full–stroke exercise (FE) is the test specified in OM–10, paragraph 4.2.1.2.

ST: The stroke–time test (ST) is the test specified in OM–10, paragraph 4.2.1.4.

FS: The fail–safe test (FS) is the test specified in OM–10, paragraph 4.2.1.6.

PI: The valve position verification test (PI) is the test specified in OM–10, paragraph 4.1.

LJ: The valve seat leakage rate test for Category A containment isolation valves (LJ) is the test specified in OM–10, paragraph 4.2.2.2.

LK: The valve seat leakage rate test for Category A valves that perform a function other than containment isolation (LK) is the test specified in OM–10, paragraph 4.2.2.3.

5.2.3 Stroke Time Acceptance Criteria

Test results shall be compared to the established reference value and to the Limiting Value specified in Technical Specification List M2–0003,*ASME OM IST Valve Stroke Time Limit in the Safety Direction*. The established reference value shall be part of the valve test record. Deviations between the test results and the established reference values and acceptance criteria shall be dispositioned in accordance with OM–10, paragraph 4.2.1.8, *Stroke Time Acceptance Criteria*.

5.2.4 Corrective Action

The corrective action taken in accordance with Section III of this Program Plan Document shall comply with the requirements of OM–10, paragraph 4.2.1.9,*Corrective Action*.

5.2.5 Valve Seat Leakage Rate Test

5.2.5.1 Scope

Category A valves shall be leakage tested, except that valves that function in the course of plant operation in a manner that demonstrates functionally adequate seat leak–tightness need not be additionally leakage tested. In such cases, the valve record shall provide the basis for the conclusion that operational observations constitute satisfactory demonstration.

5.2.5.2 Containment Isolation Valves

Category A valves, which are containment isolation valves, shall be tested in accordance with 10 CFR 50, Appendix J. The Nine Mile Point Unit 2 Appendix J Testing Program is the vehicle for the testing required by this paragraph. At Nine Mile Point Unit 2, there are a number of valves in lines that are "Potential Bypass Leakage Paths." These valves are required to be leakage tested in accordance with the Appendix J Testing

Program. For this reason alone, the valves in potential bypass leakage paths are Category A valves.

Although they are not containment isolation valves in the sense that they do not protect either physical end of a containment penetration, they are treated and tested as containment isolation valves for the purposes of the IST Program. The effect of this is that valves in potential bypass leakage paths receive the seat leakage rate testing that containment isolation valves receive. They do not receive the additional testing required for "Category A valves other than containment isolation valves," that is, the testing specified in OM–10 paragraph 4.2.2.3.

5.2.5.3 Category A Valves Other Than Containment Isolation Valves

Category A valves that perform a function other than containment isolation shall be seat leakage tested to verify their leak–tight integrity. In OM–10, the statement that, "Valve closure prior to seat leakage testing shall be by using the valve operator with no additional closing force applied," should not be construed as permission to stroke a valve unnecessarily prior to seat leakage testing. It is the intent of this Program Plan that all seat leakage testing shall be performed in the "as–found" condition. Necessary valve movement (closing a normally open valve, for example) is permitted.

5.3 INSERVICE TESTS FOR CATEGORY C VALVES (OM-10)

5.3.1 Safety Valve and Relief Valve Tests

Safety and relief valves shall meet the inservice test requirements specified in OM-1 and discussed in subsection 4.1 of this Program Plan Document.

5.3.2 Exercising Tests For Check Valves

5.3.2.1 Frequency

Check valves shall be exercised quarterly, unless a specific cold shutdown test justification, refueling outage justification, or NRC–approved relief request exists.

5.3.2.2 Exercising Requirements

Check valves shall be exercised in accordance with the requirements of OM–10, paragraph 4.3.2, *Exercising Tests for Check Valves*

5.3.2.3 Valves in Regular Use

Check valves which operate in the course of plant operation at a frequency which would satisfy the exercising requirements of OM–10 need not be additionally exercised provided that the observations otherwise required for testing are made and analyzed during such operation and are recorded in the plant records at intervals no greater than 92 days.

5.3.2.4 Valve Obturator Movement

The necessary check valve obturator movement shall be demonstrated in accordance with the requirements of OM–10, paragraph 4.3.2.4, *Valve Obturator Movement.*

5.3.2.5 Valves in Systems Out Of Service

Valves in systems out of service shall meet the requirements in OM–10, paragraph 4.3.2.5, *Valves in Systems Out of Service.*

5.3.2.6 Corrective Action

If a check valve fails to exhibit the required change of obturator position, it shall be declared inoperable. A retest showing acceptable performance shall be run following any required corrective action before the valve is returned to service.

5.4 INSERVICE TESTS FOR CATEGORY D VALVES

5.4.1 Explosively Actuated Valve Tests

Explosively actuated valves shall be tested in accordance with the requirements of OM–10, paragraph 4.4.1, *Explosively Actuated Valve Tests.* At Nine Mile Point Unit 2 the explosively actuated valves are in two systems: Neutron Monitoring (NMS) and Standby Liquid Control (SLS).

The explosively actuated valves in NMS are different from those in SLS. The five NMS valves have a single explosive cartridge for each valve. Therefore, firing and replacing 20% of the charges at least once every 2 years is satisfied by firing and replacing the explosive cartridge in one valve.

The two SLS valves have two explosive charges per valve, Therefore, firing and replacing one explosive charge satisfies the requirement for 20%.

5.4.2 Rupture Disk Tests

Rupture disks shall meet the requirements for non-reclosing pressure relief devices in OM–1. Specifically, OM–1, paragraph 1.3.4.2, *Nonreclosing Pressure Relief Devices,* requires that Class 2 and Class 3 nonreclosing pressure relief devices shall be replaced every 5 years, unless historical data indicates a requirement for more frequent replacement.

6. ACCEPTANCE CRITERIA AND CORRECTIVE ACTION

The Code-specified acceptance criteria for Category A, B, C, and D valve testing are contained in OM-10, paragraphs 4.2, 4.3, and 4.4. The Code-required corrective action for each category valve test showing discrepancies is contained in OM-10, paragraphs 4.2, 4.3, and 4.4.

The Nine Mile Point Unit 2 IST Program Plan Acceptance Criteria are contained in the following controlled documents:

Document Number	Title
Technical Specification List M2-0003	ASME OM IST Valve Stroke Time Limit in the Safety Direction
Technical Specification List M2-0004	ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria
Technical Specification List M2-0005	ASME OM IST Check Valve Acceptance Criteria
Technical Specification List M2-0006	ASME OM IST Pump Performance Acceptance Criteria
Technical Specification List S2-0003	List of Primary Containment Penetrations Requiring Type B and Type C Tests for Technical Specification Compliance

7. RECORDS AND REPORTS

It is the intent of this Program Plan Document that all records and reports shall be in accordance with the applicable portions of OM–1 and OM–10. For consistency, the records and reports specified below are combined for all valves.

7.1 VALVE RECORDS

7.1.1 OM–1 Requirements

The valve record required by OM–1 contains the following information:

a) valve test schedules

b) the type and number of valves to be examined for each operating time period; that is for each 24-month or 48-month interval, as applicable.

c) the procedures, identified by number, used for valve maintenance, examination, testing, and repair

d) the results of visual examination

e) the results of valve tests

f) repairs and corrective action

7.1.2 OM–10 Requirements

The valve record required by OM–10 contains the following information:

a) the manufacturer, the manufacturer model number, and the serial number or other identification number

b) a copy or a summary of the manufacturer's acceptance test report, if available.

c) preservice test results

d) the limiting value of full–stroke time specified in the Valve Exercise requirements (OM–10, paragraph 4.2.1.4(a))

7.2 TEST PLANS

The inservice test plan required by OM–10, paragraph 6.2,*"Test Plans,"* shall be in a controlled and approved station procedure. The test plan shall contain at least the following:

a) identification of valves subject to test

b) category of each valve

c) tests to be performed

d) justification for deferral of stroke testing in accordance with OM-10, paragraphs 4.2.1.2 or 4.3.2.2,

7.3 Record Of Tests

The Record of Tests is the written record that contains the data actually taken during pump performance testing. The following requirements for the contents of the Record of Tests are more comprehensive that those in OM–1 and OM–10. This Program Plan requires the recording of the reference values, the limits of the Alert Range, and the limits of the Required Action Range, in addition to the requirements of OM–10. OM–1 does not specify requirements for the record of tests. For consistency, the minimum contents of the test record for all valves are the same. The Record of Test for each test shall include the following:

a) valve identification

b) date of test

c) reason for test

- post–maintenance
- routine inservice test
- establishing reference values

d) values of measure parameters

e) the reference value

f) the upper and lower limits of the Alert Range

g) the upper and lower limits of the Required Action Range

h) identification of instruments used

i) comparison with allowable ranges of test values and analysis of deviations

j) requirement for corrective action

k) signature of the person or persons responsible for conducting and analyzing the test

7.4 RECORD OF CORRECTIVE ACTION

A record of corrective action shall be maintained in accordance with OM–10, paragraph 6.4, *Record of Corrective Action.* The record of corrective action shall include the following:

a) a summary of the corrections made

b) the subsequent inservice tests

c) verification that the new values represent acceptable operation in accordance with OM–10, paragraph 3.4, *Effect of Valve or Actuator Replacement, Repair, and Maintenance on Reference Values*

d) the signature of the individual responsible for corrective action and verification of results.

8. VALVE TEST TABLE CONTENTS

8.1 VALVE TEST TABLE DESCRIPTION

The Valve Program Tables (Section III) provide a tabulation of ASME Class 1, 2, and 3 safety–related valves included in the NMP2 Valve IST Program. The Tables are arranged by system and the valves in each system are listed in alpha–numeric sequence.

8.2 VALVE TEST TABLE FORMAT

NOTE:The numbers in parentheses correspond to those found on the sample valve IST Program Table, found on Page 15.

(1) SYSTEM: the system that the particular Table applies to

(2) VALVE NUMBER: the valve identification mark number

(3) ASME CLASS: ASME Code Class

(4) P&ID: piping and instrumentation drawing where the valve is located

(5) COORD: location coordinates of the valve on the P&ID

(6) IST CAT: valve category, as identified by OM–10

(7) SIZE: valve size in inches

(8) VALVE TYPE: valve design type

(9) ACTU TYPE: type of actuator used to change position of valve

(10) VALVE POSITIONS:

- (A) NORM – position during normal plant operation
- (B) SAFE – required position to fulfill safety function
- (C) FAIL – position to which the valve fails on a loss of actuator power

(11) ASME/ANSI OM TEST–FREQ: The testing requirement and the test frequency for the test to be performed. This column identifies OM–1 and OM–10 requirements.

The format for the testing requirements field is as follows:

[TEST CODE] – [FREQUENCY CODE]

For example,

FE–Q	=	Full stroke exercise quarterly
ST–CS	=	Measure valve stroke time during cold shutdowns
FE–RO	=	Full stroke exercise during a refueling outage
FS–Q	=	Fail–Safe test quarterly.
LJ	=	Seat Leakage test in accordance with the Appendix J Testing Program.

(12) C.S. JUST / RFO JUST. / RELIEF REQ.: Indicates whether or not there is an applicable Cold Shutdown Test Justification, Refueling Outage Test Justification, or Relief Request. This column identifies the specific Cold Shutdown Test Justification, Refueling Outage Test Justification, or Relief Request.

(13) IST PROGRAM PLAN COMMITMENT – TEST–FREQ (DIR): This column reflects the actual testing to be performed to meet the Code (OM-1 or OM–10) or as committed to in an approved relief request. This column is the total program commitment for the valve.

(14) REMARKS: Any additional information pertinent to inservice testing of the valve, such as Technical Specifications, are provided in this space.

8.3 VALVE PROGRAM TABLE CODES

A table providing definitions for the codes (abbreviations) used on the Valve Program Tables is provided following the Valve Table sample.

SAMPLE VALVE TEST TABLE

REPORT DATE: April 5, 1998

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

NMP2–IST–005
REV. 0

SYSTEM: (1)

VALVE NO.	ASME CLASS	PID & COORD	IST VALVE CAT	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	OM–1 / OM–10 REQUIREMENTS TEST–FREQ	C.S. JUST. RFO JUST. RELIEF REQ	IST PROGRAM PLAN COMMITMENT TEST–FREQ (DIR)	REMARKS
(2)	(3)	(4) (5)	(6)	(7) (8)	(9)	(10)	(11)	(12)	(13)	(14)

9. VALVE TABLE CODES

VALVE TABLE CODES

VALVE TYPES				ACTUATOR TYPES	
CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
AGV	Angle Valve	PGV	Plug Valve	AOA	Air Operator
BFV	Butterfly Valve	PRV	Regulating Valve	EHA	Electro-Hydraulic Actuator
BLV	Ball Valve	RD	Rupture disc	EXA	Explosive Actuator
CHV	Check Valve	REV	Relief Valve	HOA	Hydraulic Operator
DIV	Diaphragm Valve	SCV	Stop Check Valve	MAA	Manual Operator
EXV	Explosive Valve	SKV	Spring Check Valve	MOA	Motor Operator
FCV	Flow Control Valve	TCV	Testable Check	NOA	Nitrogen Operator
GLV	Globe Valve	VRV	Vacuum Breaker	SEA	Self-Actuated
GTV	Gate Valve			SOA	Solenoid Operator
NDV	Needle Valve				

VALVE POSITIONS				TEST DIRECTION	
CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
O	Open	AI	As-Is	O	Open
C	Closed	OC	Open <u>or</u> Closed	C	Closed
LO	Locked Open	V	Vented (for 3-way SOVs)	F	Forward Flow
LC	Locked Closed	DE	Indeterminate; Depends on System Operation	R	Reverse Flow
TH	Throttled—Determined by System Parameters;			O&C	Open <u>and</u> Closed
LTh	Locked in a throttled position			F&R	Forward <u>and</u> Reverse

TEST REQUIREMENTS AND COMMITMENTS

CODE	DESCRIPTION
DI	Disassembly and Inspection
EX	Explosive Valve Tests per OM-10, §4.4.1
FE	Full-Stroke Exercise per OM-10
FS	Fail-Safe Test per OM-10
LJ	Leak Test per 10 CFR 50 App. J
LK	Leak Test per OM-10 Paragraph 4.2.2.3, *Leakage Rate for Other Than Containment Isolation Valves.*
PE	Partial Stroke Exercise
PI	Remote Position Indication Test per OM-10
RD	Replacement per OM-1 (rupture disks)
ST	Stroke Time per OM-10

Relief Valve Tests specified in OM-1, Paragraph 3.3.1 (Class 1) Paragraph 3.3.2 (Class 2 & 3)

CODE	DESCRIPTION
AO	Air Actuator for Auxiliary Actuating Devices
BD	Balancing Device on balanced valves.
BE	Bellows Alarm Switch
LA	As-Found Tightness Leakage Test
LL	As-Left Tightness Leakage Test
RT	Valve Set Pressure Test
SO	Solenoid Valve Test
VP	Relief Valve Position Indication
VR	Exercise Vacuum Relief Valves
VT	Visual Examination

TESTING FREQUENCY

CODE	DESCRIPTION
CS	Cold Shutdown
P	Every 36 Months
P1	Class 1; Frequency per OM-1, Paragraph 1.3.3
P2	Class 2 & 3; Frequency per OM-1, Paragraph 1.3.4
P3	Replacement per OM-1. Nonreclosing pressure relief devices shall be replaced every 5 years unless historical data indicates a requirement for more frequent replacement. (OM-1, Paragraph 1.3.3.2 for Class 1; Paragraph 1.3.4.2 for Class 2 & 3)
P4	Test per OM-10, Paragraph 4.4 for Category D Valves
P7	Test at the interval specified in the Appendix J Testing Program.
Q	Quarterly
R	Once per Fuel Cycle
R*	During Refueling Outage: The interval is modified by the accompanying note in the Program Plan Valve Table.
RO	During Refuel Outage Only
T	Every 2 Years

10. GENERAL REFUELING OUTAGE TEST JUSTIFICATION

Valve(s)	:	Excess Flow Check Valves
Category	:	C
Class	:	2
Function	:	Prevent excess flow in the event of an instrument line break outside the primary containment.
Quarterly Test Requirements	:	FE–Q(R): Reverse Flow Exercise

Refueling Outage Test Justification : Excess flow check valves are installed on instrument lines penetrating containment to minimize leakage in the event of an instrument line failure outside the containment in accordance with Regulatory Guide 1.11. The excess flow check valve is basically a spring loaded ball check valve. Since the system is normally in a static condition, the valve ball is held open by the spring. Any sudden increase in flow through the valve (i.e., line break) will result in a differential pressure across the valve which will overcome the spring and close the valve. The valve is designed to allow some leakage past the seat in the closed position. This leakage will act to equalize pressure across the valve in the event the excess flow condition is corrected, thus allowing the spring to reopen the valve. At NMP2, there are excess flow check valves with and without installed position indication. Functional testing of valve closure is accomplished by venting the instrument side of the valve while the process side is under pressure and observing the position indicator (for those with installed position indicators) and by verifying that only a small amount of leakage exits through the vent.

The testing described above requires the removal of the associated instrument or instruments from service. Since these instruments are in use during plant operation and cold shutdown, removal of any of these instruments from service could cause a spurious signal which could result in a plant trip, an inadvertent initiation of a safety system, loss of decay heat removal and/or the defeating of safety interlocks.

In addition to the plant safety concerns, personnel safety concerns must be considered since the process side of many of these valves is normally high pressure (>500 psig) and/or high temperature (>200°F) and highly contaminated reactor coolant. The remainder of the valves process side is the containment atmosphere which is inerted, contaminated, and at atmospheric pressure during operation cold shutdown; therefore, the test described above cannot be accomplished.

In summary, due to the plant and personnel safety concerns and plant operating conditions that prohibit the testing of these valves quarterly or at cold shutdown, testing shall be performed during refueling when decay heat loads are at a minimum, the containment is de–inerted and ventilated, and safety systems can be removed from service to prevent inadvertent initiation.

Quarterly Partial Stroke Testing : These valves cannot be partial–stroke tested. In addition, the test conditions required to partially stroke the valve are the same as those required to fully stroke the valve.

Refueling Outage Testing : Reverse flow exercise testing shall be performed during refueling outages.

11. GENERAL VALVE RELIEF REQUESTS (GVRR)

GENERAL VALVE RELIEF REQUEST
GVRR–1

System	:	High Pressure Core Spray (CSH) Low Pressure Core Spray (CSL) Residual Heat Removal (RHS)
Valve(s)	:	System Pressure Pump Discharge Check Valves: • 2CSH*P2 to CSH Header 2CSH*V17, *V55 • 2CSL*P2 to CSL Header 2CSL*V14, *V21 • 2RHS*V47, *V48 • 2RHS*P2 to valves 2RHS*V60, *V61; and *V17, *V18
IST Category	:	C
ASME Class	:	2
Function	:	Prevent diversion of ECCS flow by preventing reverse flow from the ECCS discharge path into the associated pressure pump discharge piping.
Quarterly Test Requirement	:	FE–Q (R): Quarterly reverse flow operability testing
Basis for Relief	:	These check valves close on the initiation of the associated ECCS system to prevent the diversion of ECCS pump discharge flow via the pressure pump piping. In each case above, two check valves are in series without any means provided for individual reverse flow verification. NMPC contacted General Electric who designed the system to determine the need for both check valves. GE said that only one check valve was needed and that the second was placed there for added reliability. NMPC considered removing the internals from one valve; however, NMPC determined that a more conservative approach would be to test the valves as a unit. The test results of each set shall be applied to each valve of the set indvidually.

Consistent with NUREG–1482, §4.1.1, *Closure Verification for Series Check Valves Without Intermediate Test Connections*, relief is sought on the following basis:

a) None of these check valve pairs is in the reactor coolant pressure boundary (RCPB).

b) The configuration does not require two check valves. The system designer confirmed that only one was needed, and that the second was added for reliability.

c) These check valve pairs have no seat leakage requirement, either individually or as a pair. Checking reverse flow is sufficient demonstration of their ability to provide their required safety function.

d) These keep-fill valves are "redundant valves in redundant systems in which only one valve of a series is actually necessary to perform the system's intended function." (NUREG-1482, paragraph 4.1.1,*Basis for Recommendation*)

e) No additional testing need be performed unless there is indication that the closure capability of a pair of valves is questionable.

f) If the performance of a pair of check valves becomes questionable, both valves shall be declared inoperable, and corrective action consistent with OM-10 shall be taken before the valves are returned to service.

Alternate Testing : Test each pair of series check valves quarterly as a unit for reverse flow closure.

12. ATTACHMENTS 1 through 30: VALVE TEST TABLES

SYSTEM: BREATHING AIR SYSTEM (AAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2AAS*HCV134	2	20E D-3	A PASSIVE	2.00 GLV	MAA	LC / C / AI	PI-T LJ		PI-T LJ-P7	
2AAS*HCV135	2	20E C-7	A PASSIVE	2.00 GLV	MAA	LC / C / AI	PI-T LJ		PI-T LJ-P7	
2AAS*HCV136	2	20E D-3	A PASSIVE	2.00 GLV	MAA	LC / C / AI	PI-T LJ		PI-T LJ-P7	
2AAS*HCV137	2	20E E-7	A PASSIVE	2.00 GLV	MAA	LC / C / AI	PI-T LJ		PI-T LJ-P7	

NOTES FOR AAS VALVE TABLE

SYSTEM : BREATHING AIR (AAS)

NOTE NUMBER None

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (CCP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CCP*AOV37A	3	13E J-2	B ACTIVE	1.50 PGV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2CCP*AOV37B	3	13E D-8	B ACTIVE	2.00 PGV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2CCP*AOV38A	3	13E J-4	B ACTIVE	1.50 PGV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2CCP*AOV38B	3	13E D-10	B ACTIVE	2.00 PGV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2CCP*MOV122	2	13E J-6	A ACTIVE	8.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-2	FE-CS ST-CS (C) PI-T LJ-P7	

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (CCP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CCP*MOV124	2	13C I-6	A ACTIVE	8.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-2	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV14A	3	13E G-7	B ACTIVE	12.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2CCP*MOV14B	3	13E H-10	B ACTIVE	12.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2CCP*MOV15A	2	13D K-6	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV15B	2	13A I-7	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (CCP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CCP*MOV16A	2	13D K-7	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV16B	2	13A G-7	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV17A	2	13D C-7	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV17B	2	13B E-7	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV18A	3	13E G-5	B ACTIVE	12.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (CCP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CCP*MOV18B	3	13E I-8	B ACTIVE	12.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2CCP*MOV265	2	13C B-6	A ACTIVE	8.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-2	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV273	2	13C C-6	A ACTIVE	8.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-2	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV94A	2	13D C-7	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	
2CCP*MOV94B	2	13B E-8	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	CCP-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (CCP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CCP*RV170	2	13B F-7	AC ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 LJ		VT-P2 LA-P2 RT-P2 LL-P2 LJ-P7	NOTE 1
2CCP*RV171	2	13A H-6	AC ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 BD-P2 LL-P2 LJ		VT-P2 LA-P2 RT-P2 BD-P2 LL-P2 LJ-P7	NOTE 1
2CCP*RV64A	3	13E H-5	C ACTIVE	2.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1
2CCP*RV64B	3	13E I-9	C ACTIVE	2.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1

NOTES FOR CCP VALVE TABLE

SYSTEM : REACTOR BUILDING CLOSED LOOP COOLING SYSTEM

NOTE NUMBER 1: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

- VT: Visual Examination per OM–1
- LA: As–Found Seat–Tightness per OM–1
- RT: Valve Set Pressure per OM–1
- LL: As-Left Seat–Tightness at least once every 10 years per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, "ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria."
- BD: Verification of the Integrity of the Balancing Devices per OM-1

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

COLD SHUTDOWN TEST JUSTIFICATION
CCP-CSJ-1

System	:	Reactor Building Closed Loop Cooling System
Valve(s)	:	2CCP*MOV15A, B 2CCP*MOV16A, B 2CCP*MOV17A, B 2CCP*MOV94A, B
Category	:	A
Class	:	2
Function	:	Inlet and outlet primary containment isolation valves to recirculation pump coolers and CCP return line blocking valves.
Quarterly Test Requirements	:	Full–Stroke Exercise Stroke Time Test
Cold Shutdown Test Justification	:	Testing during operation would cause a loss of CCP flow to the recirculation pump seal coolers, motor bearing coolers, and motor winding coolers. The failure of any one of these valves to reopen after stroking would result in a complete loss of cooling to the associated recirculation pump, which would result in shutdown of the pump or damage to the pump.
Alternative Quarterly Partial Stroke Testing	:	These valves cannot be partial–stroke tested because the operating circuitry of these valves only permits full–stroke operation.
Cold Shutdown Testing	:	Full–Stroke Exercise Stroke Time Test

COLD SHUTDOWN TEST JUSTIFICATION
CCP-CSJ-2

System	:	Reactor Building Closed Loop Cooling System
Valve(s)	:	2CCP*MOV122 2CCP*MOV124 2CCP*MOV265 2CCP*MOV273
Category	:	A
Class	:	2
Function	:	CCP supply and return line primary containment isolation valves to drywell unit coolers
Quarterly Test Requirements	:	Full–Stroke Exercise Stroke Time Test
Cold Shutdown Test Justification	:	The drywell unit coolers are required during normal plant operation to maintain the average drywell temperature below 150°F. Stroking these valves will interrupt cooling water flow to the drywell unit coolers. The failure of any one of these valves to reopen after testing would result in a complete loss of cooling water to the drywell unit coolers. This loss would lead to a high drywell temperature condition and a required plant shutdown. Furthermore, the loss of drywell cooling could result in equipment damage or a high drywell pressure and subsequent reactor trip.
Alternative Quarterly Partial Stroke Testing	:	These valves cannot be partial–stroke tested because the operating circuitry of these valves only permits full–stroke operation.
Cold Shutdown Testing	:	Full–Stroke Exercise Stroke Time Test

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*EFV10	2	82A I-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV1A	2	82A I-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV1B	2	82A E-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV3A	2	82A J-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV3B	2	82A D-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV5A	2	82B I-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV5B	2	82B C-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV6	2	82B I-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV8A	2	82B I-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*EFV8B	2	82B C-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV9A	2	82B I-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*EFV9B	2	82B C-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CMS*SOV23A	2	82A G-6	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O&C) FS-Q PI-T	
2CMS*SOV23B	2	82A F-6	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O&C) FS-Q PI-T	
2CMS*SOV23C	2	82A G-5	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O&C) FS-Q PI-T	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST–FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST–FREQ (DIR)	REMARKS
2CMS*SOV23D	2	82A F–5	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (O&C) FS–Q PI–T	
2CMS*SOV23E	2	82A G–4	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (O&C) FS–Q PI–T	
2CMS*SOV23F	2	82A F–5	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (O&C) FS–Q PI–T	
2CMS*SOV24A	2	82A H–5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE–Q ST–Q FS–Q PI–T LJ		FE–Q ST–Q (O&C) FS–Q PI–T LJ–P7	
2CMS*SOV24B	2	82A F–5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE–Q ST–Q FS–Q PI–T LJ		FE–Q ST–Q (O&C) FS–Q PI–T LJ–P7	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV24C	2	82A I-5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV24D	2	82A D-5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV26A	2	82B H-5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV26B	2	82B D-5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV26C	2	82B J-5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV26D	2	82B B-5	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV32A	2	82A J-8	A ACTIVE	0.75 GLV	SOA	OC / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV32B	2	82A E-8	A ACTIVE	0.75 GLV	SOA	OC / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV33A	2	82A H-8	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV33B	2	82A F-8	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV34A	2	82B H-8	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV34B	2	82B E-8	A ACTIVE	0.75 GLV	SOA	O / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV35A	2	82B J-8	A ACTIVE	0.75 GLV	SOA	OC / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV35B	2	82B C-8	A ACTIVE	0.75 GLV	SOA	OC / OC / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (O&C) FS-Q PI-T LJ-P7	
2CMS*SOV60A	2	82A I-3	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2CMS*SOV60B	2	82A D-3	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV61A	2	82A H-3	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2CMS*SOV61B	2	82A F-3	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2CMS*SOV62A	2	82A I-7	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2CMS*SOV62B	2	82A E-7	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV63A	2	82A H-7	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2CMS*SOV63B	2	82A F-7	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2CMS*SOV64A	2	82A L-5	B ACTIVE	0.75 GLV	SOA	O / O / C	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2CMS*SOV64B	2	82A B-5	B ACTIVE	0.75 GLV	SOA	O / O / C	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2CMS*SOV65A	2	82A L-8	B ACTIVE	0.75 GLV	SOA	O / O / C	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV65B	2	82A B-8	B ACTIVE	0.75 GLV	SOA	O / O / C	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2CMS*SOV74A	2	82A K-4	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CMS*SOV74B	2	82A C-4	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CMS*SOV75A	2	82A K-9	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CMS*SOV75B	2	82A C-9	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CMS*SOV76A	2	82A L-4	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CMS*SOV76B	2	82A B-4	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CMS*SOV77A	2	82A L-2	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING SYSTEM (CMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME /ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CMS*SOV77B	2	82A B-9	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1

NOTES FOR CMS VALVE TABLE

SYSTEM	:	CONTAINMENT ATMOSPHERE MONITORING
NOTE NUMBER	1:	Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths

SYSTEM: PRIMARY CONTAINMENT PURGE SYSTEM (CPS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CPS*AOV104	2	61A F-5	A PASSIVE	14.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1; NOTE 2
2CPS*AOV105	2	61A F-7	A PASSIVE	12.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1; NOTE 2
2CPS*AOV106	2	61A G-5	A PASSIVE	14.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1; NOTE 2
2CPS*AOV107	2	61A G-7	A PASSIVE	12.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1; NOTE 2
2CPS*AOV108	2	61A I-5	A PASSIVE	14.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CPS*AOV109	2	61A I-7	A PASSIVE	12.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CPS*AOV110	2	61A K-5	A PASSIVE	14.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CPS*AOV111	2	61A K-7	A PASSIVE	12.00 BFV	AOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2CPS*SOV119	2	61A E-8	A PASSIVE	2.00 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 2

SYSTEM: PRIMARY CONTAINMENT PURGE SYSTEM (CPS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CPS*SOV120	2	61A E-5	A PASSIVE	2.00 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 2
2CPS*SOV121	2	61A G-8	A PASSIVE	2.00 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 2
2CPS*SOV122	2	61A G-5	A PASSIVE	2.00 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 2
2CPS*SOV132	2	61A F-8	A PASSIVE	1.00 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 2
2CPS*SOV133	2	61A K-8	A PASSIVE	1.00 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 2
2CPS*V50	2	61A F-8	AC ACTIVE	1.50 CHV	SEA	C / C / DE	FE-Q (R) LJ	CPS-ROJ-1	FE-RO (R) LJ-P7	NOTE 2
2CPS*V51	2	61A J-8	AC ACTIVE	1.50 CHV	SEA	C / C / DE	FE-Q (R) LJ	CPS-ROJ-1	FE-RO (R) LJ-P7	NOTE 2

NOTES FOR CPS VALVE TABLE

SYSTEM	:	CONTAINMENT PURGE SYSTEM
NOTE NUMBER	1:	Leakage rate testing at least once every 92 days required by Technical Specification 4.6.1.7.2.
	2:	Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths

System	:	Containment Purge System
Valve(s)	:	2CPS*V50 and 2CPS*V51
IST Category	:	A/C
ASME Class	:	2
Function	:	Inside Containment Isolation Valves for the instrument air supply to 2CPS*AOV107 and 2CPS*AOV109.
Quarterly Test Requirements	:	Full–Stroke Exercise in accordance with OM–10, Section 4.2.1 and OM–10, Section 4.3.2. Since the safety–related function of these valves is *only* to provide containment isolation, the Full–Stroke exercise requirement is fulfilled by reverse flow testing.
Refueling Outage Test Justification	:	These valves are located inside the Suppression Chamber. The only practical means to verify reverse flow closure of these valves is to apply pressure to the downstream side of the valve through a test connection located inside the suppression chamber. During power operation, high radiation levels prohibit suppression chamber entry. During normal operation and at cold shutdown when access to the primary containment is not required, the suppression chamber is inerted with nitrogen, limiting access to emergency situations only. The only safety function for these valves is containment isolation in the closed position. Valve seat leakage rate testing of containment isolation valves is governed by 10 CFR 50, Appendix J.
Quarterly Partial Stroke Testing	:	Partial–stroke testing requires the same conditions as full–stroke testing, and check valves cannot be partially stroked in the reverse–flow (closed) direction.

Cold Shutdown Testing	:	Cold shutdown testing requires de–inerting the containment. Deferring testing to the next refueling outage is addressed and permitted by NUREG–1482, paragraph 3.11.3, *De–Inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing.*
Refueling Outage Testing	:	Reverse flow closure will be verified by leakage rate testing in accordance with the guidance in NUREG-1482, paragraph 4.1.4. Reverse flow closure and leakage rate will be verified by performing Appendix J testing on a non–performance–based test interval. Accordingly, reverse flow closure and leakage rate will be verified during each refueling outage.

SYSTEM: HIGH-PRESSURE CORE SPRAY (CSH)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CSH*AOV108	1	33A I-2	AC ACTIVE	12.00 TCV	SEA	C / OC / DE	FE-Q (F&R) PI-T LJ LK-T	CSH-CSJ-1	FE-CS (F&R) PI-T LJ-P7 LK-T	NOTE 1, NOTE 3
2CSH*EFV1	2	33A G-6	C ACTIVE	2.00 CHV	SEA	O / C / DE	PI-T FE-Q (R)	GVROJ-1	PI-T FE-RO (R)	
2CSH*EFV2	2	33A G-7	C ACTIVE	2.00 CHV	SEA	O / C / DE	PI-T FE-Q (R)	GVROJ-1	PI-T FE-RO (R)	
2CSH*EFV3	2	33A H-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	PI-T FE-Q (R)	GVROJ-1	PI-T FE-RO (R)	
2CSH*HCV120	1	33A J-2	B PASSIVE	10.00 GTV	MAA	LO / O / AI	PI-T		PI-T	
2CSH*MOV101	2	33B D-9	B ACTIVE	10.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2CSH*MOV105	2	33B G-5	A ACTIVE	4.00 GTV	MOA	C / OC / AI	PI-T LJ FE-Q ST-Q		PI-T LJ-P7 FE-Q ST-Q (O&C)	

SYSTEM: HIGH-PRESSURE CORE SPRAY (CSH)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CSH*MOV107	1	33A G-2	A ACTIVE	12.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ LK-T	CSH-CSJ-2	FE-CS ST-CS (O&C) PI-T LJ-P7 LK-T	NOTE 1
2CSH*MOV110	2	33B G-3	B PASSIVE	10.00 GLV	MOA	C / C / AI	PI-T		PI-T	
2CSH*MOV111	2	33A F-4	A PASSIVE	12.00 GLV	MOA	C / C / AI	PI-T LJ		PI-T LJ-P7	
2CSH*MOV112	2	33B F-3	B PASSIVE	10.00 GLV	MOA	C / C / AI	PI-T		PI-T	
2CSH*MOV118	2	33A J-9	A ACTIVE	18.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	NOTE 2
2CSH*RV113	2	33B F-8	C ACTIVE	0.75 REV	SEA	C / O / AI	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 4 NOTE 5

SYSTEM: HIGH-PRESSURE CORE SPRAY (CSH)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CSH*RV114	2	33B J-5	C ACTIVE	0.75 REV	SEA	C / O / AI	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 4 NOTE 5
2CSH*V16	2	33A I-10	C ACTIVE	20.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	
2CSH*V17	2	33B J-8	C ACTIVE	3.00 CHV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH 2CSH*V55
2CSH*V55	2	33B J-8	C ACTIVE	3.00 CHV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH 2CSH*V17
2CSH*V7	2	33B E-5	C ACTIVE	4.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	
2CSH*V9	2	33B I-5	C ACTIVE	16.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	

NOTES FOR CSH VALVE TABLE

SYSTEM	:	HIGH PRESSURE CORE SPRAY
NOTE NUMBER	1:	Pressure isolation valve testing required by Technical Specification 4.4.3.2.2.
	2:	Hydrostatic leak rate testing required by Technical Specification 4.6.1.2.3.
	3:	The leak rate test requirement "LK" is satisfied by correlation of the Appendix J test results. (SER #93–076)

4: These tests must be performed *in the following order:*

- VT: Visual Examination
- LA: As–Found Seat–Tightness
- RT: Valve Set Pressure
- LL: As-Left Seat–Tightness at least once every 10 years per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, "ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria."
- BD: Verification of the Integrity of the Balancing Devices.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

5: Thermal relief valve. This valve is required to open only if the affected piping is isolated for maintenance, not drained, and expands as it warms to ambient temperature, producing an overpressure condition that can be relieved by a small amount of water. Thermal relief valves are not designed or intended to protect an operating system from overpressure. (Safety Classification (Appendix B) Determination No. 91–033)

COLD SHUTDOWN TEST JUSTIFICATION
CSH-CSJ-1

System	:	High Pressure Core Spray
Valve(s)	:	2CSH*AOV108
IST Category	:	A/C
ASME Class	:	1
Function	:	HPCS discharge line inside containment isolation valve
Quarterly Test Requirements	:	Full–Stroke exercise (F&R)
Cold Shutdown Test Justification	:	Operation of this valve using system flow during power operation would require injecting cold water from the condensate storage tank into the reactor vessel. This cold water injection would cause reactivity spikes which could cause a plant trip and thermal shock of system components which could reduce their expected life. In addition, this valve is a testable check valve, equipped with an air operator for testing, and the air operator is only capable of operating the valve against zero differential pressure. At power, full reactor pressure is imposed on the valve disk, causing a large differential pressure across the valve, rendering the air test operator incapable of operating the valve.
Quarterly Partial Stroke Testing	:	Partial stroke testing requires the same conditions as full stroke testing.
Cold Shutdown Testing	:	The Full–Stroke exercise (F&R) will be performed using the air test operator when the differential pressure across the valve is reduced to approximately zero. This testing will be performed during cold shutdowns.

COLD SHUTDOWN TEST JUSTIFICATION
CSH-CSJ-2

System	:	High Pressure Core Spray
Valve(s)	:	2CSH*MOV107
IST Category	:	A
ASME Class	:	1
Function	:	HPCS discharge line outside containment isolation valve
Quarterly Test Requirements	:	Full–Stroke exercise and Stroke Time (O&C)
Cold Shutdown Test Justification	:	This valve and check valves 2CSH*AOV108 and 2CSH*V9 prevent over pressurization of the CSH pump suction piping. There is no provision to detect leakage past the check valves during plant operation, and opening CSH*MOV107 could over–pressurize the CSH pump suction piping if leakage occurred past both check valves. In addition, CSH*MOV107 is in a non–redundant line, and failure of the valve in a non–conservative position during testing would result in a loss of system function. Deferring the testing until cold shutdown is consistent with the guidance in NUREG–1482, paragraph 3.1.1,*Deferring Valve Testing To Each Cold Shutdown Or Refueling Outage*.
Quarterly Partial Stroke Testing	:	The operating circuitry of this valve only permits full–stroke operation.
Cold Shutdown Testing	:	The Full–Stroke exercise and the stroke time test (O&C) will be performed during cold shutdowns.

SYSTEM: LOW-PRESSURE CORE SPRAY (CSL)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CSL*AOV101	1	33A I-3	AC ACTIVE	12.00 TCV	SEA	C / OC / AI	FE-Q (F&R) PI-T LJ LK-T	CSL-CSJ-1	FE-CS (F&R) PI-T LJ-P7 LK-T	NOTE 1, NOTE 3
2CSL*EFV1	2	32A H-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2CSL*FV114	2	32A E-4	B ACTIVE	10.00 GLV	MOA	Th. / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2CSL*HCV117	1	32A J-3	B PASSIVE	12.00	MAA	LO / O / AI	PI-T		PI-T	
2CSL*MOV104	1	32A H-3	A ACTIVE	12.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LK-T LJ	CSL-CSJ-1	FE-CS ST-CS (O&C) PI-T LK-T LJ-P7	NOTE 1
2CSL*MOV107	2	32A C-5	B ACTIVE	4.00 GTV	MOA	O / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	

SYSTEM: LOW-PRESSURE CORE SPRAY (CSL)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CSL*MOV112	2	32A G-9	A ACTIVE	20.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 2
2CSL*RV105	2	32A F-2	AC ACTIVE	1.50 REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2 LJ		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2 LJ-P7	NOTE 4
2CSL*RV123	2	32A F-7	AC ACTIVE	0.75 REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2 LJ		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2 LJ-P7	NOTE 4
2CSL*V14	2	32A D-6	C ACTIVE	2.00 CHV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH 2CSL*V21
2CSL*V21	2	32A D-6	C ACTIVE	2.00 CHV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH 2CSL*V14

SYSTEM: LOW-PRESSURE CORE SPRAY (CSL)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2CSL*V4	2	32A B-3	C ACTIVE	16.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	
2CSL*V9	2	32A E-5	C ACTIVE	12.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	

NOTES FOR CSL VALVE TABLE

SYSTEM : LOW PRESSURE CORE SPRAY

NOTE NUMBER 1: Pressure isolation valve testing required by Technical Specification 4.4.3.2.2.

2: This valve is in a line subject to hydrostatic leak rate testing required by Technical Specification 4.6.1.2.3.

3: Leak rate test requirement "LK" is satisfied by correlation of the Appendix J test (Reference: SER # 93-076)

4: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

- VT: Visual Examination per OM–1
- LA: As–Found Seat–Tightness per OM–1
- RT: Valve Set Pressure per OM–1
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria.*
- BD: Verification of the Integrity of the Balancing Devices per OM-1

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

COLD SHUTDOWN TEST JUSTIFICATION
CSL-CSJ-1

System	:	Low Pressure Core Spray
Valve(s)	:	2CSL*AOV101 2CSL*MOV104
IST Category	:	Category A/C: 2CSL*AOV101 Category A: 2CSL*MOV104
ASME Class	:	1
Function	:	LPCS injection path inside and outside containment isolation valves.
Quarterly Test Requirements	:	2CSL*AOV101: Full–Stroke exercise (F&R) 2CSL*MOV104: Full–Stroke exercise and Stroke Time test (O&C)
Cold Shutdown Test Justification	:	These valves are reactor pressure boundary valves; they also provide isolation between high and low pressure CSL piping. Valve 2CSL*MOV104 is interlocked to prevent opening when the differential pressure between the reactor and the Low Pressure Core Spray System is greater than 88 psid. The testable check valve 2CSL*AOV101 can be operated either by using system flow through 2CSL*MOV104 or by using the air test operator when the differential pressure across the valve is zero. During normal plant operation, these conditions cannot be achieved and, furthermore, if leakage occurred past either valve while the other was open, damage could occur to the low pressure CSL piping
Quarterly Partial Stroke Testing	:	Partial stroke testing requires the same conditions as full stroke testing.
Cold Shutdown Testing	:	The Full–Stroke exercise and the Stroke Time test will be performed on 2CSL*MOV104 when the plant is in cold shutdown. The Full–Stroke exercise (F&R) on 2CSL*AOV101 will be performed using the air test operator when the differential pressure across the valve is reduced to approximately zero.

SYSTEM: DRYWELL EQUIPMENT DRAINS (DER)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2DER*EFV31	2	67A B-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2DER*MOV119	2	67A C-3	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1
2DER*MOV120	2	67A C-3	A ACTIVE	4.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1
2DER*MOV130	2	67A C-2	A ACTIVE	2.00 GLV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1
2DER*MOV131	2	67A C-2	A ACTIVE	2.00 GLV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1

NOTES FOR DER VALVE TABLE

SYSTEM	:	DRYWELL EQUIPMENT DRAINS (DER)
NOTE NUMBER	1:	Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths.

SYSTEM: REACTOR BLDG. FLOOR DRAINS (DFR)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2DFR*MOV120	2	63E E-7	A ACTIVE	6.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1
2DFR*MOV121	2	63E E-7	A ACTIVE	6.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1
2DFR*MOV139	2	63E E-6	A ACTIVE	3.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1
2DFR*MOV140	2	63E F-6	A ACTIVE	3.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	NOTE 1

NOTES FOR DFR VALVE TABLE

SYSTEM	:	REACTOR BUILDING EQUIPMENT & FLOOR DRAINS (DFR)
NOTE NUMBER	1:	Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths

SYSTEM: DIESEL GENERATOR AIR START (EGA)

VALVE NO.	ASME CLASS	PID CO-ORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2EGA*RV125	3	104A G-3	C ACTIVE	30.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1; NOTE 2
2EGA*RV126	3	104A H-8	C ACTIVE	30.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1; NOTE 2
2EGA*RV127	3	104A L-6	C ACTIVE	22.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1; NOTE 2
2EGA*SV3A	3	104A C-2	C ACTIVE	1.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	
2EGA* SV3B	3	104A C-8	C ACTIVE	1.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	

SYSTEM: DIESEL GENERATOR AIR START (EGA)

VALVE NO.	ASME CLASS	PID CO-ORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2EGA* SV4A	3	104A C-4	C ACTIVE	1.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	
2EGA* SV4B	3	104A C-9	C ACTIVE	1.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	
2EGA*V29A	4	104A G-6	C ACTIVE	1.50 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	NOTE 3
2EGA*V29B	4	104A G-5	C ACTIVE	1.50 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	NOTE 3
2EGA*V62A	3	104A C-5	C ACTIVE	1.50 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	
2EGA*V62B	3	104A C-3	C ACTIVE	1.50 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	
2EGA*V63A	3	104A C-10	C ACTIVE	1.50 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	

SYSTEM: DIESEL GENERATOR AIR START (EGA)

VALVE NO.	ASME CLASS	PID CO-ORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2EGA*V63B	3	104A C-8	C ACTIVE	1.50 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	

NOTES FOR EGA VALVE TABLE

SYSTEM : DIESEL GENERATOR AIR START (EGA)

NOTE NUMBER 1: Valves *RV125, *RV126, and *RV127 are Class 3 pressure relief devices." They are two–stage devices, in that they have an initial opening range over which they will reclose (approximately but not greater than 2 inches) and a larger non–reclosing range over which they perform their active safety function. After opening to their non–reclosing position, the valves must be reset manually.

These valves are tested at least once every five years. Periodic testing is performed *in situ* by measuring:

a) the force required to lift the valve disk to near the top of the reclosing range

b) the force required to lift the valve disc to near the top of its non–reclosing range.

The valve is not replaced unless it requires maintenance. The testing measures the force required to lift the disk off the seat, using a calibrated force gauge.

2: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

- VT: Visual Examination per OM–1
- LA: As–Found Seat–Tightness per OM–1
- RT: Valve Set Pressure per OM–1
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria.*

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

3: Non–ASME in MEL, but treated as Class 3.

SYSTEM: DIESEL GENERATOR FUEL OIL (EGF)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2EGF*SV121	3	104F D-7	C ACTIVE	— REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1
2EGF*SV221	3	104F D-7	C ACTIVE	— REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1
2EGF*V12	3	104C D-4	C ACTIVE	1.00 CHV	SEA	C / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2EGF*V13	3	104C F-5	C ACTIVE	1.00 CHV	SEA	C / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2EGF*V32	3	104B D-6	C ACTIVE	1.00 CHV	SEA	C / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2EGF*V33	3	104B F-7	C ACTIVE	1.00 CHV	SEA	C / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2EGF*V52	3	104B D-2	C ACTIVE	1.00 CHV	SEA	C / OC / DE	FE-Q (F&R)		FE-Q (F&R)	

SYSTEM: DIESEL GENERATOR FUEL OIL (EGF)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2EGF*V53	3	104B F-2	C ACTIVE	1.00 CHV	SEA	C / OC / DE	FE-Q (F&R)		FE-Q (F&R)	

NOTES FOR EGF VALVE TABLE

SYSTEM : DIESEL GENERATOR FUEL OIL (EGF)

NOTE NUMBER 1: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

- VT: Visual Examination per OM–1
- LA: As–Found Seat–Tightness per OM–1
- RT: Valve Set Pressure per OM–1
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria.*

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

SYSTEM: FIRE WATER PROTECTION (FPW)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2FPW*SOV218	2	43G E-8	A PASSIVE	2.00 GTV	SOA	C / C / C	LJ		LJ-P7	NOTE 1
2FPW*SOV219	2	43G E-7	A PASSIVE	2.00 GTV	SOA	C / C / C	LJ		LJ-P7	NOTE 1
2FPW*SOV220	2	43G D-8	A PASSIVE	2.00 GTV	SOA	C / C / C	LJ		LJ-P7	NOTE 1
2FPW*SOV221	2	43G D-7	A PASSIVE	2.00 GTV	SOA	C / C / C	LJ		LJ-P7	NOTE 1

NOTES FOR FPW VALVE TABLE

SYSTEM	:	FIRE PROTECTION WATER (FPW)
NOTE NUMBER	1:	The FPW valves 2FPW*SOV218, *SOV219, *SOV220, and *SOV221 have been abandoned in place and are considered passive for all modes of operation. The valve electrical leads have been lifted, and caps have been installed to blank the inboard and outboard pipe ends.

Since these valves are Containment Isolation Valves, only the Appendix J test will be performed. They have no position indication.

LDCN–U–1397 (ECN–2M10220) and SER 90–121 have been approved to justify and implement the change.

SYSTEM: FEEDWATER SYSTEM (FWS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2FWS*AOV23A	1	6B G-2	AC ACTIVE	24.00 TCV	SEA	O / C / DE	FE-Q (R) PI-T LJ	FWS-CSJ-1	FE-CS (R) PI-T LJ-P7	NOTE 1
2FWS*AOV23B	1	6B G-6	AC ACTIVE	24.00 TCV	SEA	O / C / DE	FE-Q (R) PI-T LJ	FWS-CSJ-1	FE-CS (R) PI-T LJ-P7	NOTE 1
2FWS*HCV54A	1	6B I-2	B PASSIVE	24.00 GLV	MAA	O / O / AI	PI-T		PI-T	
2FWS*HCV54B	1	6B I-5	B PASSIVE	24.00 GLV	MAA	O / O / AI	PI-T		PI-T	
2FWS*MOV21A	1	6B E-2	A ACTIVE	24.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	FWS-CSJ-2	FE-CS ST-CS (C) PI-T LJ-P7	
2FWS*MOV21B	1	6B E-6	A ACTIVE	24.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	FWS-CSJ-2	FE-CS ST-CS (C) PI-T LJ-P7	
2FWS*V12A	1	6B H-2	AC ACTIVE	24.00 CHV	SEA	O / C / DE	FE-Q (R) LJ	FWS-ROJ-1	FE-RO (R) LJ-P7	NOTE 1

SYSTEM: FEEDWATER SYSTEM (FWS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2FWS*V12B	1	6B H-6	AC ACTIVE	24.00 CHV	SEA	O / C / DE	FE-Q (R) LJ	FWS-ROJ-1	FE-RO (R) LJ-P7	NOTE 1

NOTES FOR FWS VALVE TABLE

SYSTEM	:	FEEDWATER SYSTEM (FWS)
NOTE NUMBER	1:	Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths

COLD SHUTDOWN TEST JUSTIFICATION
FWS–CSJ–1

System	:	Feedwater System (FWS)
Valve(s)	:	Air–Testable Check Valves 2FWS*AOV23A and *AOV23B
IST Category	:	A/C
ASME Class	:	1
Function	:	Feedwater system outboard primary containment isolation valve
Quarterly Test Requirements	:	FE–Q (R): Full–Stroke exercise quarterly in the reverse flow direction
Cold Shutdown Test Justification	:	This valve is a testable check valve, equipped with an air operator for testing, and the air operator is only capable of operating the valve against zero differential pressure. At power, full reactor feedwater flow keeps the valve disk open, causing dual position indication (both the red and the green indicating lamps). Since the air operator is incapable of closing the valve against any significant flow, attempting this at power produces no change in the indication.
Quarterly Partial Stroke Testing	:	Partial stroke testing requires the same conditions as full stroke testing. The valve position indication does not change.
Cold Shutdown Testing	:	The Full–Stroke exercise in the reverse flow direction will be performed during cold shutdown.

COLD SHUTDOWN TEST JUSTIFICATION
FWS-CSJ-2

System	:	Feedwater System
Valve(s)	:	2FWS*MOV21A, 2FWS*MOV21B
IST Category	:	A
ASME Class	:	1
Function	:	Feedwater System flow blocking valves
Quarterly Test Requirements	:	FE–Q: Full–Stroke exercise ST–Q (C): Stroke–Time Test in the CLOSE direction
Cold Shutdown Test Justification	:	Exercising these valve during normal operation would require a significant reduction in power and stopping one loop of feedwater flow. Isolation of one loop of feedwater would introduce undesirable operational transients and could result in a reactor scram.
Quarterly Partial Stroke Testing	:	Partial closure of these valves during power operation could create the same kind of operating transients as a complete closure.
Cold Shutdown Testing	:	The full–stroke exercise and the stroke–time test (CLOSE) will be performed while the plant is in cold shutdown

REFUELING OUTAGE TEST JUSTIFICATION
FWS-ROJ-1

System	:	Feedwater System
Valve(s)	:	Check Valves 2FWS*V12A and 2FWS*V12B
IST Category	:	A/C
ASME Class	:	1
Function	:	Feedwater System inboard primary containment isolation valves
Quarterly Test Requirements	:	FE–Q (R): Full–Stroke exercise quarterly in the reverse flow direction
Refueling Outage Test Justification	:	Verifying the reverse flow closure of these valves during normal operation would require reducing power and stopping feedwater flow in one line. Isolating one feedwater line during normal operation would introduce an undesirable transient that could result in a reactor scram. Exercising these valves requires de-inerting the primary containment, and deferring testing until refueling is therefore acceptable to NRC (NUREG–1482, paragraph 3.1.1.3, "De-Inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing."
Quarterly Partial Stroke Testing	:	Partial closure of these valves during power operation could create the same kind of operating transients as a complete closure.
Cold Shutdown Testing	:	The full–stroke exercise in the reverse flow direction requires de-inerting the primary containment. Deferring testing until refueling is therefore acceptable, according to NUREG–1482, paragraph 3.1.1.3, "De-Inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing."
Refueling Outage Testing	:	The full–stroke exercise in the reverse flow direction will be performed during each refueling outage, prior to startup.

SYSTEM: NITROGEN SYSTEM (GSN)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2GSN*SOV166	2	105B J-7	A ACTIVE	1.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	NOTE 1
2GSN*V170	2	105B K-7	A/C ACTIVE	0.5 CHV	SEA	O / C / DE	FE-Q (R) LJ	GSN-ROJ-1	FE-RO (R) LJ-RO	NOTE 1
2GSN*V70A	3	105B K-2	C ACTIVE	1.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2GSN*V70B	3	105B K-4	C ACTIVE	1.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2GSN*V74A	3	105B I-2	B ACTIVE	1.00 GLV	MAA	C / O / DE	FE-Q		FE-Q	
2GSN*V74B	3	105B I-4	B ACTIVE	1.00 GLV	MAA	C / O / DE	FE-Q		FE-Q	
2GSN*V75A	3	105B I-3	C ACTIVE	1.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	
2GSN*V75B	3	105B I-4	C ACTIVE	1.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	

NOTES FOR GSN VALVE TABLE

SYSTEM	:	NITROGEN SYSTEM (GSN)
NOTE NUMBER	1:	Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths.

System	:	NITROGEN SYSTEM
Valve(s)	:	2GSN*V170
Category	:	A/C
Class	:	2
Function	:	Primary Containment isolation valve for TIP mechanism nitrogen purge.
Quarterly Test Requirements	:	Verify reverse flow closure in accordance with OM–10 Section 4.3.2.2.
Refueling Outage Test Justification	:	This valve and associated test connections are located in a very highly contaminated region of the primary containment which makes testing impracticable until the area has been decontaminated. This area must be decontaminated at each refueling outage to perform Appendix J Type C leakage rate testing on this valve. Testing quarterly or at cold shutdown is impractical because it requires de–inerting the containment and decontaminating the area for this test, resulting in unacceptable radiological and rad–waste consequences.
Quarterly Partial Stroke Testing	:	Since the required test is the reverse flow test for this check valve, partial stroke testing does not meet the purpose or intent of the Code testing requirement.
Cold Shutdown Testing	:	Cold shutdown testing requires de–inerting the containment. Deferring testing to the next refueling outage is addressed and permitted by NUREG–1482, paragraph 3.1.1.3, *"De-Inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing."*
Refueling Outage Testing	:	Reverse flow closure will be verified by performing the Appendix J Type C testing *on a non-performance-based interval*. Accordingly, reverse flow closure will be verified at every refueling outage.

SYSTEM: DBA HYDROGEN RECOMBINER (HCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2HCS*MOV1A	2	62A D-8	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV1B	2	62A I-8	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV25A	2	62B J-5	B ACTIVE	3.00 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2HCS*MOV25B	2	62B C-10	B ACTIVE	3.00 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2HCS*MOV26A	2	62B I-3	B ACTIVE	0.75 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2HCS*MOV26B	2	62B C-7	B ACTIVE	0.75 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	

SYSTEM: DBA HYDROGEN RECOMBINER (HCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2HCS*MOV2A	2	62A D-6	A ACTIVE	3.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV2B	2	62A I-6	A ACTIVE	3.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV3A	2	62A D-4	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV3B	2	62A I-4	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV4A	2	62A F-8	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	

SYSTEM: DBA HYDROGEN RECOMBINER (HCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2HCS*MOV4B	2	62A H-8	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV5A	2	62A F-6	A ACTIVE	3.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV5B	2	62A H-6	A ACTIVE	3.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV6A	2	62A F-4	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2HCS*MOV6B	2	62A G-4	A ACTIVE	3.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	

SYSTEM: DBA HYDROGEN RECOMBINER (HCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2HCS*SOV10A	2	62A A–3	B ACTIVE	1.00 GLV	SOA	C / O / O	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (O) FS–Q PI–T	
2HCS*SOV10B	2	62A L–3	B ACTIVE	1.00 GLV	SOA	C / O / O	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (O) FS–Q PI–T	
2HCS*SOV11A	2	62A A–8	B ACTIVE	1.00 GLV	SOA	O / C / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (C) FS–Q PI–T	
2HCS*SOV11B	2	62A L–8	B ACTIVE	1.00 GLV	SOA	O / C / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (C) FS–Q PI–T	

NOTES FOR DER VALVE TABLE

SYSTEM : DBA HYDROGEN RECOMBINER (HCS)

NOTE NUMBER None

SYSTEM: CONTROL BUILDING CHILLED WATER (HVK)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2HVK*SOV36A	3	53A F-3	B ACTIVE	3.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2HVK*SOV36B	3	53A F-8	B ACTIVE	3.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2HVK*V105	3	53A B-10	C ACTIVE	6.00 CHV	SEA	OC / O / DE	FE-Q (F)		FE-Q (F)	
2HVK*V106	3	53A B-5	C ACTIVE	6.00 CHV	SEA	OC / O / DE	FE-Q (F)		FE-Q (F)	
2HVK*V158	3	53A F-2	C ACTIVE	3.00 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	
2HVK*V163	3	53A F-7	C ACTIVE	3.00 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	
2HVK*V327	3	53A I-10	C ACTIVE	1.00 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	

SYSTEM: CONTROL BUILDING CHILLED WATER (HVK)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2HVK*V95	3	53A I-5	C ACTIVE	1.00 CHV	SEA	OC / C / DE	FE-Q (R)		FE-Q (R)	

NOTES FOR HVK VALVE TABLE

SYSTEM : CONTROL BUILDING CHILLED WATER (HVK)

NOTE NUMBER 1: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

- VT: Visual Examination per OM–1
- LA: As–Found Seat–Tightness per OM–1
- RT: Valve Set Pressure per OM–1
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria.*
- BD: Verification of the Integrity of the Balancing Devices per OM-1

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*EFV200	2	19E D-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GROJ-1	FE-RO (R) PI-T	
2IAS*EFV201	2	19E H-10	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GROJ-1	FE-RO (R) PI-T	
2IAS*EFV202	2	19E G-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GROJ-1	FE-RO (R) PI-T	
2IAS*EFV203	2	19F I-8	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GROJ-1	FE-RO (R) PI-T	
2IAS*EFV204	2	19F K-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GROJ-1	FE-RO (R) PI-T	
2IAS*EFV205	2	19F B-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GROJ-1	FE-RO (R) PI-T	
2IAS*EFV206	2	19F K-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GROJ-1	FE-RO (R) PI-T	
2IAS*PSE141	3	19L G-8	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE142	3	19L G-10	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*PSE143	3	19L G-3	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE144	3	19L G-6	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE145	3	19M F-8	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE146	3	19M F-10	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE147	3	19M F-3	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE148	3	19M F-5	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE19A	3	19D I-3	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1
2IAS*PSE19B	3	19D I-7	D	1.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 1

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*SOV164	2	19D C-10	A ACTIVE	1.50 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	NOTE 3
2IAS*SOV165	2	19F C-10	A ACTIVE	1.50 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	NOTE 3
2IAS*SOV166	2	19D C-8	A ACTIVE	1.50 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	NOTE 3
2IAS*SOV167	2	19G C-7	A PASSIVE	1.50 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 3
2IAS*SOV168	2	19G C-5	A PASSIVE	1.50 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 3
2IAS*SOV180	2	19G D-5	A PASSIVE	1.50 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 3

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*SOV184	2	19D E-8	A ACTIVE	1.50 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	NOTE 3
2IAS*SOV185	2	19G E-8	A PASSIVE	1.50 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 3
2IAS*SOVX181	3	19D J-3	B ACTIVE	1.50 GLV	SOA	OC / O / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O&C) FS-Q PI-T	
2IAS*SOVX186	3	19D J-7	B ACTIVE	1.50 GLV	SOA	OC / O / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O&C) FS-Q PI-T	
2IAS*SOVY181	3	19D J-4	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O&C) FS-Q PI-T	

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*SOVY186	3	19D J-8	B ACTIVE	0.75 GLV	SOA	OC / O / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O&C) FS-Q PI-T	
2IAS*SV19A	3	19D I-3	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 4
2IAS*SV19B	3	19D I-7	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 4
2IAS*SV20A	3	19D K-3	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 4
2IAS*SV20B	3	19D K-7	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 4
2IAS*V1601	3	19L D-6	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*V1602	3	19L D-9	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	
2IAS*V1603	3	19L D-2	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	
2IAS*V1604	3	19L D-4	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	
2IAS*V1605	3	19M H-7	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	
2IAS*V1606	3	19M H-9	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	
2IAS*V1607	3	19M H-2	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	
2IAS*V1608	3	19M H-4	A/C ACTIVE	1.50 CHV	SEA	O / C / C	FE-Q (R) LK-T	IAS-ROJ-2	FE-RO (R) LK-T	
2IAS*V421	3	19E C-4	A/C ACTIVE	1.25 CHV	SEA	OC / OC / DE	FE-Q (F&R) LK-T	IAS-ROJ-2	FE-Q (F) FE-RO (R) LK-T	NOTE 2

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*V431	3	19E F-4	A/C ACTIVE	1.25 CHV	SEA	OC / OC / DE	FE-Q (F&R) LK-T	IAS-ROJ-2	FE-Q (F) FE-RO (R) LK-T	NOTE 2
2IAS*V448	2	19D E-10	A/C ACTIVE	1.50 CHV	SEA	OC / OC / DE	FE-Q (F&R) LJ	IAS-ROJ-1	FE-Q (F) FE-RO (R) LJ-P7	NOTE 3
2IAS*V449	2	19F D-10	A/C ACTIVE	1.50 CHV	SEA	OC / OC / DE	FE-Q (F&R) LJ	IAS-ROJ-1	FE-Q (F) FE-RO (R) LJ-P7	NOTE 3
2IAS*V471	3	19E G-10	A/C ACTIVE	1.25 CHV	SEA	OC / OC / DE	FE-Q (F&R) LK-T	IAS-ROJ-2	FE-Q (F) FE-RO (R) LK-T	NOTE 2
2IAS*V526	3	19F C-4	A/C ACTIVE	1.25 CHV	SEA	OC / OC / DE	FE-Q (F&R) LK-T	IAS-ROJ-2	FE-Q (F) FE-RO (R) LK-T	NOTE 2
2IAS*V546	3	19F J-4	A/C ACTIVE	1.25 CHV	SEA	OC / OC / DE	FE-Q (F&R) LK-T	IAS-ROJ-2	FE-Q (F) FE-RO (R) LK-T	NOTE 2
2IAS*V571	3	19F G-8	A/C ACTIVE	1.25 CHV	SEA	OC / OC / DE	FE-Q (F&R) LK-T	IAS-ROJ-2	FE-Q (F) FE-RO (R) LK-T	NOTE 2

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2IAS*V581	3	19F J-8	A/C ACTIVE	1.25 CHV	SEA	OC / OC / DE	FE-Q (F&R) LK-T	IAS-ROJ-2	FE-Q (F) FE-RO (R) LK-T	NOTE 2

NOTES FOR IAS VALVE TABLE

SYSTEM : INSTRUMENT AIR SYSTEM (IAS)

NOTE NUMBER

1: Replace every two years. Refer to Engineering recommendation per memo No. SM2–M91–0134, 0129 and EDC 2M10299.

RD–P3: Replace rupture disk every 5 years, unless historical data indicates a requirement for more frequent replacement, per OM–1, Section 1.3.4.2, *Test Frequency, Classes 2 and 3 Pressure Relief Devices, Non–Reclosing Pressure Relief Devices*. The replacement rupture disk shall pass visual examination in accordance with NMPC receipt inspection procedures, per OM–1, Section 3.3.2.2, *Nonreclosing Pressure Relief Devices*.

2: Refer to Technical Specification Sections 4.5.1.e.2, *ADS 18–Month Functional Surveillance Requirement*, and 4.5.1.e.2.e., *ADS Accumulator Pneumatic Supply System Leak Rate Test*.

3: Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths.

4: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

- VT: Visual Examination per OM–1
- LA: As–Found Seat–Tightness per OM–1
- RT: Valve Set Pressure per OM–1
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria*.
- BD: Verification of the Integrity of the Balancing Devices per OM-1

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

REFUELING OUTAGE JUSTIFICATION
IAS-ROJ-1

System	:	Instrument Air (IAS)
Valve(s)	:	2IAS*V448 and 2IAS*V449
IST Category	:	A/C
ASME Class	:	2
Function	:	Instrument Air system primary containment isolation valves
Quarterly Test Requirements	:	Verify reverse flow closure
Refueling Outage Test Justification	:	Reverse flow testing of these valves requires entry into the primary containment. Because the primary containment is inerted during power operation, this testing is not possible on a quarterly basis.
Quarterly Partial Stroke Testing	:	Partial stroke testing requires the same conditions as full-stroke testing, and it is impracticable for the same reason.
Cold Shutdown Testing	:	This testing requires that the containment be de-inerted. Therefore, deferring testing during refuel outages is permitted by NUREG-1482, paragraph 3.1.1.3, *De-Inerting Containment of Boiling Water Reactors To Allow Cold Shutdown Testing.*
Refueling Outage Testing		Reverse flow closure testing will be performed during each refueling outage.

REFUELING OUTAGE JUSTIFICATION
IAS–ROJ–2

System	:	Instrument Air (IAS)
Valve(s)	:	ADS Accumulators: 2IAS*V421; *V431; *V471; *V526; *V546; *V571; *V581 MSIV Accumulators: 2IAS*V1601; *V1602; *V1603; *V1604; *V1605; *V1606; *V1607; *V1608
IST Category	:	A/C
ASME Class	:	3
Function	:	ADS accumulator and MSIV accumulator air inlet check valves
Quarterly Test Requirements	:	Verify reverse flow closure (FE–Q (R)) quarterly per OM–10, Section 4.3.1
Refueling Outage Test Justification	:	This test requires de–inerting of the primary containment. To verify reverse flow closure requires isolating the associated instrument air header and venting the upstream side of the check valve while pressure is applied to the downstream (accumulator) side of the valve. The check valves on the accumulators for the inboard MSIVs (*V1601, *V1602, *V1603, and *V1604) are located inside the primary containment. The check valves on the accumulators for the outboard MSIVs (*V1605, *V1606, *V1607, and *V1608) are inside the steam tunnel. Access to these two areas is restricted during power operation due to high radiation levels in the steam tunnel and the inert atmosphere in the primary containment. This testing also requires isolating the air/nitrogen supply to the MSIVs, which could eventually cause the valves to close. To perform the reverse flow closure test for the ADS accumulator inlet check valves (*V421, *V431, *V471, *V526, *V546, *V571, and *V581) requires depressurizing the ADS accumulators to less than the minimum pressure required for ADS operability. Therefore, it is not prudent to perform this testing in Modes 1, 2, or 3 (with reactor pressure >100 psig) when ADS is required by Technical Specification to be operable.
Quarterly Partial Stroke Testing	:	Partial stroke testing requires the same conditions as full–stroke testing, and it is impracticable for the same reason.
Cold Shutdown Testing		Cold shutdown testing requires de–inerting the containment. Deferring testing to the next refueling outage is addressed and permitted by NUREG–1482, paragraph 3.1.1.3, *"De–Inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing."*
Refueling Outage Testing		Reverse flow closure testing will be performed during each refueling outage, when ADS operability is not required.

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: REACTOR CORE ISOLATION COOLING (ICS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST–FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST–FREQ (DIR)	REMARKS
2ICS*AOV109	2	35B F–8	B ACTIVE	2.00 GLV	AOA	OC / C / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (C) FS–Q PI–T	
2ICS*AOV110	2	35B E–8	B ACTIVE	2.00 GLV	AOA	OC / C / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (C) FS–Q PI–T	
2ICS*AOV130	2	35C D–10	B ACTIVE	2.00 GLV	AOA	O / C / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (C) FS–Q PI–T	
2ICS*AOV131	2	35C D–10	B ACTIVE	2.00 GLV	AOA	O / C / C	FE–Q ST–Q FS–Q PI–T		FE–Q ST–Q (C) FS–Q PI–T	
2ICS*AOV156	1	35C G–3	AC ACTIVE	2.00 TCV	SEA	C / OC / DE	FE–Q (F&R) PI–T LJ LK–T	ICS–CSJ–2	FE–CS (F&R) PI–T LJ–P7 LK–T	NOTES 1, NOTE 3, NOTE 4

SYSTEM: REACTOR CORE ISOLATION COOLING (ICS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ICS*AOV157	1	35C J-3	AC ACTIVE	6.00 TCV	SEA	C / OC / DE	FE-Q (F&R) PI-T LJ LK-T	ICS-ROJ-3	FE-RO (F&R) PI-T LJ-P7 LK-T	NOTES 1, NOTE 3, NOTE 4
2ICS*EFV1	2	35A H-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ICS*EFV2	2	35A H-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ICS*EFV3	2	35A H-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ICS*EFV4	2	35A H-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ICS*FV108	2	35D D-2	B PASSIVE	4.00 GLV	MOA	C / AI	PI-T		PI-T	
2ICS*MOV116	2	35C D-4	B ACTIVE	2.00 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2ICS*MOV120	2	35C C-9	B ACTIVE	4.00 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	NOTE 4

SYSTEM: REACTOR CORE ISOLATION COOLING (ICS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ICS*MOV121	1	35A C-4	A ACTIVE	10.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	
2ICS*MOV122	2	35A G-7	A ACTIVE	12.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	
2ICS*MOV124	2	35D C-3	B PASSIVE	4.00 GTV	MOA	C / C / AI	PI-T		PI-T	
2ICS*MOV126	1	35C G-3	A ACTIVE	6.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ	ICS-CSJ-1	FE-CS ST-CS(O&C) PI-T LJ-P7	
2ICS*MOV128	1	35A D-4	A ACTIVE	10.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	
2ICS*MOV129	2	35D I-5	B ACTIVE	6.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	

SYSTEM: REACTOR CORE ISOLATION COOLING (ICS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ICS*MOV136	2	35A I-10	A ACTIVE	6.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	NOTE 2
2ICS*MOV143	2	35A F-7	A ACTIVE	2.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2ICS*MOV148	2	35A I-7	A ACTIVE	1.50 GLV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	
2ICS*MOV159	2	35B K-9	B ACTIVE	1.00 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	NOTE 4
2ICS*MOV164	2	35A H-6	A ACTIVE	1.50 GLV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (C) PI-T LJ-P7	
2ICS*MOV170	2	35A D-5	A PASSIVE	1.00 GLV	MOA	C / C / AI	PI-T LJ		PI-T LJ-P7	

SYSTEM: REACTOR CORE ISOLATION COOLING (ICS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ICS*PCV115	2	35C D-4	B ACTIVE	2.00 GLV	AOA	OC / O / O	FE-Q ST-Q FS-Q		FE-Q ST-Q (O) FS-Q	
2ICS*PSE117	2	35B F-5	D	10.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 8
2ICS*PSE118	2	35B F-5	D	10.00 RD	SEA	C / O / O	RD-P3		RD-T	NOTE 8
2ICS*RV112	2	35C C-3	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 6
2ICS*RV114	2	35D D-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 6
2ICS*V249	2	35D I-5	C ACTIVE	6.00 CHV	SEA	C / C / DE	FE-Q (R)		FE-Q (R)	NOTE 4
2ICS*V28	2	35A H-10	C ACTIVE	6.00 CHV	SEA	C / O / DE	FE-Q (F)	ICS-ROJ-1	DI-R* PE-Q (F)	NOTE 7 NOTE 4

SYSTEM: REACTOR CORE ISOLATION COOLING (ICS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ICS*V29	2	35A F-7	C ACTIVE	12.00 CHV	SEA	C / O / DE	FE-Q (F)	ICS-ROJ-2	DI-R* PE-Q (F)	NOTE 7 NOTE 4
2ICS*V38	2	35A E-7	C ACTIVE	2.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	NOTE 4
2ICS*V39	2	35A I-6	C ACTIVE	1.50 VRV	SEA	C / OC / DE	FE-Q (F&R) VR-P2 RT-P2 VP-P2		FE-Q (F&R) VR-P2 RT-P2 VP-P2	NOTE 5
2ICS*V40	2	35A I-6	C ACTIVE	1.50 VRV	SEA	C / OC / DE	FE-Q (F&R) VR-P2 RT-P2 VP-P2		FE-Q (F&R) VR-P2 RT-P2 VP-P2	NOTE 5

NOTES FOR ICS VALVE TABLE

SYSTEM : **RCIC: REACTOR CORE ISOLATION COOLING (ICS)**

NOTE NUMBER :

1: Technical Specification 4.4.3.2.2, *RCS Pressure Isolation Valves*; and Technical Specification Table 3.4.3.2–1

2: Hydrostatic leak rate testing required by Technical Specification Section 4.6.1.2.3

3: Leak rate test requirements "LK" satisfied by correlation of the Appendix J test results. (Reference: Safety Evaluation #93–076)

4: Valve exercising or stroke time testing may be delayed until the repeatable test condition (935–1035 psig reactor pressure) is reached or met. (Reference NUREG–1482, Section 3.1.1.2, *Testing at a Refueling Outage Frequency for Valves Tested During Power Ascension*)

5: Test per OM–1, Section 3.3.2, *ASME Classes 2 and 3 Pressure Relief Devices*; paragraph 3.3.2.3, *Vacuum Relief Devices*.

ASME Class 2 Vacuum Relief Valves shall be tested in accordance with OM–1, Section 3.3.2.3:

- VR: the valves shall be actuated to verify open and close capability
- RT: the valves shall be actuated to verify set pressure
- VP: the valves shall be actuated to verify the performance of the position indicating accessories.
- Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Technical Specification List M2–0004, "ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria."

The test frequency is specified in OM–1, Section 1.3.4, "Test Frequency, Class 2 and 3 Pressure Relief Devices": All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

Additionally, since these are "simple check valves," they must be exercised quarterly in accordance with OM–10 (NUREG–1482, paragraph 4.3.8, "Vacuum Relief Valves")

NOTES FOR ICS VALVE TABLE

SYSTEM : RCIC: REACTOR CORE ISOLATION COOLING (ICS)

NOTE NUMBER :

6: The following tests must be performed *in the following order* (ASME OM–1):

- VT–P2: Visual Examination at least once every 10 years per OM–1
- LA–P2: As–Found Seat–Tightness at least once every 10 years per OM–1
- RT–P2: Valve Set Pressure test at least once every 10 years per OM–1
- Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Technical Specification List M2–0004, "ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria."

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

7: The disassembly and inspection (D/I) may be performed on a schedule that does not conform to the refueling outage schedule. However, because disassembly and inspection is a maintenance activity and not a surveillance, entry into an LCO to perform the D/I may not be acceptable. (Generic Letter 89–04, Position 2, Question Group 14)

8: Replace every two years. Refer to Engineering recommendation per memo No. SM2–M91–0134, 0129 and DEC dated May 10, 1991.

RD–P3: Replace rupture disk every 5 years, unless historical data indicates a requirement for more frequent replacement, per OM–1, Section 1.3.4.2, *Test Frequency, Classes 2 and 3 Pressure Relief Devices, Non–Reclosing Pressure Relief Devices*. The replacement rupture disk shall pass visual examination in accordance with NMPC receipt inspection procedures, per OM–1, Section 3.3.2.2, *Nonreclosing Pressure Relief Devices*.

System	:	Reactor Core Isolation Cooling (RCIC)
Valve(s)	:	2ICS*MOV126
Category	:	A
Class	:	1
Function	:	RCIC Injection Valve
Quarterly Test Requirements	:	Exercise and Stroke Time
Cold Shutdown Test Justification	:	The installed piping configuration does not provide a means to verify that there is no leakage across the downstream testable check valves 2ICS*AOV156 and 2ICS*AOV157. Testing under this condition is specifically excluded by NUREG-1482, paragraph 3.1.1, *Deferring Valve Testing To Each Cold Shutdown or Refueling Outage*. Cycling ICS*MOV126 could subject the system to pressures in excess of its design pressure.
Quarterly Partial Stroke Testing	:	Partial-stroke testing would present the same potential for system overpressure as full-stroke testing. The operating circuitry of the valve permits only full-stroke operation. Therefore, partial-stroke testing is not practicable.
Cold Shutdown Testing	:	ICS*MOV126 will receive full-stroke exercising and stroke time testing.

NINE MILE POINT UNIT 2 IST PROGRAM
COLD SHUTDOWN TEST JUSTIFICATION
ICS-CSJ-2

System	:	Reactor Core Isolation Cooling (RCIC)
Valve(s)	:	2ICS*AOV156
Category	:	A
Class	:	1
Function	:	RCIC injection line containment isolation testable check valve
Quarterly Test Requirements	:	Verify forward flow operability and reverse flow closure
Cold Shutdown Test Justification	:	This is a testable check valve capable of being operated either by system flow or by the installed air test operators. The use of system flow to operate during power operation would require injecting cold water from the condensate storage tank into the reactor vessel. The cold water injection at power would produce reactivity effects that could cause a plant trip. Thermal shock could reduce expected component life. Due to the location of the injection point, water could be carried over in the main steam, causing damage to the main turbine. Since the ICS system is depressurized during normal operation, a differential pressure approximately equal to reactor pressure exists across the testable check valves. The air test operator is only capable of exercising the valve with nearly zero pressure differential.
Quarterly Partial Stroke Testing	:	Partial stroking requires the same conditions as full stroke testing.
Cold Shutdown Testing	:	Forward flow operability and reverse flow closure will be verified using the air test operators when the differential pressure across the valve is zero. This testing will be performed during cold shutdowns.

ICS-ROJ-1

System	:	Reactor Core Isolation Cooling (RCIC)
Valve(s)	:	2ICS*V28
IST Category	:	C
ASME Class	:	2
Function	:	Check valve in the RCIC Pump Suction from the Suppression Pool
Quarterly Test Requirements	:	Verify forward flow operability.
Refueling Outage Test Justification	:	Forward flow full-stroke exercising of this valve by the normal system flow path requires injecting poor quality suppression pool water into the reactor vessel, which would result in undesirable water chemistry. The valve can be exercised by returning flow to the suppression pool through the min-flow line. However, due to the smaller line size of the min-flow line, the flow rate through the min-flow line would open the suction check valve only partially. The only means available to full-flow test this valve is to inject suppression pool water into the reactor vessel. In addition to the reactor water chemistry consequences, the injection of cold water to a pressurized reactor vessel would result in unnecessary stresses on several components, including the reactor vessel.
Quarterly Partial Stroke Testing	:	Quarterly partial flow forward exercise during the ICS pump quarterly tests by recirculating suppression pool water back to the suppression pool through the min-flow line.
Cold Shutdown Testing	:	OM-10, Section 4.3.2.4 permits disassembly every refueling outage, and it doesn't discuss or mention cold shutdown disassembly.

Refueling Outage Testing : Since the only means available to full–flow test this check valve is to inject suppression pool water to the reactor vessel, this valve will be demonstrated operable by a combination of partial–flow testing and disassembly and inspection.

- Quarterly partial flow forward exercise during the ICS pump quarterly tests by recirculating suppression pool water back to the suppression pool through the min–flow line.
- Every Refueling Outage: Disassembly and inspection shall be performed in accordance with OM–10, Section 4.3.2.4 and the NRC staff position stipulated in GL–89–04, Position 2.

  The disassembly is required only as far as necessary to assess the condition of the valve and to allow manual exercising of the disk. The inspection consists of visual examinations to the accessible portions to ensure that there are no worn or corroded parts that could prevent the valve from opening or reclosing.

System	:	Reactor Core Isolation Cooling (RCIC)
Valve(s)	:	2ICS*V29
IST Category	:	C
ASME Class	:	2
Function	:	Open to allow RCIC Turbine exhaust steam to condense in the Suppression Pool.
Quarterly Test Requirements	:	Verify forward flow operability.
Refueling Outage Test Justification	:	To verify forward full–flow operability would require a pump flow rate of approximately 625 gpm at a reactor pressure of approximately 1200 psi*a*. This is the condition that produces design steam flow through the RCIC turbine and hence the turbine exhaust line.
Quarterly Partial Stroke Testing	:	Quarterly partial flow forward exercise during the ICS pump quarterly tests.
Cold Shutdown Testing	:	OM–10, Section 4.3.2.4 permits disassembly every refueling outage, and it doesn't discuss or mention cold shutdown disassembly.
Refueling Outage Testing	:	Every Refueling Outage: Disassembly and inspection shall be performed in accordance with OM–10, Section 4.3.2.4 and the NRC staff position stipulated in GL 89-04, Position 2. The disassembly is required only as far as necessary to assess the condition of the valve and to allow manual exercising of the disk. The inspection consists of visual examinations to the accessible portions to ensure that there are no worn or corroded parts that could prevent the valve from opening or reclosing.

System	:	Reactor Core Isolation Cooling (RCIC)
Valve(s)	:	2ICS*AOV157
IST Category	:	A
ASME Class	:	1
Function	:	RCIC injection line containment isolation testable check valve
Quarterly Test Requirements	:	Verify forward flow operability and reverse flow closure
Refueling Outage Test Justification	:	This is a testable check valve capable of being operated either by system flow or by the installed air test operators. The use of system flow to operate during power operation would require injecting cold water from the condensate storage tank into the reactor vessel. The cold water injection at power would produce reactivity effects that could cause a plant trip. Thermal shock could reduce expected component life. Due to the location of the injection point, water could be carried over in the main steam, causing damage to the main turbine. Since the ICS system is depressurized during normal operation, a differential pressure approximately equal to reactor pressure exists across the testable check valves. The air test operator is only capable of exercising the valve with nearly zero pressure differential.
Quarterly Partial Stroke Testing	:	Partial stroking requires the same conditions as full stroke testing.
Cold Shutdown Testing	:	This valve cannot be reverse tested except when the primary containment is de–inerted, since a drywell entry must be made to open the air isolation valves for the air operator.
Refueling Outage Testing	:	Forward flow operability and reverse flow closure will be verified using the air test operators when the differential pressure across the valve is zero. This testing will be performed at each refueling outages.

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*EFV1	2	28A I-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV10	2	28B I-8	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV11	2	28C I-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV12	2	28C I-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV13	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV14	2	28C I-8	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV15	2	28B D-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV16	2	28B D-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*EFV17	2	28B D-8	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV18	2	28C D-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV19	2	28C D-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV2	2	28A I-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV20	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV21	2	28C D-8	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV22	2	28C D-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV23	2	28C D-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*EFV24	2	28C I-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV25	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV26	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV27	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV28	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV29	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV3	2	28A I-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV30	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*EFV31	2	28C D-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV32	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV33	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV34	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV35	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV36	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV37	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV38	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*EFV39	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV4	2	28A I-7	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV40	2	28C I-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV41	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV42	2	28C CHR2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	NOTE 4
2ISC*EFV5	2	28A D-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV6	2	28A D-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV7	2	28A D-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*EFV8	2	28B I-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*EFV9	2	28B I-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2ISC*RV33A	2	28A B-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3
2ISC*RV33B	2	28A B-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3
2ISC*RV34A	2	28A C-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3
2ISC*RV34B	2	28A C-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*RV35A	2	28A D-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3
2ISC*RV35B	2	28A D-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3
2ISC*RV36A	2	28A E-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3
2ISC*RV36B	2	28A E-9	C ACTIVE	24.00 VRV	SEA AOA	C / O / DE	VR-P2 RT-P2 VP-P2 LL-P2		VR-P2 RT-P2 VP-P2 LL-P2	NOTES 1, 2, 3
2ISC*SOV119	2	28C C-6	B PASSIVE	0.50 GLV	SOA	C / C / C	PI-T		PI-T	
2ISC*SOV120	2	28C C-6	B PASSIVE	0.50 GLV	SOA	C / C / C	PI-T		PI-T	

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2ISC*SOV123	2	28C B-6	B PASSIVE	0.50 GLV	SOA	C / C / C	PI-T		PI-T	
2ISC*SOV124	2	28C K-6	B PASSIVE	0.50 GLV	SOA	C / C / C	PI-T		PI-T	

NOTES FOR ISC VALVE TABLE

SYSTEM : REACTOR VESSEL INSTRUMENTATION (ISC)

NOTE NUMBER 1: OM–1, Section 3.3.2.3 states only that, "the valves shall be actuated to verify open and close capability." The method specified by Technical Specification 4.6.4, *Suppression Chamber / Drywell Vacuum Breakers*, will be used for the exercise test.

2: The required tests are listed in OM–1, Section 3.3.2, *ASME Class 2 and 3 Pressure Relief Devices*, Paragraph 3.3.2.3, *Vacuum Relief Valves*. Technical Specification Section 4.6.4, *Suppression Chamber / Drywell Vacuum Breakers*, satisfies and exceeds the frequency specified in OM–1.

3: USAR Section 6.2.1.1.2 states,

"No vacuum relief valves are provided between the drywell and the reactor building atmosphere. The primary containment structure can accommodate sub–atmospheric pressure of approximately 10 psia at maximum operating water level."

Also see Safety Classification (Appendix B) Determination No. 89–067 for additional information.

Therefore, the frequency specified in OM–1, Section 1.3.4.3, *Primary Containment Vacuum Relief Valves*, is not applicable to these vacuum relief valves. OM–1, Section 3.3.2.3, *Class 2 and 3 Vacuum Relief Valves*, is the correct OM–1 section.

4: The excess flow check valves with PID Coordinates "CHR2" are listed on Chart II on PID–28C.

SYSTEM: CONTAINMENT LEAKAGE MONITORING SYSTEM (LMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2LMS*SOV152	2	81A D-4	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	
2LMS*SOV153	2	81A F-4	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	
2LMS*SOV156	2	81A D-9	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	
2LMS*SOV157	2	81A F-9	A PASSIVE	0.75 GLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	

NOTES FOR LMS VALVE TABLE

SYSTEM : CONTAINMENT LEAKAGE MONITORING SYSTEM (LMS)

NOTE NUMBER : None

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*AOV6A	1	1E C-7	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2
2MSS*AOV6B	1	1E C-9	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2
2MSS*AOV6C	1	1E C-3	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*AOV6D	1	1E C-5	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2
2MSS*AOV7A	1	1F B-5	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2
2MSS*AOV7B	1	1F B-7	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*AOV7C	1	1F B-2	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2
2MSS*AOV7D	1	1F B-3	A ACTIVE	26.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ	MSS-CSJ-1	PE-Q FE-CS ST-CS (C) FS-CS PI-T LJ-P7	NOTE 2
2MSS*EFV1A	2	1J H-7	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV1B	2	1J H-9	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV1C	2	1J H-2	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV1D	2	1J H-4	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*EFV2A	2	1J H-7	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV2B	2	1J H-10	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV2C	2	1J H-2	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV2D	2	1J H-5	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV3A	2	1J H-7	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV3B	2	1J H-10	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV3C	2	1J H-3	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV3D	2	1J H-5	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV4A	2	1J H-8	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*EFV4B	2	1J H-10	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV4C	2	1J H-3	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*EFV4D	2	1J H-5	C ACTIVE	0.75 CHV	SEA	O / C / -	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2MSS*MOV111	1	1E G-2	A PASSIVE	6.00 GLV	MOA	C / C / AI	PI-T LJ		PI-T LJ-P7	NOTE 2
2MSS*MOV112	1	1E H-2	A PASSIVE	6.00 GLV	MOA	C / C / AI	PI-T LJ		PI-T LJ-P7	NOTE 2
2MSS*MOV118	1	1A J-3	B PASSIVE	2.00 GLV	MOA	C / C / AI	PI-T		PI-T	
2MSS*MOV119	1	1A J-4	B PASSIVE	2.00 GLV	MOA	C / C / AI	PI-T		PI-T	
2MSS*MOV208	1	1F F-9	A PASSIVE	2.00 GLV	MOA	C / C / AI	PI-T LJ		PI-T LJ-P7	NOTE 2

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*PSV120	1	1A D-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV121 (ADS)	1	1A E-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV122	1	1A G-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*PSV123	1	1A H-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV124	1	1B D-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV125	1	1B E-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*PSV126 (ADS)	1	1B G-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV127 (ADS)	1	1B H-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV128	1	1B I-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*PSV129 (ADS)	1	1C D-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV130 (ADS)	1	1C E-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV131	1	1C G-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*PSV132	1	1C H-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV133	1	1C J-4	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV134 (ADS)	1	1D D-5	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1

SYSTEM: MAIN STEAM SYSTEM (MSS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2MSS*PSV135	1	1D F-5	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV136	1	1D H-5	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1
2MSS*PSV137 (ADS)	1	1D J-5	C ACTIVE	8.00 REV	SEA	C / O / C	VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1		VT-P1 LA-P1 RT-P1 LL-P1 SO-P1 AO-P1 VP-P1	NOTE 1

NOTES FOR MSS VALVE TABLE

SYSTEM : MAIN STEAM SYSTEM (MSS)

NOTE NUMBER 1: SRVs are removed for as–found testing, preventive maintenance, and as–left testing. Since the SRV equipment mark number designates a particular location and setpoint, and since there are several spares for each setpoint, the SRV serial number shall be used to track component performance and location.

The sample size shall be as identified in OM-1 and specified in the NMP2 Technical Support testing schedule.

If a valve exceeds the stamped set pressure criteria by 3% or greater, the sample size shall be increased by two valves for each valve that fails, up to the total number of SRVs. After the required seat leak test, set pressure test, and auxiliary actuating devices tests, removed valves shall be reset to within 1% of the safety set pressure listed in the Technical Specifications. (OM–1, Section 1.3.3, *Test Frequency, Class 1 Pressure Relief Devices*, paragraph (d), *Acceptance Criteria* and paragraph (e), *Valves Not Meeting Acceptance Criteria*)

Tests for SRVs shall be in accordance with the sequence stipulated in OM-1. Section 3.3, *Periodic Testing*, states, "When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence." Section 3.3.1.1, *Main Steam Pressure Relief Valves With Auxiliary Actuating Devices*, states, "Tests prior to maintenance or set pressure adjustment, or both, shall be performed in the following sequence:

"a. visual examination [VT];
"b. seat tightness determination [LA];
"c. set pressure determination [RT];
"d. determination of compliance with the Owner's seat tightness criteria
"e. determination of electrical characteristics and pressure integrity of solenoid valve(s) [SO];
"f. determination of pressure integrity and stroke capability of air actuator [AO];
"g. determination of operation and electrical characteristics of position indicators [VP];

The applicable criteria are in Technical Specification List M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria*.

The seven ADS valves are tested in place during power ascension at least once per 18 months in compliance with NMP2 Technical Specifications 4.5.1.e, *ECCS – Operating: ADS*, and NMP2 USAR Section 6.3.4.2.

NOTE NUMBER 2: Valves leak–rate tested per Technical Specification Section 4.6.1.2.2, *Primary Containment Leakage*, Potential Bypass Leakage Paths.

System	:	MAIN STEAM (MSS)
Valve(s)	:	Main Steam Isolation Valves (MSIVs): 2MSS*AOV6A, 6B, 6C, 6D 2MSS*AOV7A, 7B, 7C, 7D
Category	:	A
Class	:	1
Function	:	Main steam line inside and outside primary containment isolation valves
Quarterly Test Requirements	:	Exercise (FE–Q), Stroke Time (ST–Q) Fail Safe (FS–Q)
Cold Shutdown Test Justification	:	Exercising these valves during power operation would require a significant reduction in power and would place the plant in an abnormal operating condition with one main steam line isolated. Recent industry experience indicates that closing the MSIVs under high steam flow conditions may be a contributing factor in observed seat degradation. Seat degradation occurring during valve exercising could result in a loss of primary containment integrity.
Quarterly Partial Stroke Testing	:	The MSIVs are partial–stroke tested during power operation.
Cold Shutdown Testing	:	The MSIVs will receive full–stroke exercise, stroke time testing, and fail–safe tests during cold shutdown conditions.

SYSTEM: NEUTRON MONITORING SYSTEM (NMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2NMS*SOV1A	2	EM38A F-7	A PASSIVE	1.50 BLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 1
2NMS*SOV1B	2	EM38A F-7	A PASSIVE	1.50 BLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 2
2NMS*SOV1C	2	EM38A G-6	A PASSIVE	1.50 BLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 3
2NMS*SOV1D	2	EM38A G-6	A PASSIVE	1.50 BLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 4
2NMS*SOV1E	2	EM38A H-5	A PASSIVE	1.50 BLV	SOA	C / C / C	PI-T LJ		PI-T LJ-P7	NOTE 5

SYSTEM: NEUTRON MONITORING SYSTEM (NMS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2NMS*VEX1A	2	EM38A F-7	D	1.50 EXV	EXA	O / C / DE	EX-P4		EX-P4	NOTES 1, 6
2NMS*VEX1B	2	EM38A F-7	D	1.50 EXV	EXA	O / C / DE	EX-P4		EX-P4	NOTES 2, 6
2NMS*VEX1C	2	EM38A G-6	D	1.50 EXV	EXA	O / C / DE	EX-P4		EX-P4	NOTES 3, 6
2NMS*VEX1D	2	EM38A G-6	D	1.50 EXV	EXA	O / C / DE	EX-P4		EX-P4	NOTES 4, 6
2NMS*VEX1E	2	EM38A H-5	D	1.50 EXV	EXA	O / C / DE	EX-P4		EX-P4	NOTES 5, 6

NOTES FOR NMS VALVE TABLE

SYSTEM	:	NEUTRON MONITORING SYSTEM (NMS)
NOTE NUMBER	1:	Part of G.E. C51–J004A Traversing Incore Probe (TIP) System
	2:	Part of G.E. C51–J004B Traversing Incore Probe (TIP) System
	3:	Part of G.E. C51–J004C Traversing Incore Probe (TIP) System
	4:	Part of G.E. C51–J004D Traversing Incore Probe (TIP) System
	5:	Part of G.E. C51–J004E Traversing Incore Probe (TIP) System
	6:	Tested per Technical Specification Section 4.6.3.5.b, *Primary Containment Isolation Valves*; TIP explosive isolation valve operability.

SYSTEM: REACTOR RECIRCULATION SYSTEM (RCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RCS*EFV44A	2	29B D-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV44B	2	29C D-2	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV45A	2	29B D-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV45B	2	29C D-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV46A	2	29B D-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV46B	2	29C D-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV47A	2	29B D-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV47B	2	29C D-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV48A	2	29B D-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: REACTOR RECIRCULATION SYSTEM (RCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RCS*EFV48B	2	29C D-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV52A	2	29B I-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV52B	2	29C I-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV53A	2	29B H-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV53B	2	29C H-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV62A	2	29B J-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV62B	2	29C J-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV63A	2	29B J-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RCS*EFV63B	2	29C J-9	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	

SYSTEM: REACTOR RECIRCULATION SYSTEM (RCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RCS*SOV104	2	29B H-3	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2RCS*SOV105	2	29B H-3	A ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2RCS*SOV65A	2	29A A-6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV65B	2	29A G-6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV66A	2	29A C-6	B ACTIVE	1.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	

SYSTEM: REACTOR RECIRCULATION SYSTEM (RCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RCS*SOV66B	2	29A H-6	B ACTIVE	1.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV67A	2	29A D-6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV67B	2	29A J-6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV68A	2	29A E-6	B ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV68B	2	29A K-6	B ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	

SYSTEM: REACTOR RECIRCULATION SYSTEM (RCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST–FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST–FREQ (DIR)	REMARKS
2RCS*SOV79A	2	29A A–6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE–Q ST–Q FS–Q PI–T	RCS–CSJ–1	FE–CS ST–CS (C) FS–CS PI–T	
2RCS*SOV79B	2	29A G–6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE–Q ST–Q FS–Q PI–T	RCS–CSJ–1	FE–CS ST–CS (C) FS–CS PI–T	
2RCS*SOV80A	2	29A C–6	B ACTIVE	1.00 GLV	SOA	O / C / C	FE–Q ST–Q FS–Q PI–T	RCS–CSJ–1	FE–CS ST–CS (C) FS–CS PI–T	
2RCS*SOV80B	2	29A I–6	B ACTIVE	1.00 GLV	SOA	O / C / C	FE–Q ST–Q FS–Q PI–T	RCS–CSJ–1	FE–CS ST–CS (C) FS–CS PI–T	
2RCS*SOV81A	2	29A D–6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE–Q ST–Q FS–Q PI–T	RCS–CSJ–1	FE–CS ST–CS (C) FS–CS PI–T	

SYSTEM: REACTOR RECIRCULATION SYSTEM (RCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RCS*SOV81B	2	29A I-6	B ACTIVE	2.00 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV82A	2	29A E-6	B ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*SOV82B	2	29A K-6	B ACTIVE	0.75 GLV	SOA	O / C / C	FE-Q ST-Q FS-Q PI-T	RCS-CSJ-1	FE-CS ST-CS (C) FS-CS PI-T	
2RCS*V59A	2	29B H-10	AC ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) LJ	RCS-ROJ-1	FE-RO (R) LJ-R	NOTE 1
2RCS*V59B	2	29C G-10	AC ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) LJ	RCS-ROJ-1	FE-RO (R) LJ-R	NOTE 1
2RCS*V60A	2	29B F-10	AC ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) LJ	RCS-ROJ-1	FE-RO (R) LJ-R	NOTE 1
2RCS*V60B	2	29C F-10	AC ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) LJ	RCS-ROJ-1	FE-RO (R) LJ-R	NOTE 1

SYSTEM: REACTOR RECIRCULATION SYSTEM (RCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RCS*V90A	2	29B G-10	AC ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) LJ	RCS-ROJ-1	FE-RO (R) LJ-R	NOTE 1
2RCS*V90B	2	29C G-10	AC ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) LJ	RCS-ROJ-1	FE-RO (R) LJ-R	NOTE 1

SYSTEM : REACTOR RECIRCULATION SYSTEM (RCS)

NOTE NUMBER : 1. RCS*V59A, B; RCS*V60A, B; and RCS*V90A, B are tested every refueling outage, rather performance–based. See RCS-ROJ–1.

NINE MILE POINT UNIT 2 IST PROGRAM
COLD SHUTDOWN TEST JUSTIFICATION
RCS-CSJ-1

System	:	REACTOR RECIRCULATION
Valve(s)	:	2RCS*SOV65A,B 2RCS*SOV66A,B 2RCS*SOV67A,B 2RCS*SOV68A,B 2RCS*SOV79A,B 2RCS*SOV80A,B 2RCS*SOV81A,B 2RCS*SOV82A,B
IST Category	:	B
ASME Class	:	2
Function	:	Containment isolation valves on the Recirculation Flow Control Valve hydraulic lines
Quarterly Test Requirements	:	Full–Stroke Exercise, FE–Q Stroke Time Test, ST–Q Fail–Safe Test, FS–Q
Cold Shutdown Test Justification	:	These valves control the flow of hydraulic fluid to the reactor coolant recirculation flow control valves, and their positions control the positions of the flow control valves. Exercising these valves during reactor coolant recirculation flow could cause a disturbance of normal loop flow which could result in adverse plant operation; e.g., changes in reactivity, power transient, and a possible reactor scram.
Quarterly Partial Stroke Testing	:	The operating circuitry of these valves only permits full stroke operation.
Cold Shutdown Testing	:	The following testing will be performed during cold shutdown: Full–Stroke Exercise, FE Stroke Time Test, ST Fail–Safe Test, FS

NINE MILE POINT UNIT 2 IST PROGRAM
REFUELING OUTAGE TEST JUSTIFICATION
RCS-ROJ-1

System	:	REACTOR RECIRCULATION
Valve(s)	:	2RCS*V59A,B 2RCS*V60A,B 2RCS*V90A,B
IST Category	:	A/C
ASME Class	:	2
Function	:	Containment isolation valves for Reactor Recirculation pump seal water injection from CRDH (RDS)
Quarterly Test Requirements	:	Reverse flow exercise, FE–Q (R)
Refueling Outage Test Justification	:	Verifying reverse flow closure would require stopping seal water flow to the recirculation pumps with the reactor at some elevated pressure. The interruption of seal water flow, even for a short time, is undesirable. Due to system design, the only practical method available to verify reverse flow closure is by valve leak testing during Appendix J testing. The safety-related function for these valves in the closed position is containment isolation. Testing of containment isolation valves is governed by 10CFR50, Appendix J.
Quarterly Partial Stroke Testing	:	These are check valves, which cannot be partial–stroke tested in the reverse direction.

Cold Shutdown Testing	:	Testing these valves requires de–inerting the primary containment. Testing these valves requires that the Reactor Recirculation pumps be shut down to permit access to the test connections downstream of *V60A, B and *V90A, B. Since the pumps are not typically shut down during cold shutdowns, testing these valves during cold shutdown periods would require scheduling containment deinerting and recirculation pump shutdown solely to support testing. Scheduling equipment shutdowns solely to perform testing is specifically exempted by the Code. Stopping reactor coolant pumps and performing containment deinerting solely to support cold shutdown testing is specifically exempted by NUREG–1482. (OM–10, §4.2.1.2*(g)*; NUREG–1482, §3.1.1.3; NUREG–1482, §3.1.1.4
Refueling Outage Testing	:	Reverse flow closure will be verified by performing Appendix J Type C testing on a non–performance–based test interval. Accordingly, reverse flow closure will be verified at least every refueling outage. (NUREG–1482, §4.1.4, *Extension Of Test Interval To Refueling Outage For Check Valves Verified Closed By Leak Testing*)

SYSTEM: CONTROL ROD DRIVE HYDRAULICS (RDS)

VALVE NO.	ASME CLASS	PID & COORD	IST VALVE CAT	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RDS*AOV123	2	30C C-10	A ACTIVE	2.00 DIV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2RDS*AOV124	2	30C F-5	A ACTIVE	1.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2RDS*AOV130	2	30C B-10	A ACTIVE	2.00 DIV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	
2RDS*AOV132	2	30C F-4	A ACTIVE	1.00 GLV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T LJ		FE-Q ST-Q (C) FS-Q PI-T LJ-P7	

NOTES FOR RDS VALVE TABLE

SYSTEM : CONTROL ROD DRIVE HYDRAULICS (RDS)

NOTE NUMBER None

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*AOV150	2	31E B-8	C ACTIVE	16.00 TCV	SEA	C / OC / DE	FE-Q (F&R)		FE-Q (F&R)	NO POS. IND. NOTE 1
2RHS*AOV16A	1	31A F-5	AC ACTIVE	12.00 TCV	SEA	C / OC / DE	FE-Q (F&R) PI-T LJ LK-T	RHS-ROJ-1	FE- RO (F&R) PI-T LJ-P7 LK-T	NOTE 2; NOTE 4
2RHS*AOV16B	1	31A J-6	AC ACTIVE	12.00 TCV	SEA	C / OC / DE	FE-Q (F&R) PI-T LJ LK-T	RHS-ROJ-1	FE- RO (F&R) PI-T LJ-P7 LK-T	NOTE 2; NOTE 4
2RHS*AOV16C	1	31A J-4	AC ACTIVE	12.00 TCV	SEA	C / OC / DE	FE-Q (F&R) PI-T LJ LK-T	RHS-ROJ-1	FE- RO (F&R) PI-T LJ-P7 LK-T	NOTE 2; NOTE 4
2RHS*AOV39A	1	31A F-9	AC ACTIVE	12.00 TCV	SEA	C / OC / DE	FE-Q (F&R) PI-T LJ LK-T	RHS-ROJ-1	FE- RO (F&R) PI-T LJ-P7 LK-T	NOTE 2; NOTE 4

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*AOV39B	1	31A K-9	AC ACTIVE	12.00 TCV	SEA	C / OC / DE	FE-Q (F&R) PI-T LJ LK-T	RHS-ROJ-1	FE-RO (F&R) PI-T LJ-P7 LK-T	NOTE 2; NOTE 4
2RHS*EFV5	2	31B B-8	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RHS*EFV6	2	31B B-7	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RHS*EFV7	2	31A C-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2RHS*FV38A	2	31C B-6	B ACTIVE	14.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2RHS*FV38B	2	31B J-9	B ACTIVE	14.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2RHS*FV38C	2	31B H-7	B ACTIVE	14.00 GLV	MOA	C / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*HCV131	1	31A H-11	B PASSIVE	20.00 GTV	MAA	LO / O / AI	PI-T		PI-T	
2RHS*HCV53A	1	31A G-5	B PASSIVE	12.00 GTV	MAA	LO / O / AI	PI-T		PI-T	
2RHS*HCV53B	1	31A I-6	B PASSIVE	12.00 GTV	MAA	LO / O / AI	PI-T		PI-T	
2RHS*HCV53C	1	31A I-4	B PASSIVE	12.00 GTV	MAA	LO / O / AI	PI-T		PI-T	
2RHS*HCV54A	1	31A G-9	B PASSIVE	12.00 GTV	MAA	LO / O / AI	PI-T		PI-T	
2RHS*HCV54B	1	31A I-9	B PASSIVE	12.00 GTV	MAA	LO / O / AI	PI-T		PI-T	
2RHS*MOV104	1	31B D-2	A ACTIVE	6.00 GLV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ LK-T	RHS-CSJ-1	FE-CS ST-CS (O&C) PI-T LJ-P7 LK-T	NOTE 2; NOTE 4

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*MOV112	1	31A H–10	A ACTIVE	20.00 GTV	MOA	C / C / AI	FE–Q ST–Q PI–T LJ LK–T	RHS–CSJ–1	FE–CS ST–CS (C) PI–T LJ–P7 LK–T	NOTE 2
2RHS*MOV113	1	31A E–10	A ACTIVE	20.00 GTV	MOA	C / C / AI	FE–Q ST–Q PI–T LJ LK–T	RHS–CSJ–1	FE–CS ST–CS (C) PI–T LJ–P7 LK–T	NOTE 2
2RHS*MOV115	2	31E C–8	B PASSIVE	16.00 GTV	MOA	C / C / AI	PI–T		PI–T	
2RHS*MOV116	3	31E B–9	B PASSIVE	16.00 GTV	MOA	C / C / AI	PI–T		PI–T	
2RHS*MOV12A	2	31D I–6	B PASSIVE	18.00 BFV	MOA	O / O / AI	PI–T		PI–T	
2RHS*MOV12B	2	31E D–7	B PASSIVE	18.00 BFV	MOA	O / O / AI	PI–T		PI–T	
2RHS*MOV142	2	31F I–3	A PASSIVE	3.00 GLV	MOA	C / C / AI	PI–T LK–T		PI–T LK–T	

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*MOV149	2	31F I-3	A PASSIVE	3.00 GLV	MOA	C / C / AI	PI-T LK-T		PI-T LK-T	
2RHS*MOV15A	2	31A B-2	A ACTIVE	16.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2RHS*MOV15B	2	31B F-4	A ACTIVE	16.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2RHS*MOV1A	2	31C F-9	A ACTIVE	24.00 BFV	MOA	O / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	NOTE 3
2RHS*MOV1B	2	31F F-2	A ACTIVE	24.00 BFV	MOA	O / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	NOTE 3

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*MOV1C	2	31G D-10	A ACTIVE	24.00 BFV	MOA	O / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	NOTE 3
2RHS*MOV22A	2	31D G-9	A PASSIVE	8.00 GLV	MOA	C / C / AI	PI-T LK-T		PI-T LK-T	NOTE 2
2RHS*MOV22B	2	31G K-2	A PASSIVE	8.00 GLV	MOA	C / C / AI	PI-T LK-T		PI-T LK-T	NOTE 2
2RHS*MOV23A	2	31D D-9	A PASSIVE	8.00 GLV	MOA	C / C / AI	PI-T LK-T		PI-T LK-T	NOTE 2
2RHS*MOV23B	2	31G J-4	A PASSIVE	8.00 GLV	MOA	C / C / AI	PI-T LK-T		PI-T LK-T	NOTE 2
2RHS*MOV24A	1	31A D-5	A ACTIVE	12.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ LK-T	RHS-CSJ-1	FE-CS ST-CS (O&C) PI-T LJ-P7 LK-T	NOTE 2

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*MOV24B	1	31B D-7	A ACTIVE	12.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ LK-T	RHS-CSJ-1	FE-CS ST-CS (O&C) PI-T LJ-P7 LK-T	NOTE 2
2RHS*MOV24C	1	31B C-5	A ACTIVE	12.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ LK-T	RHS-CSJ-1	FE-CS ST-CS (O&C) PI-T LJ-P7 LK-T	NOTE 2
2RHS*MOV25A	2	31A E-2	A ACTIVE	16.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2RHS*MOV25B	2	31B B-3	A ACTIVE	16.00 GTV	MOA	C / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2RHS*MOV26A	2	31D D-3	A PASSIVE	1.00 GLV	MOA	C / C / AI	LK-T PI-T		LK-T PI-T	NOTE 3

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*MOV26B	2	31E H-5	A PASSIVE	1.00 GLV	MOA	C / C / AI	LK-T PI-T		LK-T PI-T	NOTE 3
2RHS*MOV27A	2	31D D-2	A PASSIVE	1.00 GLV	MOA	C / C / AI	LK-T PI-T		LK-T PI-T	NOTE 3
2RHS*MOV27B	2	31E H-4	A PASSIVE	1.00 GLV	MOA	C / C / AI	LK-T PI-T		LK-T PI-T	NOTE 3
2RHS*MOV2A	2	31F H-9	B ACTIVE	18.00 BFV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2RHS*MOV2B	2	31F G-3	B ACTIVE	18.00 BFV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2RHS*MOV30A	2	31C D-6	A ACTIVE	18.00 BFV	MOA	O / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	
2RHS*MOV30B	2	31C J-7	A ACTIVE	18.00 BFV	MOA	O / OC / AI	FE-Q ST-Q PI-T LJ		FE-Q ST-Q (O&C) PI-T LJ-P7	

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST–FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST–FREQ (DIR)	REMARKS
2RHS*MOV32A	2	31D J–4	B PASSIVE	4.00 GTV	MOA	C / C / AI	PI–T		PI–T	
2RHS*MOV32B	2	31D H–2	B PASSIVE	4.00 GTV	MOA	C / C / AI	PI–T		PI–T	
2RHS*MOV33A	2	31C C–2	A ACTIVE	4.00 GLV	MOA	C / OC / AI	FE–Q ST–Q PI–T LJ		FE–Q ST–Q (O&C) PI–T LJ–P7	
2RHS*MOV33B	2	31C I–3	A ACTIVE	4.00 GLV	MOA	C / OC / AI	FE–Q ST–Q PI–T LJ		FE–Q ST–Q (O&C) PI–T LJ–P7	
2RHS*MOV37A	2	31D H–5	B PASSIVE	4.00 GLV	MOA	C / C / AI	PI–T		PI–T	
2RHS*MOV37B	2	31D G–2	B PASSIVE	4.00 GLV	MOA	C / C / AI	PI–T		PI–T	

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST–FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST–FREQ (DIR)	REMARKS
2RHS*MOV40A	1	31A D–9	A ACTIVE	12.00 GLV	MOA	C / OC / AI	FE–Q ST–Q PI–T LJ LK–T	RHS–CSJ–1	FE–CS ST–CS (O&C) PI–T LJ–P7 LK–T	NOTE 2; NOTE 4
2RHS*MOV40B	1	31B C–10	A ACTIVE	12.00 GLV	MOA	C / OC / AI	FE–Q ST–Q PI–T LJ LK–T	RHS–CSJ–1	FE–CS ST–CS (O&C) PI–T LJ–P7 LK–T	NOTE 2; NOTE 4
2RHS*MOV4A	2	31F E–5	B ACTIVE	6.00 GTV	MOA	O / OC / AI	FE–Q ST–Q PI–T		FE–Q ST–Q (O&C) PI–T	
2RHS*MOV4B	2	31E D–4	B ACTIVE	6.00 GTV	MOA	O / OC / AI	FE–Q ST–Q PI–T		FE–Q ST–Q (O&C) PI–T	
2RHS*MOV4C	2	31B I–9	B ACTIVE	6.00 GTV	MOA	O / OC / AI	FE–Q ST–Q PI–T		FE–Q ST–Q (O&C) PI–T	

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*MOV67A	1	31A F-10	A PASSIVE	2.00 GLV	MOA	C / C / AI	PI-T LJ LK-T		PI-T LJ-P7 LK-T	NOTE 2; NOTE 4
2RHS*MOV67B	1	31A K-10	A PASSIVE	2.00 GLV	MOA	C / C / AI	PI-T LJ LK-T		PI-T LJ-P7 LK-T	NOTE 2; NOTE 4
2RHS*MOV80A	2	31D H-9	A PASSIVE	1.00 GLV	MOA	C / C / AI	PI-T LK-T		PI-T LK-T	NOTE 2
2RHS*MOV80B	2	31G K-3	A PASSIVE	1.00 GLV	MOA	C / C / AI	PI-T LK-T		PI-T LK-T	NOTE 2
2RHS*MOV8A	2	31F B-3	B ACTIVE	18.00 BFV	MOA	O / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2RHS*MOV8B	2	31E B-5	B ACTIVE	18.00 BFV	MOA	O / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2RHS*MOV9A	2	31F M-2	B PASSIVE	18.00 BFV	MOA	O / O / AI	PI-T		PI-T	

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*MOV9B	2	31E C-5	B PASSIVE	18.00 BFV	MOA	O / O / AI	PI-T		PI-T	
2RHS*RV108	2	31D J-2	C ACTIVE	3.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 7
2RHS*RV110	2	31F I-8	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 7
2RHS*RV139	2	31D E-7	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 5
2RHS*RV152	2	31A G-10	AC ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 LJ		VT-P2 LA-P2 RT-P2 LL-P2 LJ-P7	NOTE 5; NOTE 8

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*RV20A	2	31C A-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 7
2RHS*RV20B	2	31B F-10	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 7
2RHS*RV20C	2	31B H-6	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 7
2RHS*RV57A	2	31A C-2	A/C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 LJ		VT-P2 LA-P2 RT-P2 LL-P2 LJ-P7	NOTE 5; NOTE 9

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*RV57B	2	31B F-4	A/C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2 LJ		VT-P2 LA-P2 RT-P2 LL-P2 LJ-P7	NOTE 5; NOTE 9
2RHS*RV61A	2	31D E-7	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 5
2RHS*RV61B	2	31D E-7	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 5
2RHS*RV61C	2	31D E-7	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 5
2RHS*RVV35A	2	31C D-4	C ACTIVE	10.00 VRV	SEA	C / OC / DE	RT-P2 VR-P2 LL-P2		RT-P2 VR-P2 LL-P2	NOTE 6; NOTE 7

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*RVV35B	2	31C I-5	C ACTIVE	10.00 VRV	SEA	C / OC / DE	RT-P2 VR-P2 LL-P2		RT-P2 VR-P2 LL-P2	NOTE 6; NOTE 7
2RHS*RVV36A	2	31C D-4	C ACTIVE	10.00 VRV	SEA	C / OC / DE	RT-P2 VR-P2 LL-P2		RT-P2 VR-P2 LL-P2	NOTE 6; NOTE 7
2RHS*RVV36B	2	31C J-5	C ACTIVE	10.00 VRV	SEA	C / OC / DE	RT-P2 VR-P2 LL-P2		RT-P2 VR-P2 LL-P2	NOTE 6; NOTE 7
2RHS*SOV120	2	31C C-7	B PASSIVE	0.75 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV126	3	31E C-9	B ACTIVE	0.75 GTV	SOA	O / C / C	FE-Q ST-Q FS PI-T		FE-Q ST-Q (C) FS PI-T	
2RHS*SOV35A	2	31D G-7	B PASSIVE	0.75 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV35B	2	31E D-8	B PASSIVE	0.75 GLV	SOA	C / C / C	PI-T		PI-T	

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*SOV36A	2	31D G-6	B PASSIVE	0.75 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV36B	2	31E D-7	B PASSIVE	0.75 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV70A	2	31D E-10	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV70B	2	31E J-5	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV71A	2	31D E-10	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV71B	2	31E J-6	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV72A	2	31D G-9	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV72B	2	31G J-5	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SOV73A	2	31D G-9	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*SOV73B	2	31G J-5	B PASSIVE	1.00 GLV	SOA	C / C / C	PI-T		PI-T	
2RHS*SV34A	2	31D B-2	C ACTIVE	4.00 REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 6
2RHS*SV34B	2	31E I-4	C ACTIVE	4.00 REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 6
2RHS*SV62A	2	31D A-2	C ACTIVE	6.00 REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 6
2RHS*SV62B	2	31E J-3	C ACTIVE	6.00 REV	SEA	C / OC / DE	VT-P2 LA-P2 RT-P2 LL-P2 BD-P2		VT-P2 LA-P2 RT-P2 LL-P2 BD-P2	NOTE 5; NOTE 6

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*V1	2	31F C-5	C ACTIVE	18.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	
2RHS*V143	2	31B C-2	C ACTIVE	6.00 CHV	SEA	C / O / DE	FE-Q (F)	RHS-CSJ-2	FE-CS (F)	
2RHS*V17	2	31G D-3	C ACTIVE	2.00 SCV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH RHS*V18
2RHS*V18	2	31G D-9	C ACTIVE	2.00 CHV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH RHS*V17
2RHS*V192	2	31E J-2	A PASSIVE	0.75 GLV	MAA	LC / C / AI	LJ		LJ-P7	NO POS. IND.
2RHS*V2	2	31E C-4	C ACTIVE	18.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	
2RHS*V3	2	31G B-3	C ACTIVE	18.00 CHV	SEA	C / O / DE	FE-Q (F)		FE-Q (F)	
2RHS*V47	2	31F C-4	C ACTIVE	2.00 SCV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH RHS*V48
2RHS*V48	2	31F D-4	C ACTIVE	2.00 CHV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH RHS*V47

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: RESIDUAL HEAT REMOVAL SYSTEM (RHS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2RHS*V60	2	31G E-2	C ACTIVE	2.00 CHV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH RHS*V61
2RHS*V61	2	31G E-1	C ACTIVE	2.00 SCV	SEA	OC / C / DE	FE-Q (R)	GVRR-1	FE-Q (R)	PAIRED WITH RHS*V60

NOTES FOR RHS VALVE TABLE

SYSTEM : RESIDUAL HEAT REMOVAL (RHS)

NOTE NUMBER :

1: Hookup air for OM–10 (ASME Section XI) testing.

2: Pressure Isolation Valve testing required by Technical Specification 3.4.3.2.d and Technical Specification 4.4.3.2.2.

3: Hydrostatic leak testing required by Technical Specification 4.6.1.2.3.

4: Leak rate testing requirement "LK" is satisfied by correlation of the Appendix J test results. (Ref. SER #93–076)

5: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

1. VT: Visual Examination
2. LA: As–Found Seat–Tightness
3. RT: Valve Set Pressure
4. LL: As-Left Seat–Tightness. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria*.
5. BD: Verification of the Integrity of the Balancing Devices

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

NOTES FOR RHS VALVE TABLE

SYSTEM : RESIDUAL HEAT REMOVAL (RHS)

NOTE NUMBER :

6: ASME Class 2 Vacuum Relief Valves shall be tested in accordance with OM–1, Section 3.3.2.3:
1. VR: the valves shall be actuated to verify open and close capability
2. RT: the valves shall be actuated to verify set pressure
3. LL: As-Left Seat–Tightness. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, "ASME OM IST Relief Valve and Vacuum Relief Valve Acceptance Criteria."

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

7: Type C leakage rate testing not required. (NIP–DES–04, Note (d))

8: May be tested in the reverse direction. (NIP–DES–04, Note (n))

9: Outboard Isolation Valve bonnet pressure relief valves are Type C tested as part of 2RHS*MOV15A, B assembly. (NIP–DES–04, Note (n)).

NINE MILE POINT UNIT 2 IST PROGRAM
COLD SHUTDOWN TEST JUSTIFICATION
RHS-CSJ-1

System	:	RESIDUAL HEAT REMOVAL
Valve(s)	:	2RHS*MOV24A,B,C 2RHS*MOV40A,B 2RHS*MOV104 2RHS*MOV112 2RHS*MOV113
IST Category	:	A
ASME Class	:	1
Function	:	Reactor coolant system pressure isolation valves and RHS system high to low pressure isolations
Quarterly Test Requirements	:	Exercise (FE) and stroke time (ST)
Cold Shutdown Test Justification	:	The MOVs are interlocked to prevent them from opening when the reactor is at a higher pressure than the design of the low pressure RHS piping. During power operation, reactor pressure is greater than the interlock value, and testing is therefore impossible during normal power operations.
Quarterly Partial Stroke Testing	:	Partial stroke exercising is prevented by the same pressure interlock as full stroke exercising.
Cold Shutdown Testing	:	All required testing listed above will be performed. Exercise (FE) and stroke time (ST).

NINE MILE POINT UNIT 2 IST PROGRAM
COLD SHUTDOWN TEST JUSTIFICATION
RHS-CSJ-2

System	:	RESIDUAL HEAT REMOVAL
Valve(s)	:	2RHS*V143
IST Category	:	C
ASME Class	:	1
Function	:	RHR system reactor vessel head spray line check valve
Quarterly Test Requirements	:	FE (F): full–stroke exercise; forward flow operability
Cold Shutdown Test Justification	:	Verifying forward flow operability of this valve would require the flow of water from the RHS to ICS through valve 2RHS*MOV104. Due to an interlock on 2RHS*MOV104, which is not permitted to be defeated by Technical Specifications, testing can be accomplished only at cold shutdown.
Quarterly Partial Stroke Testing	:	Partial stroking would require the same operation conditions as full stroke exercising.
Cold Shutdown Testing	:	Verify forward flow operability.

NINE MILE POINT UNIT 2 IST PROGRAM
REFUELING OUTAGE TEST JUSTIFICATION
RHS–ROJ–1

System	:	RESIDUAL HEAT REMOVAL
Valve(s)	:	2RHS*AOV16A, B, C 2RHS*AOV39A, B
IST Category	:	A/C
ASME Class	:	1
Function	:	RHS injection line containment isolation testable check valve
Quarterly Test Requirements	:	Verify forward flow operability and reverse flow closure
Refueling Outage Test Justification	:	These are testable check valves capable of being operated either by system flow or by the installed air test operators. The use of system flow to operate the valves during power operation would require injecting cold water from the suppression pool into the reactor vessel. The cold water injection at power would produce reactivity effects that could cause a plant trip. Thermal shock could reduce expected component life. Since the RHS system is depressurized during normal operation, a differential pressure approximately equal to reactor pressure exists across the testable check valves. The air test operator is only capable of exercising the valve with nearly zero pressure differential.
Quarterly Partial Stroke Testing	:	Partial stroking requires the same conditions as full stroke testing.
Cold Shutdown Testing	:	These valves cannot be reverse tested except when the primary containment is de–inerted, since a drywell entry must be made to open the air isolation valves for the air operators.
Refueling Outage Testing	:	Forward flow operability and reverse flow closure will be verified using the air test operators when the differential pressure across the valve is zero. This testing will be performed at each refueling outages.

SYSTEM: SERVICE AIR SYSTEM (SAS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SAS*HCV160	2	19J H-6	A PASSIVE	2.00 GLV	MAA	LC / C / AI	LJ PI-T		LJ-P7 PI-T	
2SAS*HCV161	2	19J H-4	A PASSIVE	2.00 GLV	MAA	LC / C / AI	LJ PI-T		LJ-P7 PI-T	
2SAS*HCV162	2	19J I-6	A PASSIVE	2.00 GLV	MAA	LC / C / AI	LJ PI-T		LJ-P7 PI-T	
2SAS*HCV163	2	19J I-4	A PASSIVE	2.00 GLV	MAA	LC / C / AI	LJ PI-T		LJ-P7 PI-T	

NOTES FOR SAS VALVE TABLE

SYSTEM : SERVICE AIR (SAS)

NOTE NUMBER None

SYSTEM: SPENT FUEL POOL COOLING (SFC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SFC*AOV153	3	38A I-10	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*AOV154	3	38A J-10	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*AOV19A	3	38C D-7	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*AOV19B	3	38C D-6	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*AOV33A	3	38B J-9	B PASSIVE	8.00 BFV	AOA	C / C / C	PI-T		PI-T	
2SFC*AOV33B	3	38A I-2	B PASSIVE	8.00 BFV	AOA	C / C / C	PI-T		PI-T	

SYSTEM: SPENT FUEL POOL COOLING (SFC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SFC*HV114	3	38C E-10	B PASSIVE	2.50 BFV	AOA	O / OC / C	PI-T		PI-T	NOTE 1
2SFC*HV115	3	38A E-3	B PASSIVE	4.00 BFV	AOA	C / C / C	PI-T		PI-T	
2SFC*HV116	3	38A D-4	B PASSIVE	4.00 BFV	AOA	C / C / C	PI-T		PI-T	
2SFC*HV121	3	38A B-4	B PASSIVE	4.00 BFV	AOA	C / C / C	PI-T		PI-T	
2SFC*HV148	3	38C E-10	B PASSIVE	2.50 BFV	AOA	O / C / C	PI-T		PI-T	NOTE 1
2SFC*HV149	3	38C D-10	B PASSIVE	2.50 BFV	AOA	O / C / C	PI-T		PI-T	NOTE 1
2SFC*HV17A	3	38B J-3	B ACTIVE	8.00 BFV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	

SYSTEM: SPENT FUEL POOL COOLING (SFC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SFC*HV17B	3	38A J-10	B ACTIVE	8.00 BFV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SFC*HV18A	3	38B J-4	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*HV18B	3	38A H-10	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*HV35A	3	38B E-8	B PASSIVE	10.00 BFV	AOA	O / O / O	PI-T		PI-T	
2SFC*HV35B	3	38A F-2	B PASSIVE	10.00 BFV	AOA	O / O / O	PI-T		PI-T	
2SFC*HV37A	3	38C B-3	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	

SYSTEM: SPENT FUEL POOL COOLING (SFC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SFC*HV37B	3	38C C-3	B ACTIVE	8.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*HV54A	3	38B H-10	B PASSIVE	10.00 BFV	AOA	O / O / O	PI-T		PI-T	
2SFC*HV54B	3	38A H-4	B PASSIVE	10.00 BFV	AOA	O / O / O	PI-T		PI-T	
2SFC*HV6A	3	38B J-10	B ACTIVE	10.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*HV6B	3	38A J-5	B ACTIVE	10.00 BFV	AOA	O / C / C	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (C) FS-Q PI-T	
2SFC*V11	3	38B C-10	C ACTIVE	8.00 CHV	SEA	OC / O / DE	FE-Q (F)		FE-Q (F)	
2SFC*V203	3	38C F-7	A PASSIVE	1.50 GLV	MAA	C / C / DE	LJ		LJ-P7	

SYSTEM: SPENT FUEL POOL COOLING (SFC)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SFC*V204	3	38C F-8	A PASSIVE	1.50 GLV	MAA	C / C / DE	LJ		LJ-P7	
2SFC*V20A	3	38B G-3	C ACTIVE	8.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SFC*V20B	3	38A F-10	C ACTIVE	8.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SFC*V9	3	38A D-1	C ACTIVE	8.00 CHV	SEA	OC / O / DE	FE-Q (F)		FE-Q (F)	

NOTES FOR SFC VALVE TABLE

SYSTEM	:	SPENT FUEL POOL COOLING (SFC)
NOTE NUMBER	1:	Passive Valve; not required to change position to provide a safety function. See IST Bases for SFC.

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: STANDBY LIQUID CONTROL SYSTEM (SLS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SLS*HCV111	2	36A F-2	B PASSIVE	3.00 GTV	MAA	LC / C / DE	PI-T		PI-T	
2SLS*HCV114	1	36A K-1	B PASSIVE	2.00 GLV	MAA	LO / O / DE	PI-T		PI-T	
2SLS*HCV116	2	36A I-3	B PASSIVE	0.75 GLV	MAA	LC / C / DE	PI-T		PI-T	
2SLS*MOV1A	2	36A E-5	B ACTIVE	3.00 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SLS*MOV1B	2	36A E-9	B ACTIVE	3.00 GLV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SLS*MOV5A	1	36A K-3	A/C ACTIVE	2.00 SCV	MOA	OC / OC / DE	FE-Q FE-Q (F) ST-Q PI-T LJ	SLS-ROJ-1	FE-Q FE-RO (F) ST-Q (C) PI-T LJ-P7	NOTE 1

SYSTEM: STANDBY LIQUID CONTROL SYSTEM (SLS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST–FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST–FREQ (DIR)	REMARKS
2SLS*MOV5B	1	36A J-3	A/C ACTIVE	2.00 SCV	MOA	OC / OC / DE	FE–Q FE–Q (F) ST–Q PI–T LJ	SLS–ROJ–1	FE–Q FE–RO (F) ST–Q (C) PI–T LJ–P7	NOTE 1
2SLS*RV2A	2	36A H-4	C ACTIVE	0.75 REV	SEA	C / O / DE	VT–P2 LA–P2 RT–P2 LL–P2		VT–P2 LA–P2 RT–P2 LL–P2	NOTE 2 NOTE 3
2SLS*RV2B	2	36A H-7	C ACTIVE	0.75 REV	SEA	C / O / DE	VT–P2 LA–P2 RT–P2 LL–P2		VT–P2 LA–P2 RT–P2 LL–P2	NOTE 2 NOTE 3
2SLS*V10	1	36A J-1	A/C ACTIVE	2.00 CHV	SEA	C / OC / DE	FE–Q (F&R) LJ	SLS–CSJ–1 SLS–ROJ–1	FE–CS (R) FE–RO (F) LJ–P7	
2SLS*V12	2	36A H-5	C ACTIVE	1.50 CHV	SEA	C / O / DE	FE–Q (F)		FE–Q (F)	
2SLS*V14	2	36A H-8	C ACTIVE	1.50 CHV	SEA	C / O / DE	FE–Q (F)		FE–Q (F)	

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
TEST REQUIREMENTS AND COMMITMENTS

SYSTEM: STANDBY LIQUID CONTROL SYSTEM (SLS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SLS*VEX3A	2	36A J-5	D	1.50 EXV	EXA	C / O / DE	EX-P4		EX-P4	NOTE 2
2SLS*VEX3B	2	36A J-8	D	1.50 EXV	EXA	C / O / DE	EX-P4		EX-P4	NOTE 2

NOTES FOR SLS VALVE TABLE

SYSTEM : **STANDBY LIQUID CONTROL (SLS)**

NOTE NUMBER

1: Maintaining 2SLS*MOV5A&B with the motor-operated stem in the open position meets the safety function for ATWS SLS automatic injection. This allows the valves to act as simple check valves which are tested for the open safety position per OM–10. The forward flow test is performed during refueling outage during the demineralized water injection test.

Closed position testing to meet the GDC 55/56 criteria after SLS injection is accomplished by inserting the stem to the closed position. The stem is exercised and timed quarterly to the closed position.

2: Tested per Technical Specification Section 4.1.5.d.

3: The following relief valve tests must be performed *in the following order* (ASME OM–1):

- VT: Visual Examination at least once every 10 years per OM–1
- LA: As–Found Seat–Tightness at least once every 10 years per OM–1
- RT: Valve Set Pressure test at least once every 10 years per OM–1
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria.*

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

NINE MILE POINT UNIT 2 IST PROGRAM
COLD SHUTDOWN TEST JUSTIFICATION
SLS-CSJ-1

System	:	Standby Liquid Control
Valve(s)	:	2SLS*V10
IST Category	:	A/C
ASME Class	:	1
Function	:	SLS injection inside containment isolation valve
Quarterly Test Requirements	:	Verify reverse flow operability
Cold Shutdown Test Justification	:	This check valve is located inside the drywell and has full reactor pressure imposed on the seat in the reverse direction during reactor operation. The only method to test this valve quarterly in the reverse direction during reactor operation is by opening the upstream test connection valves 2SLS*V30, *V31 located outside the drywell. However, if the check valve is failed in the open position, opening the test connection valves would result in steam and water at full reactor pressure and temperature (approximately 1000 psig and 500°F) issuing from the test connection. Therefore, opening the test connection valves poses a safety hazard to operations personnel and possible radiation release to the secondary containment. During cold shutdown, testing using the above method is possible because adequate reverse differential pressure (static head) exists with the reactor depressurized and vessel water level in the normal band.
Quarterly Partial Stroke Testing	:	Because this is a check valve, it cannot be partial-stroked in the reverse direction.
Cold Shutdown Testing	:	Reverse flow exercising of this valve will be performed during cold shutdown.

SLS-ROJ-1

System	:	Standby Liquid Control
Valve(s)	:	2SLS*MOV5A,B 2SLS*V10
Category	:	A/C
ASME Class	:	1
Function	:	SLS injection inside and outside containment isolation valves
Quarterly Test Requirement	:	Verify forward flow operability
Refueling Outage Test Justification	:	Verifying forward flow operability during any operational mode requires firing a squib valve and injecting water into the reactor coolant system, using the SLS pumps. Injecting water during normal operation could result in adverse plant conditions, such as changes in reactivity, power transients, thermal shock-induced cracking, and a possible plant trip. Since firing the squib valve destroys the valve internals, it should be minimized. Therefore, forward flow testing of the check valves will be performed at refueling during the SLS injection test required by Technical Specifications. The technical specification testing further reduces the firing of the squib valves by alternating the firing between squib valves 2SLS*VEX3A&B.
Quarterly Partial Stroke Testing		Since the only flow path through these valves is the injection flow path, the explosive valve must be fired each time to send flow through these valves. There is no provision for partial stroke testing.
Cold Shutdown Testing		Firing the explosive valves at every cold shutdown would produce excessive wear on the squib valve internals, and cold shutdown testing is therefore impracticable.
Refueling Outage Testing	:	Forward flow operability will be verified at refueling during the SLS injection test.

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV101	3	1A D-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV102	3	1C D-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV103	3	1D D-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV104	3	1B D-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV105	3	1C F-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV106	3	1D F-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV107	3	1A F-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV108	3	1B E-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV109	3	1C G-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV110	3	1D H-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV111	3	1A G-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV112	3	1B G-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV113	3	1C I-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV114	3	1D J-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV115	3	1A I-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV116	3	1B H-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV117	3	1C J-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV118	3	1B J-5	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV201	3	1A D-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV202	3	1C D-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV203	3	1D D-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV204	3	1B D-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV205	3	1C F-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV206	3	1D F-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV207	3	1A F-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV208	3	1B E-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV209	3	1C G-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV210	3	1D H-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV211	3	1A G-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV212	3	1B G-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV213	3	1C I-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV214	3	1D J-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV215	3	1A I-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV216	3	1B H-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV217	3	1C J-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV218	3	1B J-6	C ACTIVE	10.00 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV301	3	1A D-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV302	3	1C D-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV303	3	1D E-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV304	3	1B D-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV305	3	1C F-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV306	3	1D G-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV307	3	1A F-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV308	3	1B E-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV309	3	1C G-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV310	3	1D I-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV311	3	1A G-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV312	3	1B G-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SVV*RVV313	3	1C I-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV314	3	1D K-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV315	3	1A I-6	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV316	3	1B I-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV317	3	1C J-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1
2SVV*RVV318	3	1B J-5	C ACTIVE	2.50 VRV	SEA	C / O / DE	VR-P2 RT-P2 LL-P2		VR-P2 RT-P2 LL-P2	NOTE 1

NOTES FOR SVV VALVE TABLE

SYSTEM : MAIN STEAM LINE SAFETY RELIEF VALVE VACUUM RELIEF (SVV)

NOTE NUMBER 1: ASME Class 2 and 3 Vacuum Relief Valves shall be tested in accordance with OM–1, Section 3.3.2.3:

- VR: the valves shall be actuated to verify open and close capability.
- RT: the valves shall be actuated to verify set pressure.
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria.*

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*AOV154A	3	11F H-9	B ACTIVE	1.50 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV154B	3	11F D-8	B ACTIVE	1.50 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV20A	3	11C F-4	B ACTIVE	1.50 GTV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV20B	3	11P G-7	B ACTIVE	2.00 GTV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV22A	3	11C H-3	B ACTIVE	1.50 GTV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*AOV22B	3	11P J-10	B ACTIVE	2.00 GTV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV571	3	11F E-4	B ACTIVE	1.50 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV572	3	11P A-5	B ACTIVE	2.50 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV573	3	11F J-9	B ACTIVE	2.00 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV574	3	11F F-9	B ACTIVE	2.00 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*AOV581	3	11F B-9	B ACTIVE	1.50 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV78A	3	11Q E-9	B ACTIVE	2.00 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV78B	3	11Q J-9	B ACTIVE	2.00 PGV	AOA	OC / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV97A	3	11E D-6	B ACTIVE	6.00 PGV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	
2SWP*AOV97B	3	11F I-5	B ACTIVE	6.00 PGV	AOA	C / O / O	FE-Q ST-Q FS-Q PI-T		FE-Q ST-Q (O) FS-Q PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*FV47A	3	11H G-7	B ACTIVE	30.00 BFV	HOA	O / C / C	FE-Q ST-Q FS-Q		FE-Q ST-Q (C) FS-Q	
2SWP*FV47B	3	11H E-7	B ACTIVE	30.00 BFV	HOA	O / C / C	FE-Q ST-Q FS-Q		FE-Q ST-Q (C) FS-Q	
2SWP*FV54A	3	11H G-8	B ACTIVE	30.00 BFV	HOA	O / C / C	FE-Q ST-Q FS-Q		FE-Q ST-Q (C) FS-Q	
2SWP*FV54B	3	11H D-9	B ACTIVE	30.00 BFV	HOA	O / C / C	FE-Q ST-Q FS-Q		FE-Q ST-Q (C) FS-Q	
2SWP*MOV15A	3	11P G-2	B	2.50 GTV	MOA	O / O / AI	PI-T		PI-T	
2SWP*MOV15B	3	11G B-7	B	2.50 GTV	MOA	O / O / AI	PI-T		PI-T	
2SWP*MOV17A	3	11P J-3	B ACTIVE	12.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*MOV17B	3	11G I-8	B ACTIVE	12.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV18A	3	11P J-4	B ACTIVE	12.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV18B	3	11G I-9	B ACTIVE	12.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV19A	3	11D B-3	B ACTIVE	20.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-1	FE-CS ST-CS (C) PI-T	
2SWP*MOV19B	3	11D C-3	B ACTIVE	20.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-1	FE-CS ST-CS (C) PI-T	
2SWP*MOV1A	3	11B E-5	B ACTIVE	4.00 BLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*MOV1B	3	11A J-2	B ACTIVE	4.00 BLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV1C	3	11A J-7	B ACTIVE	4.00 BLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV1D	3	11A F-2	B ACTIVE	4.00 BLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV1E	3	11B K-5	B ACTIVE	4.00 BLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV1F	3	11A F-7	B ACTIVE	4.00 BLV	MOA	C / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV21A	3	11E H-3	B ACTIVE	3.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*MOV21B	3	11F H-2	B ACTIVE	3.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV30A	3	11H D-4	B ACTIVE	72.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2SWP*MOV30B	3	11H D-4	B ACTIVE	72.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2SWP*MOV33A	3	11C K-6	B ACTIVE	18.00 BFV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV33B	3	11P E-10	B ACTIVE	18.00 BFV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV3A	3	11B K-3	B ACTIVE	30.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-1	FE-CS ST-CS (C) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*MOV3B	3	11B K-3	B ACTIVE	30.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-1	FE-CS ST-CS (C) PI-T	
2SWP*MOV50A	3	11A H-6	B ACTIVE	36.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-1	FE-CS ST-CS (C) PI-T	
2SWP*MOV50B	3	11A G-6	B ACTIVE	36.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-1	FE-CS ST-CS (C) PI-T	
2SWP*MOV599	3	11H B-8	B ACTIVE	30.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-3	FE-CS ST-CS (C) PI-T	
2SWP*MOV66A	3	11L B-6	B ACTIVE	8.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV66B	3	11L E-6	B ACTIVE	8.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*MOV67A	3	11J I-2	B ACTIVE	4.00 GTV	MOA	OC / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV67B	3	11J D-2	B ACTIVE	4.00 GTV	MOA	OC / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV74A	3	11B E-3	B ACTIVE	18.00 BFV	MOA	OC / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV74B	3	11A J-2	B ACTIVE	18.00 BFV	MOA	OC / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV74C	3	11A J-7	B ACTIVE	18.00 BFV	MOA	OC / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV74D	3	11A E-2	B ACTIVE	18.00 BFV	MOA	OC / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*MOV74E	3	11B J-4	B ACTIVE	18.00 BFV	MOA	OC / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV74F	3	11A E-7	B ACTIVE	18.00 BFV	MOA	OC / OC / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O&C) PI-T	
2SWP*MOV77A	3	11H D-3	B ACTIVE	54.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV77B	3	11H D-3	B ACTIVE	54.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV90A	3	11C K-4	B ACTIVE	18.00 BFV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV90B	3	11P E-8	B ACTIVE	18.00 BFV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*MOV93A	3	11H J-10	B ACTIVE	24.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-3	FE-CS ST-CS (C) PI-T	
2SWP*MOV93B	3	11J H-10	B ACTIVE	24.00 BFV	MOA	O / C / AI	FE-Q ST-Q PI-T	SWP-CSJ-3	FE-CS ST-CS (C) PI-T	
2SWP*MOV94A	3	11L I-8	B ACTIVE	8.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV94B	3	11L H-7	B ACTIVE	8.00 GTV	MOA	C / O / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (O) PI-T	
2SWP*MOV95A	3	11L C-2	B ACTIVE	8.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	
2SWP*MOV95B	3	11L F-3	B ACTIVE	8.00 GTV	MOA	O / C / AI	FE-Q ST-Q PI-T		FE-Q ST-Q (C) PI-T	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*RV27A	3	11L C-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RV27B	3	11L F-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RV34A	3	11C L-5	C ACTIVE	4.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1
2SWP*RV34B	3	11P E-8	C ACTIVE	4.00 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1
2SWP*RV9A	3	11C C-6	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*RV9B	3	11C C-6	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RVX157A	3	11M C-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RVX157B	3	11M G-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RVX46A	3	11E D-3	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RVX46B	3	11F K-2	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*RVY157A	3	11M B-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RVY157B	3	11M E-5	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RVY46A	3	11E B-3	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*RVY46B	3	11F J-2	C ACTIVE	0.75 REV	SEA	C / O / DE	VT-P2 LA-P2 RT-P2 LL-P2		VT-P2 LA-P2 RT-P2 LL-P2	NOTE 1 NOTE 2
2SWP*V1002A	3	11E H-3	C ACTIVE	3.00 CHV	SEA	C / O / DE	FE-Q (F)	SWP-ROJ-1	PE-Q (F) DI-RO	
2SWP*V1002B	3	11F H-2	C ACTIVE	3.00 CHV	SEA	C / O / DE	FE-Q (F)	SWP-ROJ-1	PE-Q (F) DI-RO	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*V1024	3	11E H-2	C ACTIVE	6.00 CHV	SEA	O / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V1025	3	11F I-1	C ACTIVE	6.00 CHV	SEA	O / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V1027	3	11A B-7	C ACTIVE	30.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)	SWP-CSJ-2	PE-Q (F) FE-CS (F&R)	
2SWP*V1A	3	11B E-8	C ACTIVE	18.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V1B	3	11A J-5	C ACTIVE	18.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V1C	3	11A J-9	C ACTIVE	18.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V1D	3	11A F-4	C ACTIVE	18.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V1E	3	11B J-8	C ACTIVE	18.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V1F	3	11A F-10	C ACTIVE	18.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTUATOR TYPE	POSITION NORM / SAFE / FAIL	ASME XI REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2SWP*V202A	3	11B C-2	C ACTIVE	30.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)	SWP-CSJ-2	PE-Q (F) FE-CS (F&R)	
2SWP*V202B	3	11H C-8	C ACTIVE	30.00 CHV	SEA	O / C / DE	FE-Q (R)		FE-Q (R)	
2SWP*V219A	3	11J I-3	C ACTIVE	4.00 CHV	SEA	OC / O / DE	FE-Q (F)		FE-Q (F)	
2SWP*V219B	3	11J D-3	C ACTIVE	4.00 CHV	SEA	OC / O / DE	FE-Q (F)		FE-Q (F)	
2SWP*V240A	3	11J J-5	C ACTIVE	4.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V240B	3	11J E-5	C ACTIVE	4.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V259	3	11L I-3	C ACTIVE	8.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	
2SWP*V260	3	11L I-3	C ACTIVE	8.00 CHV	SEA	OC / OC / DE	FE-Q (F&R)		FE-Q (F&R)	

SYSTEM : SERVICE WATER (SWP)

NOTE NUMBER 1: The following relief valve tests shall be performed *in the following order* (ASME OM–1):

- VT: Visual Examination per OM–1
- LA: As–Found Seat–Tightness per OM–1
- RT: Valve Set Pressure per OM–1
- LL: As-Left Seat–Tightness per OM–1. Compliance with the Nine Mile Point Unit 2 seat tightness criteria shall be determined, using the applicable criteria in Engineering Specification M2–0004, *ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria.*

Note: When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence.

Test Frequency, Class 2 and 3 Pressure Relief Devices: All valves of each type and manufacture shall be tested within each 10 year IST Program Plan period. A minimum of 20% of the valves shall be tested within any 48 months. This 20% shall be previously untested valves, if they exist. (OM–1, Section 1.3.4.1)

2: Thermal relief valve. This valve is required to open only if the affected piping is isolated for maintenance, not drained, and expands as it warms to ambient temperature, producing an overpressure condition that can be relieved by a small amount of water. Thermal relief valves are not designed or intended to protect an operating system from overpressure. (Safety Classification (Appendix B) Determination No. 91–033)

System	:	SERVICE WATER (SWP)
Valve(s)	:	2SWP*MOV3A,B 2SWP*MOV19A,B 2SWP*MOV50A,B
IST Category	:	B
ASME Class	:	3
Function	:	Safety–related to non–safety–related isolation valves (2SWP*MOV3A, 3B, 19A, 19B); SWP header cross connect valves (2SWP*MOV50A, B)
Quarterly Test Requirements	:	FE–Q: Full–Stroke Exercise ST–Q (C): Stroke time closed
Cold Shutdown Test Justification	:	The closing of 2SWP*MOV19A, B, with the subsequent failure of either valve to reopen, would result in a complete loss of cooling to CCP heat exchangers. This loss of cooling would result in loss of cooling to the reactor recirculation pumps and to the drywell cooling system. The closing of 2SWP*MOV3A, B, with subsequent failure of either valve to reopen, would result in a complete loss of cooling to the CCS heat exchangers which cool the turbine generator. This loss of cooling water would require tripping the turbine generator and a subsequent power transient that could result in a reactor trip. Both CCP and CCS are supplied from the A SWP division. Since they are the largest SWP loads during normal plant operation, a large load imbalance exists between the A and B SWP divisions. To ensure adequate cooling is available to these loads, SWP is operated cross–connected; therefore, the closing of either 2SWP*MOV50A or 50B would result in a significant reduction in cooling water to both CCP and CCS loads and possible runout of the A division pumps.
Quarterly Partial Stroke Testing	:	The operation circuitry of these valves only permits full stroke operation.
Cold Shutdown Testing	:	Exercise and stroke time

System	:	SERVICE WATER (SWP)
Valve(s)	:	2SWP*V202A 2SWP*V1027
IST Category	:	C
ASME Class	:	3
Function	:	Flow isolation to prevent water hammer on pump restart after trip.
Quarterly Test Requirements	:	FE–Q (F): Forward flow exercise FE–Q (R): Reverse flow exercise

Cold Shutdown Test Justification :

Forward Flow

Check valves 2SWP*V202A and 2SWP*V1027 are located off the main service water headers and are not provided with flow indication. Generic Letter 89-04 states the NRC position on acceptable forward flow testing: "A check valve's full-stroke to the open position may be verified by passing the maximum required flow through the valve.... Any flow rate less than this will be considered a partial-stroke exercise." The testing of 2SWP*V202A would require the closing of one of the safety-related to non-safety-related isolation valves (2SWP*MOV3A or 2SWP*MOV3B). The testing of 2SWP*V1027 would require the closing of one of the SWP header cross connect valves (2SWP*MOV50A or 2SWP*MOV50B).

The closing of 2SWP*MOV3A/B, with the subsequent failure of either valve to reopen, would result in a complete loss of cooling to the CCS heat exchangers which cool the turbine generator. This loss of cooling water would require tripping the turbine generator and the subsequent power transient would result in a reactor trip.

Both CCP and CCS are supplied from the A SWP division. Since they are the largest SWP loads during normal plant operation, a large heat load imbalance exists between the A and B SWP divisions. To ensure adequate cooling is available to these loads, SWP is operated cross-connected. Therefore, the closing of either 2SWP*MOV50A or 50B would result in a significant reduction in cooling water to both the CCP and CCS loads and possible runout of the A division pumps.

Reverse Flow

Reverse flow closure of the valves during normal plant operation is accomplished by isolating one SWP safety-related division and tripping all pumps on the isolated division.

In addition to safety-related loads, the A division of SWP supplies the Reactor Building Closed Cooling Water (CCP) and Turbine Building Closed Cooling Water (CCS) Heat Exchangers. Since CCP and CCS are the largest SWP loads during normal plant operation, this creates a significant load imbalance between the A and B SWP divisions. Therefore, the divisions are normally operated cross-connected to ensure adequate cooling is provided.

Isolation of either SWP division during power operation would result in an undesirable transient which could cause a trip of the turbine generator (cooled by CCS) or cause a high drywell (cooled by CCP) pressure condition which would lead to a reactor scram.

Quarterly Partial Stroke Testing : Forward Flow

The partial–flow forward exercising of these valves will be verified by observing the position of the valve's lever arm.

Reverse Flow

Partial stroke testing of these valves is not possible, since the test is for reverse–flow closure of a check valve.

Cold Shutdown Testing : Forward Flow

The full–flow forward exercising of these valves will be verified by diverting the division's flow through the valves and measuring the SWP pump's flow.

Reverse Flow

Reverse flow exercise during cold shutdown

System	:	SERVICE WATER (SWP)
Valve(s)	:	2SWP*MOV93A,B 2SWP*MOV599
IST Category	:	B
ASME Class	:	3
Function	:	These valves isolate Service Water flow in the event of a loss of offsite power to protect the system from water hammer when the pumps restart.
Quarterly Test Requirements	:	FE–Q: exercise and ST–Q (O/C) stroke time
Cold Shutdown Test Justification	:	These valves isolate Service Water flow in the event of a loss of offsite power to protect the system from water hammer when the pumps restart. During normal operation, the valve position is set to provide system flow balance. Exercising these valves would disrupt the flow balance which could lead to a trip of the turbine generator and subsequent reactor scram.
Quarterly Partial Stroke Testing	:	The flow valves, FV47A, B, and FV54A, B, modulate during normal operation. Partial stroke exercising of the SWP*MOV93A, B and SWP*MOV599 results in the same flow and heat load balancing problem as full stroke exercising.
Cold Shutdown Testing	:	All the required quarterly testing listed above will be performed during cold shutdown.

System	:	SERVICE WATER (SWP)
Valve(s)	:	2SWP*V1002A 2SWP*V1002B
IST Category	:	C
ASME Class	:	3
Function	:	SWP Supply to the Spent Fuel Pool
Quarterly Test Requirements	:	FE–Q (F) Forward flow full–stroke exercise
Refueling Outage Test Justification	:	Check valves 2SWP*V1002A and 2SWP*V1002B cannot be tested with current plant configuration. These are 3" check valves that provide emergency makeup (service water) to the spent fuel pool. Maximum makeup flow in this lineup has been determined to be 67 gpm. The only available test path is through a 3/4" drain valve. The flow that can pass through the 3/4" valve is considerably less than 67 gpm. This provides a partial exercise, per Generic Letter 89–04. GL89–04 states the NRC position on acceptable forward flow testing: "A check valve's full–stroke to the open position may be verified by passing the maximum required flow through the valve." Achieving full flow would require the discharge of large quantities of untreated service water into the spent fuel pool, thereby degrading water quality and increasing radwaste.
Quarterly Partial Stroke Testing	:	A partial forward exercising of these valves will be performed quarterly.
Cold Shutdown Testing	:	Since these valves do not have a full–flow–capable path of clean water, cold shutdown does not afford an opportunity for full–stroke exercising these valves.
Refueling Outage Testing	:	Each valve will be disassembled and inspected every refueling outage to verify the operability of the check valves. The scope of this disassembly and inspection, ***including partial–stroke flow testing after reassembly***, will conform to the guidance in Position 2 of GL–89–04. This is consistent with OM–10, Section 4.3.2.4, *Valve Obturator Movement* and with Generic Letter 89–04, Position 2. NRC approval of a relief request is not required. (Generic Letter 89–04; NUREG–1482, Section 1.2)

SYSTEM: REACTOR WATER CLEANUP (WCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2WCS*EFV221	2	37A G-7	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE-RO (R) PI-T	
2WCS*EFV222	2	37A G-5	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE- RO (R) PI-T	
2WCS*EFV223	2	37A H-4	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE- RO (R) PI-T	
2WCS*EFV224	2	37A H-3	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE- RO (R) PI-T	
2WCS*EFV300	2	37A G-6	C ACTIVE	0.75 CHV	SEA	O / C / DE	FE-Q (R) PI-T	GVROJ-1	FE- RO (R) PI-T	
2WCS*MOV102	1	37A F-5	A ACTIVE	8.00 GLV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	WCS-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	NOTE 1
2WCS*MOV112	1	37A G-5	A ACTIVE	8.00 GLV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	WCS-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	NOTE 1

SYSTEM: REACTOR WATER CLEANUP (WCS)

VALVE NO.	ASME CLASS	PID COORD	IST VALVE CAT	SIZE (IN) TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	ASME/ANSI OM REQUIREMENTS TEST-FREQ	RELIEF REQ C.S. JUST. RFO JUST.	IST PROGRAM PLAN COMMITMENT TEST-FREQ (DIR)	REMARKS
2WCS*MOV200	1	37B G-5	A ACTIVE	8.00 GLV	MOA	O / C / AI	FE-Q ST-Q PI-T LJ	WCS-CSJ-1	FE-CS ST-CS (C) PI-T LJ-P7	

NOTES FOR WCS VALVE TABLE

SYSTEM	:	REACTOR WATER CLEANUP (WCS)
NOTE NUMBER	1:	These valves are leak–rate tested per Technical Specification 4.6.1.2.2, *Primary Containment Leakage (Potential Bypass Leakage Paths)*

NINE MILE POINT UNIT 2 IST PROGRAM
COLD SHUTDOWN TEST JUSTIFICATION
WCS-CSJ-1

System	:	REACTOR WATER CLEANUP (WCS)
Valve(s)	:	2WCS*MOV102 2WCS*MOV112 2WCS*MOV200
IST Category	:	A
ASME Class	:	1
Function	:	Reactor Water Cleanup system primary containment isolation valves
Quarterly Test Requirements	:	Exercise (FE–Q) and close stroke time (ST–Q (C))
Cold Shutdown Test Justification	:	Reactor coolant water chemistry control is required during all normal operating modes. Failure to maintain water chemistry control would result in a forced shutdown of the reactor. The WCS System operates on a very delicate heat balance, and stopping flow through the system, even momentarily, would require a lengthy heat up procedure to prevent thermal shocking of system piping and components. In addition, performing of this heat up procedure requires local temperatures to be taken on the WCS piping. Since this piping contains reactor coolant, high personnel exposure rates would result. Finally, 2WCS*MOV102 is located inside the primary containment which is inaccessible during power due to high radiation levels and the inerted atmosphere. Failure of 2WCS*MOV102 in the closed position would result in a complete loss of WCS.
Quarterly Partial Stroke Testing	:	The operating circuitry of these valves only permits full–stroke operation.
Cold Shutdown Testing	:	Exercise (FE) and close stroke time (ST (C)) will be performed at each cold shutdown.

SYSTEM: BREATHING AIR SYSTEM (AAS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN AAS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (CCP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN CCP THAT HAVE AN ACTIVE SAFETY FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2CCP*RV60A	3	13E K-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CCP
2CCP*RV60B	3	13E D-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CCP
2CCP*RV60C	3	13E E-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CCP
2CCP*V143	3	13E D-10	12.00 CHV	SEA	O / DE	SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CCP
2CCP*V148	3	13E H-10	12.00 CHV	SEA	O / DE	SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CCP
2CCP*V161	3	13E G-6	12.00 CHV	SEA	O / DE	SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CCP
2CCP*V277	3	13E J-4	12.00 CHV	SEA	O / DE	SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CCP

SYSTEM: CONTAINMENT ATMOSPHERE MONITORING (CMS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN CMS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2CMS*SOV25A	2	82B G-3	0.75 GTV	SOA	O / O	INTERNALS REMOVED; SEE IST BASES FOR CMS.
2CMS*SOV25B	2	82B E-3	0.75 GTV	SOA	O / O	INTERNALS REMOVED; SEE IST BASES FOR CMS.
2CMS*SOV25C	2	82B J-5	0.75 GTV	SOA	O / O	INTERNALS REMOVED; SEE IST BASES FOR CMS.
2CMS*SOV25D	2	82B E-5	0.75 GTV	SOA	O / O	INTERNALS REMOVED; SEE IST BASES FOR CMS.

SYSTEM: PRIMARY CONTAINMENT PURGE SYSTEM (CPS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY–RELATED ASME CODE–CLASS VALVES IN CPS THAT PROVIDE A SAFETY–RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: HIGH-PRESSURE CORE SPRAY (CSH)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN CSH THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2CSH*V53	2	33A H-9	3.00 CHV	SEA	C / DE	DOES NOT PROVIDE A SAFETY-RELATED FUNCTION. SEE IST BASES FOR CSH.
2CSH*RV160	2	33B G-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CSH
2CSH*HCV116	2	33A E-5	4.00 GTV	MAA	LTH / AI	PASSIVE; NO POSITION INDICATION.
2CSH*V59	2	33B D-9	10.00 CHV	SEA	C / DE	PASSIVE; PROVIDES NO SAFETY-RELATED FUNCTION.
2CSH*HCV133	2	33A G-4	12.00 GLV	MAA	LTH / AI	PASSIVE; NO POSITION INDICATION.

SYSTEM: LOW PRESSURE CORE SPRAY (CSL)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN CSL THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2CSL*HCV115	2	32A D-5	4.00 GTV	MAA	LO / AI	PASSIVE; NO POSITION INDICATION. SEE IST BASES FOR CSL
2CSL*RV134	2	32A E-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR CSL
2CSL*V121	2	32A H-9	20.00 BFV	MAA	LO / AI	PASSIVE; NO POSITION INDICATION. SEE IST BASES FOR CSL

SYSTEM: DRYWELL EQUIPMENT DRAINS (DER)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN DER THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2DER*MOV128	1	67A F-9	2.00 GLV	MOA	C / AI	SR PASSIVE; THIS VALVE DOES NOT HAVE SAFETY-RELATED POWER. SEE IST BASES FOR DER.
2DER*MOV129	1	67A F-9	2.00 GLV	MOA	C / AI	SR PASSIVE; THIS VALVE DOES NOT HAVE SAFETY-RELATED POWER. SEE IST BASES FOR DER.

SYSTEM: REACTOR BUILDING EQUIPMENT AND FLOOR DRAINS (DFR)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN DFR THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2DFR*V114	2	63E G-7	6.00 GTV	MAA	O / DE	SR PASSIVE, PRESSURE BOUNDARY ONLY (APPENDIX B DETERMINATION NO. 87-046). SEE IST BASES FOR DFR

SYSTEM: DIESEL GENERATOR AIR START (EGA)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL /	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN EGA THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2EGA*AOV323A	N	104A K-6	3.00 GLV	AOA	C / O / DE	These 10 valves are non-Code components.
2EGA*AOV323B	N	104A K-5	3.00 GLV	AOA	C / O / DE	They are part of a skid-mounted assembly
2EGA*PCV25A	N	104A F-2	2.50 GLV	AOA	C / O / DE	Although these valves are not subject to IST in accordance with 10 CFR 50.55a, they are nevertheless safety-related valves.
2EGA*PCV25B	N	104A F-8	2.50 GLV	AOA	C / O / DE	They are relied upon to function correctly during a design basis accident.
2EGA*PCV26A	N	104A F-3	2.50 GLV	AOA	C / O / DE	Therefore they are subject to periodic testing, and that testing is performed under Balance of Plant (BOP) Pump and Valve Testing Program Plan.
2EGA*PCV26B	N	104A F-9	2.50 GLV	AOA	C / O / DE	Since these valves are non-Code, they have no Code testing requirements, and they have no provision for remote position indication or individual stroke time testing.
2EGA*PCV115	N	104A J-5	2.00 GTV	AOA	C / O / DE	The functional test for these valves shall be the successful starting of their associated diesel generator.
2EGA*PCV116	N	104A J-6	2.00 GTV	AOA	C / O / DE	The pressure in each air supply header will be monitored during the Div. I (Div. II, Div. III) diesel start to verify individually that each control valve is exercised to the position required to fulfill its safety function.
2EGA*SOV328A	N	104 J-6	0.38 GTV	SOA	C / O / C	In the event of a diesel generator failure to start, the starting air supply valves will be evaluated as potential causes, and appropriate action will be taken.

SYSTEM: DIESEL GENERATOR AIR START (EGA)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL /	JUSTIFICATION FOR EXCLUSION
2EGA*SOV328B	N	104 J-5	0.38 GTV	SOA	C / O / C	Diesel generator operability and testing is governed by Technical Specification 3.8.1.1 and 4.8.1.1.
2EGA*V12A	N	104A F-3	2.50 CHV	SEA	O / OC / DE	These 4 valves are non–Code components. They are part of a skid–mounted assembly. Although these valves are not subject to IST in accordance with 10 CFR 50.55a, they are nevertheless safety–related valves. They are relied upon to function correctly during a design basis accident. Therefore they are subject to periodic testing, and that testing is performed under Balance of Plant (BOP) Pump and Valve Testing Program Plan.
2EGA*V12B	N	104A F-3	2.50 CHV	SEA	O / OC / DE	These valves are installed upside down to improve reliability. This installation is the result of operating experience by the diesel generator supplier. If a system failure produces a reverse ΔP of at least 200 psid across the valve the valve disk will lift and close the valve.
2EGA*V14A	N	104A F-9	2.50 CHV	SEA	O / OC / DE	A catastrophic failure of either air starting header will therefore close the required check valve, and the valve will perform its required safety function.
2EGA*V14B	N	104A F-8	2.50 CHV	SEA	O / OC / DE	Full–stroke testing of these valves would require and result in several unnecessary challenges to the Diesel Generators. All four of these valves will be disassembled and inspected coincident with the diesel generator 5–yr maintenance procedure

SYSTEM: DIESEL GENERATOR AIR START (EGA)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL /	JUSTIFICATION FOR EXCLUSION
2EGA*SV111	4	104A H-6	1.00 REV	SEA	C / O / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR EGA
2EGA*SV112	4	104A H-5	1.00 REV	SEA	C / O / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR EGA

SYSTEM: DIESEL GENERATOR FUEL OIL TRANSFER AND HANDLING (EGF)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN EGF THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2EGF*SV121	3	104F D-7	— REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR EGF
2EGF*SV221	3	104F D-7	— REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR EGF
2EGF*V304	N	104F J-2	— CHV	SEA	C / DE	KEPNER KEP-O-SEAL CHECK VALVE; CHECK PRESSURE 30 PSIG. THIS NON-CODE VALVE IS MOUNTED DIRECTLY ON THE *EG2 ENGINE. IT RELIEVES EXCESS FUEL PUMP PRESSURE BACK TO THE DAY TANK *TK4.
2EGF*V308	N	104F J-2	— CHV	SEA	C / DE	KEPNER KEP-O-SEAL CHECK VALVE; CHECK PRESSURE 1-2 PSIG. THIS NON-CODE VALVE IS MOUNTED DIRECTLY ON THE *EG2 ENGINE. IT MAINTAINS A POSITIVE PRESSURE ON THE FUEL INJECTOR SUCTION HEADER.
2EGF*V103	N	104F D-5	— CHV	SEA	C / DE	
2EGF*V120	N	104F E-4	— CHV	SEA	C / DE	
2EGF*V203	N	104F D-5	— CHV	SEA	C / DE	

SYSTEM: DIESEL GENERATOR FUEL OIL TRANSFER AND HANDLING (EGF)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2EGF*V220	N	104F D-7	— CHV	SEA	C / DE	
2EGF*V309	N	104F J-3	— CHV	SEA	C / DE	KEPNER KEP-O-SEAL CHECK VALVE; CHECK PRESSURE 1-2 PSIG. THIS NON-CODE VALVE IS MOUNTED DIRECTLY ON THE *EG2 ENGINE. IT MAINTAINS A POSITIVE PRESSURE ON THE FUEL INJECTOR SUCTION HEADER.
2EGF*V310	N	104F-1 L-3	— CHV	SEA	DE / DE	THIS NON-CODE CHECK VALVE IS IN THE FUEL FLOW PATH FOR *EG2. IT IS TESTED FUNCTIONALLY WHENEVER THE DIESEL IS STARTED

SYSTEM: FIRE PROTECTION WATER (FPW)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL /	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE CLASS VALVES IN FPW THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: FEEDWATER (FWS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN FWS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: NITROGEN SYSTEM (GSN)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN GSN THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: DBA HYDROGEN RECOMBINER (HCS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN HCS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: CONTROL BUILDING CHILLED WATER (HVK)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN HVK THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2HVK*RV14A	3	53A D-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.
2HVK*RV14B	3	53A D-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.
2HVK*RV35A	3	53A D-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.
2HVK*RV35B	3	53A D-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.
2HVK*RV37A	3	53A D-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.
2HVK*RV37B	3	53A D-10	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.
2HVK*RV43A	3	53A H-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.
2HVK*RV43B	3	53A H-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR HVK.

SYSTEM: CONTROL BUILDING CHILLED WATER (HVK)

2HVK*TV21A	3	53A H-3	4.00 FCV	EHA	OC / DE	SYSTEM CONTROL ONLY; SEE BASES FOR HVK
2HVK*TV21B	3	53A H-8	4.00 FCV	EHA	OC / DE	SYSTEM CONTROL ONLY; SEE BASES FOR HVK
2HVK*TV22A	3	53A E-2	4.00 FCV	EHA	OC / DE	SYSTEM CONTROL ONLY; SEE BASES FOR HVK
2HVK*TV22B	3	53A E-7	4.00 FCV	EHA	OC / DE	SYSTEM CONTROL ONLY; SEE BASES FOR HVK

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN IAS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2IAS*V371	3	19D H-8	1.00 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE ADS COMPRESSOR IS ABANDONED; THE UPSTREAM VALVE IS N.C. IAS-V147 IS LOCKED CLOSED. SEE IST BASES DOCUMENT.
2IAS*V372	3	19D H-4	1.00 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE ADS COMPRESSOR IS ABANDONED; THE UPSTREAM VALVE IS N.C. IAS-V147 IS LOCKED CLOSED. SEE IST BASES DOCUMENT.
2IAS*V411	3	19E C-6	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V416	3	19E D-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V426	3	19E F-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V436	3	19E H-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2IAS*V441	3	19E J-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V456	3	19E C-7	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V461	3	19E E-7	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V466	3	19E G-7	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V476	3	19E J-7	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V521	3	19F D-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V531	3	19F F-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.

SYSTEM: INSTRUMENT AIR (IAS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2IAS*V536	3	19F H-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V541	3	19F J-2	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V551	3	19F B-6	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V556	3	19F D-6	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V561	3	19F F-6	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V566	3	19F H-6	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.
2IAS*V576	3	19F J-6	1.25 CHV	SEA	C / DE	SR PASSIVE FOR PRESSURE BOUNDARY ONLY. THE POWER ACTUATED RELIEF MODE FOR THE ASSOCIATED SRV IS NSR. SEE IST BASES DOCUMENT.

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
EXCLUSIONS AND JUSTIFICATIONS

SYSTEM: RCIC: REACTOR CORE ISOLATION COOLING (ICS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME-CLASS VALVES IN ICS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2ICS*HYV151	N	35B I-8	4.00 GTV	HOA	O / DE	THE RCIC TURBINE GOVERNOR VALVE, 2ICS*HYV151, IS A NON-ASME SKID-MOUNTED SAFETY-RELATED VALVE. ITS TESTING REQUIREMENT IS DOCUMENTED IN THE BOP PROGRAM.
2ICS*MOV150	N	35B I-8	4.00 GTV	MOA	O / AI	THE RCIC TRIP/THROTTLE VALVE, 2ICS*MOV150, IS A NON-ASME SKID-MOUNTED SAFETY-RELATED VALVE. ITS TESTING RE-QUIREMENT IS DOCUMENTED IN THE BOP PROGRAM.
2ICS*V220	2	35A H-10	4.00 CHV	SEA	C / DE	SR PASSIVE ; SEE IST BASES (EXCLUSIONS) FOR THIS VALVE
2ICS*V27	2	35D F-5	6.00 CHV	SEA	OC / DE	SR PASSIVE ; SEE IST BASES (EXCLUSIONS) FOR THIS VALVE
2ICS*V36	2	35B G-8	1.00 CHV	SEA	C / DE	SR PASSIVE ; SEE IST BASES (EXCLUSIONS) FOR THIS VALVE
2ICS*V37	2	35D F-6	4.00 CHV	SEA	O / DE	SR PASSIVE ; SEE IST BASES (EXCLUSIONS) FOR THIS VALVE

SYSTEM: REACTOR VESSEL INSTRUMENTATION (ISC)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / SAFE / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME-CODE VALVES IN ISC THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2ISC*V200A	N	28A K-9	0.38 CHV	SEA	C / C / DE	THE REFERENCE LEG BACKFILL CHECK VALVES OF THE REACTOR VESSEL LEVEL INSTRUMENTATION ARE NON-ASME VALVES.
2ISC*V200B	N	28A K-10	0.38 CHV	SEA	C / C / DE	THIS SYSTEM PERFORMS A SAFETY-RELATED FUNCTION.
2ISC*V200C	N	28A K-11	0.38 CHV	SEA	C / C / DE	THESE VALVES ARE IN THE BOP PROGRAM PLAN AND ARE TESTED TO THEIR SAFETY-RELATED FUNCTION.
2ISC*V200D	N	28A K-9	0.38 CHV	SEA	C / C / DE	PRE-SERVICE AND AS-FOUND WATER LEAKAGE TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFIED ENGINEERING METHODS AND ACCEPTANCE CRITERIA.
2ISC*V204A	N	28A K-9	0.38 CHV	SEA	C / C / DE	A SATISFACTORY LEAKAGE TEST SATISFIES REVERSE FLOW TESTING.
2ISC*V204B	N	28A K-10	0.38 CHV	SEA	C / C / DE	THE WATER LEAKAGE TEST MAY BE PERFORMED ON THE BENCH OR AS INSTALLED IN THE SYSTEM.
2ISC*V204C	N	28A K-11	0.38 CHV	SEA	C / C / DE	THE REVERSE FLOW EXERCISE TEST IS SATISFIED BY THE LEAKAGE TEST PERFORMED AT LEAST EVERY 2 YEARS.
2ISC*V204D	N	28A K-9	0.38 CHV	SEA	C / C / DE	(DESIGN ENGINEERING RECOMMENDATION ESB2-PM004, DATED JANUARY 26, 1995)

SYSTEM: CONTAINMENT LEAKAGE MONITORING (LMS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN LMS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: MAIN STEAM (MSS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN MSS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2MSS*MOV108	1	1A J-4	2.00 GLV	MOA	O / AI	NON-SAFETY-RELATED POWER: 2NHS-MCC012. SAFETY-RELATED PASSIVE; SEE IST PROGRAM PLAN BASES
2MSS*MOV189	1	1E B-2	2.00 GLV	MOA	C / AI	NON-SAFETY-RELATED POWER: 2NHS-MCC012. SAFETY-RELATED PASSIVE; SEE IST PROGRAM PLAN BASES
2MSS*MOV207	1	1E F-4	6.00 GLV	MOA	C / AI	NON-SAFETY-RELATED POWER: 2NHS-MCC012. SAFETY-RELATED PASSIVE; SEE IST PROGRAM PLAN BASES
2MSS*RVV190	1	1A K-7	2.00 REV	SEA	C / —	NORMALLY CLOSED; MUST REMAIN CLOSED. SEE IST PROGRAM PLAN BASES
2MSS*SOV97A	2	1E J-8	0.75 GLV	SOV	C / C	THE FUSES ARE REMOVED. THE SOLENOID HAS BEEN DETERMINED TO BE NSR. THE VALVE IS SR PASSIVE FOR PRESSURE BOUNDARY ONLY. SEE IST PROGRAM PLAN BASES.
2MSS*SOV97B	2	1E J-10	0.75 GLV	SOV	C / C	THE FUSES ARE REMOVED. THE SOLENOID HAS BEEN DETERMINED TO BE NSR. THE VALVE IS SR PASSIVE FOR PRESSURE BOUNDARY ONLY. SEE IST PROGRAM PLAN BASES.
2MSS*SOV97C	2	1E J-4	0.75 GLV	SOV	C / C	THE FUSES ARE REMOVED. THE SOLENOID HAS BEEN DETERMINED TO BE NSR. THE VALVE IS SR PASSIVE FOR PRESSURE BOUNDARY ONLY. SEE IST PROGRAM PLAN BASES.

SYSTEM: MAIN STEAM (MSS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2MSS*SOV97D	2	1E J-6	0.75 GLV	SOV	C / C	THE FUSES ARE REMOVED. THE SOLENOID HAS BEEN DETERMINED TO BE NSR. THE VALVE IS SR PASSIVE FOR PRESSURE BOUNDARY ONLY. SEE IST PROGRAM PLAN BASES.

SYSTEM: NEUTRON MONITORING (NMS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN NMS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: REACTOR RECIRCULATION (RCS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN RCS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2RCS*HYV17A	1	29B J-4	24.00 BLV	HOA	O / AI	THIS VALVE HAS NON-SAFETY-RELATED POWER AND IS SR PASSIVE FOR PRESSURE BOUNDARY. SEE IST PROGRAM PLAN BASES.
2RCS*HYV17B	1	29C J-4	24.00 BLV	HOA	O / AI	THIS VALVE HAS NON-SAFETY-RELATED POWER AND IS SR PASSIVE FOR PRESSURE BOUNDARY. SEE IST PROGRAM PLAN BASES.
2RCS*MOV10A	1	29B F-6	24.00 GTV	MOA	O / AI	THIS VALVE HAS NON-SAFETY-RELATED POWER AND IS SR PASSIVE FOR PRESSURE BOUNDARY. SEE IST PROGRAM PLAN BASES.
2RCS*MOV10B	1	29C F-6	24.00 GTV	MOA	O / AI	THIS VALVE HAS NON-SAFETY-RELATED POWER AND IS SR PASSIVE FOR PRESSURE BOUNDARY. SEE IST PROGRAM PLAN BASES.
2RCS*MOV18A	1	29B J-2	24.00 GTV	MOA	O / AI	THIS VALVE HAS NON-SAFETY-RELATED POWER AND IS SR PASSIVE FOR PRESSURE BOUNDARY. SEE IST PROGRAM PLAN BASES.
2RCS*MOV18B	1	29C J-2	24.00 GTV	MOA	O / AI	THIS VALVE HAS NON-SAFETY-RELATED POWER AND IS SR PASSIVE FOR PRESSURE BOUNDARY. SEE IST PROGRAM PLAN BASES.

SYSTEM: CONTROL ROD DRIVE HYDRAULICS (RDS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME-CODE CLASS VALVES IN RDS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2RDS*AOV126 (XXXX)	N	30B D-8	0.50 GTV	AOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*AOV127 (XXXX)	N	30B B-9	0.75 GTV	AOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*PSE132 (XXXX)	N	30B E-10	RD	SEA	C / DE	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV120 (XXXX)	N	30B C-10	0.50 SOV	SOA	C / C	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV121 (XXXX)	N	30B B-10	0.50 SOV	SOA	C / C	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV122 (XXXX)	N	30B B-9	0.50 SOV	SOA	C / C	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV123 (XXXX)	N	30B C-10	0.50 SOV	SOA	C / C	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV137	N	30C H-2	0.50 SOV	SOA	O / V	NON-ASME CODE COMPONENT. SEE IST BASES.

SYSTEM: CONTROL ROD DRIVE HYDRAULICS (RDS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2RDS*SOV138	N	30C H-2	0.50 SOV	SOA	O / V	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV139 (XXXX)	N	30B A-8	0.50 SOV	SOA	O / V	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV154	N	30C C-4	0.50 SOV	SOA	O / V	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV155	N	30C C-2	0.50 SOV	SOA	O / V	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV156	N	30C J-7	0.50 SOV	SOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV157	N	30C J-8	0.50 SOV	SOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV158	N	30C K-8	0.50 SOV	SOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV159	N	30C K-7	0.50 SOV	SOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV160	N	30C A-5	0.50 SOV	SOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.

SYSTEM: CONTROL ROD DRIVE HYDRAULICS (RDS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2RDS*SOV161	N	30C A-3	0.50 SOV	SOA	C / O	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV162	N	30C E-2	0.50 SOV	SOA	O / V	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*SOV163	N	30C G-2	0.50 SOV	SOA	O / V	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*V1 (XXXX)	2	30B F-6	0.75 NDV	MAA	Th / —	MANUAL NEEDLE VALVE; SEE IST BASES
2RDS*V114 (XXXX)	N	30B B-9	0.50 CHV	SEA	— / —	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*V115 (XXXX)	N	30B D-7	0.50 CHV	SEA	— / —	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*V137 (XXXX)	N	30B B-7	0.50 CHV	SEA	— / —	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*V138 (XXXX)	N	30B C-7	0.50 CHV	SEA	— / —	NON-ASME CODE COMPONENT. SEE IST BASES.
2RDS*V83 (XXXX)	2	30B F-7	0.75 NDV	MAA	TH / —	MANUAL NEEDLE VALVE; SEE IST BASES

SYSTEM: RESIDUAL HEAT REMOVAL (RHS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN RHS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2RHS*LV17A	2	31D G-5	4.00 GTV	AOA	C / C	SR PASSIVE. SEE IST BASES FOR RHS.
2RHS*LV17B	2	31D D-6	4.00 GTV	AOA	C / C	SR PASSIVE. SEE IST BASES FOR RHS.
2RHS*PV21A	2	31D E-9	8.00 GTV	AOA	C / O	SR PASSIVE. SEE IST BASES FOR RHS.
2RHS*PV21B	2	31G J-3	8.00 GTV	AOA	C / O	SR PASSIVE. SEE IST BASES FOR RHS.
2RHS*RV117	2	31G E-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR RHS
2RHS*RV42A	2	31D E-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR RHS
2RHS*RV42B	2	31E I-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR RHS
2RHS*RV56A	2	31D E-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR RHS

SYSTEM: RESIDUAL HEAT REMOVAL (RHS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2RHS*RV56B	2	31D E-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR RHS
2RHS*SOV121	2	31C C-7	0.75 GLV	SOA	C / C	SR PASSIVE. SEE IST BASES FOR RHS.
2RHS*V117	2	31E J-2	0.75 CHV	SEA	C / DE	CONTAINMENT ISOLATION VALVE, BUT APPENDIX J TESTING NOT REQUIRED. SEE IST BASES FOR RHS.
2RHS*V118	2	31E I-2	0.75 CHV	SEA	C / DE	CONTAINMENT ISOLATION VALVE, BUT APPENDIX J TESTING NOT REQUIRED. SEE IST BASES FOR RHS.
2RHS*V13	2	31D H-5	4.00 CHV	SEA	DE / DE	SR PASSIVE. SEE IST BASES FOR RHS.
2RHS*V14	2	31D G-2	4.00 CHV	SEA	DE / DE	SR PASSIVE. SEE IST BASES FOR RHS.
2RHS*V19	2	31D B-2	0.75 CHV	SEA	C / DE	CONTAINMENT ISOLATION VALVE, BUT APPENDIX J TESTING NOT REQUIRED. SEE IST BASES FOR RHS.
2RHS*V20	2	31D B-2	0.75 CHV	SEA	C / DE	CONTAINMENT ISOLATION VALVE, BUT APPENDIX J TESTING NOT REQUIRED. SEE IST BASES FOR RHS.
2RHS*V7	2	31C C-6	6.00 CHV	SEA	DE / DE	VALVE INTERNALS REMOVED. SEE IST BASES FOR RHS.

SYSTEM: RESIDUAL HEAT REMOVAL (RHS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2RHS*V8	2	31E E-4	6.00 CHV	SEA	DE / DE	VALVE INTERNALS REMOVED. SEE IST BASES FOR RHS.
2RHS*V9	2	31B H-9	6.00 CHV	SEA	DE / DE	VALVE INTERNALS REMOVED. SEE IST BASES FOR RHS.

SYSTEM: SERVICE AIR SYSTEM (SAS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN SAS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: SPENT FUEL POOL COOLING (SFC)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN SFC THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2SFC*V102A	3	38A H-5	8.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES
2SFC*V102B	3	38B H-9	8.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES
2SFC*V106	3	38A E-4	4.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES
2SFC*V3	3	38B J-7	10.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES
2SFC*V4	3	38B J-7	10.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES
2SFC*V7	3	38A K-8	8.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES

SYSTEM: SPENT FUEL POOL COOLING (SFC)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SFC*V95A	3	38C D-7	8.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES
2SFC*V95B	3	38C D-6	8.00 CHV	SEA	C / DE	SR PASSIVE; PRESSURE BOUNDARY ONLY. SEE IST BASES

SECOND TEN YEAR INTERVAL—VALVES
NINE MILE POINT NUCLEAR POWER STATION—UNIT 2
EXCLUSIONS AND JUSTIFICATIONS

SYSTEM: STANDBY LIQUID CONTROL SYSTEM (SLS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN SLS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: MAIN STEAM LINE SRV VACUUM RELIEF (SVV)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN SVV THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN SWP THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS.
2SWP*EFV34A	3	11H H-10	1.00 EFV	SEA	DE / DE	THIS VALVE BELONGS TO AN ABANDONED INSTRUMENT. SEE IST BASES FOR SWP.
2SWP*EFV34B	3	11H D-9	1.00 EFV	SEA	DE / DE	THIS VALVE BELONGS TO AN ABANDONED INSTRUMENT. SEE IST BASES FOR SWP.
2SWP*MOV38A	3	11M J-8	6.00 GTV	MOA	C / DE	POWER HAS BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*MOV38B	3	11F G-3	6.00 GTV	MOA	C / DE	POWER HAS BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*MOV39A	3	11M J-9	6.00 GTV	MOA	C / DE	POWER HAS BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*MOV39B	3	11F G-4	6.00 GTV	MOA	C / DE	POWER HAS BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*RV10A	3	11C F-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV10B	3	11C F-5	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION.
2SWP*RV11A	3	11F C-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV11B	3	11F B-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV155A	3	11P F-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV155B	3	11G K-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV202A	3	11L B-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV202B	3	11L E-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV203	3	11L I-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV515	3	11F B-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV518	3	11L J-5	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*RV53A	3	11Q B-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV53B	3	11Q H-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV556	3	11L E-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV558	3	11P G-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV564	3	11P B-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV566	3	11F E-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV575	3	11F J-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV576	3	11F F-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV58A	3	11J H-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*RV58B	3	11J D-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV68A	3	11E K-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV68B	3	11G I-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV72A	3	11M J-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV72B	3	11F I-2	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV80A	3	11L B-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV80B	3	11G C-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV80C	3	11P G-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV80D	3	11L C-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*RV80E	3	11G D-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV80F	3	11B H-9	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV81A	3	11P H-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV81B	3	11G D-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV82A	3	11P E-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV82B	3	11P C-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV82C	3	11P C-10	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV82D	3	11G G-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV83A	3	11P L-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*RV83B	3	11P M-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV83C	3	11P J-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV83D	3	11F A-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV83E	3	11G E-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV84A	3	11M L-8	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV84B	3	11P C-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV84C	3	11G G-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV85A	3	11E I-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV85B	3	11F D-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*RV85C	3	11G J-4	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV87A	3	11F I-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV87B	3	11F D-7	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV89A	3	11J G-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV89B	3	11J B-2	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV9A	3	11C C-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RV9B	3	11C C-6	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RVX157A	3	11M C-5	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RVX157B	3	11M G-5	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*RVX46A	3	11E D-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RVX46B	3	11F K-2	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RVY157A	3	11M B-5	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RVY157B	3	11M E-5	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RVY46A	3	11E B-3	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*RVY46B	3	11F J-2	0.75 REV	SEA	C / DE	THERMAL RELIEF VALVE; SAFETY-RELATED PASSIVE FOR SYSTEM BOUNDARY. SEE IST BASES FOR SWP.
2SWP*TV35A	3	11J G-7	4.00 GTV	EHA	OC / O	THIS CONTROL VALVE HAS NO ACTIVE SAFETY FUNCTION OTHER THAN TO MODULATE. SEE IST BASES
2SWP*TV35B	3	11J C-7	4.00 GTV	EHA	OC / O	THIS CONTROL VALVE HAS NO ACTIVE SAFETY FUNCTION OTHER THAN TO MODULATE. SEE IST BASES
2SWP*V1028	3	11H G-7	30.00 CHV	SEA	O / DE	ISOLATED ON LOSS OF ELECTRICAL POWER. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*V1029	3	11H E-7	30.00 CHV	SEA	O / DE	ISOLATED ON LOSS OF ELECTRICAL POWER. SEE IST BASES FOR SWP.
2SWP*V203A	3	11C K-4	0.75 CHV	SEA	C / DE	SR PASSIVE. SEE IST BASES FOR SWP.
2SWP*V203B	3	11P D-8	0.75 CHV	SEA	C / DE	SR PASSIVE. SEE IST BASES FOR SWP.
2SWP*V720A	3	11H K-9	1.00 CHV	SEA	C / DE	SR PASSIVE. SEE IST BASES FOR SWP.
2SWP*V720B	3	11H C-10	1.00 CHV	SEA	C / DE	SR PASSIVE. SEE IST BASES FOR SWP.
2SWP*V75A	3	11L D-7	8.00 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*V75B	3	11L D-7	8.00 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*V76A	3	11L B-7	8.00 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*V76B	3	11L B-7	8.00 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.

SYSTEM: SERVICE WATER (SWP)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
2SWP*V800A	3	11L B-9	1.25 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*V800B	3	11L C-9	1.25 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*V802A	3	11F C-10	3.00 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.
2SWP*V802B	3	11F B-10	3.00 CHV	SEA	O / O	VALVE INTERNALS HAVE BEEN REMOVED. SEE IST BASES FOR SWP.

SYSTEM: REACTOR WATER CLEANUP (WCS)

VALVE NO.	ASME CLASS	P&ID COORD	SIZE & TYPE	ACTU TYPE	POSITION NORM / FAIL	JUSTIFICATION FOR EXCLUSION
						SAFETY-RELATED ASME CODE-CLASS VALVES IN WCS THAT PROVIDE A SAFETY-RELATED FUNCTION ARE IN THE IST PROGRAM. THERE ARE NO EXCEPTIONS. SEVERAL COMPONENTS IN WCS ARE IN ASME CLASS 3 PIPING BUT ARE NOT SAFETY-RELATED. THE WCS IS ISOLATED BY SAFETY-RELATED COMPONENTS DURING AN ACCIDENT.
2WCS*MOV103	1	37A D-6	4.00 GLV	MOA	O / AI	SR PASSIVE; NSR POWER SUPPLY. SEE IST BASES FOR WCS.
2WCS*MOV101	1	37A D-7	4.00 GTV	MOA	O / AI	SR PASSIVE FOR WCS SYSTEM BOUNDARY ONLY. SEE IST BASES FOR WCS.
2WCS*MOV104	1	37A D-3	4.00 GTV	MOA	O / AI	SR PASSIVE FOR WCS SYSTEM BOUNDARY ONLY. SEE IST BASES FOR WCS.
2WCS*MOV105	1	37A E-3	4.00 GTV	MOA	O / AI	SR PASSIVE FOR WCS SYSTEM BOUNDARY ONLY. SEE IST BASES FOR WCS.
2WCS*MOV404A	1	37B E-9	8.00 GLV	MOA	O / AI	SR PASSIVE FOR WCS SYSTEM BOUNDARY ONLY. SEE IST BASES FOR WCS.
2WCS*MOV404B	1	37B E-10	8.00 GLV	MOA	O / AI	SR PASSIVE FOR WCS SYSTEM BOUNDARY ONLY. SEE IST BASES FOR WCS.