Constellation Energy®
Nine Mile Point Nuclear Station

P.O. Box 63
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June 30, 2008

U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Document Control Desk

SUBJECT: Nine Mile Point Nuclear Station
Unit Nos. 1 and 2; Docket Nos. 50-220 and 50-410

Inservice Testing (IST) Program Update and Associated 10 CFR 50.55a Requests for the Next Ten-Year IST Intervals

REFERENCES:

(a) Letter from G. J. Laughlin (NMPNS) to Document Control Desk (NRC), dated June 29, 2007, Notification of Establishment of Concurrent Ten-Year Intervals for the Unit 1 and Unit 2 Inservice Testing Programs

(b) Letter from S. Peterson (NRC) to J. H. Mueller (NMPC), dated December 14, 1999, Request for Relief for the Third 10-Year Interval of the Pump and Valve Inservice Testing Program Plan, Nine Mile Point Nuclear Station, Unit No. 1 (TAC No. MA5957)

(c) Letter from L. Raghavan (NRC) to J. H. Mueller (NMPC), dated October 26, 2001, Nine Mile Point Nuclear Station, Unit No. 1 - Inservice Testing Relief Request PMP-RR-1 (TAC No. MB2168)

(d) Letter from M. Banerjee (NRC) to J. H. Mueller (NMPC), dated April 17, 2001, Nine Mile Point Nuclear Station, Unit No. 2 - Alternative to American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Regarding Inservice Testing of Main Steam Safety/Relief Valves (TAC No. MB0290)

(e) Letter from P. Tam (NRC) to J. H. Mueller (NMPC), dated September 17, 2001, Nine Mile Point Nuclear Station, Unit No. 2 - Authorization of Alternative Regarding Excess Flow Check Valve Testing Frequency (TAC No. MB1491)

Pursuant to 10 CFR 50.55a(f), Nine Mile Point Nuclear Station, LLC (NMPNS) has revised the pump and valve inservice testing (IST) program for Nine Mile Point Unit 1 (for the fourth ten-year IST interval) and Nine Mile Point Unit 2 (for the third ten-year IST interval). These IST intervals both begin on January 1, 2009 (Reference a). A copy of the IST program is included as Attachment 1.

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NRR

Necessary 10 CFR 50.55a requests associated with the IST program update are provided in Attachments 2, 3, and 4 and are summarized below. These requests are submitted under either the provisions of 10 CFR 50.55a(a)(3)(i) as an alternative that provides an acceptable level of quality and safety, or the provisions of 10 CFR 50.55a(a)(3)(ii) because compliance with the code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The applicable 10 CFR 50.55a provision is identified in each 10 CFR 50.55a request.

General Program Requests Applicable to Both Nine Mile Point Units (Attachment 2)

- Requests GA-RR-01, GV-RR-01, and GV-RR-02 are new requests that apply to both units. NMPNS requests that the NRC authorize these requests for the next ten-year IST intervals.

Nine Mile Point Unit 1 (NMP1) Requests (Attachment 3)

- Requests CRD-VR-01 and CTNH2O2-VR-02 are new to the IST program for NMP1. NMPNS requests that the NRC authorize these requests for the NMP1 fourth ten-year IST interval.

- Requests CTNH2O2-VR-01 (formerly GEN-VR-1) and RBCLC-PR-01 (formerly PMP-RR-1) were previously authorized for the NMP1 third ten-year IST interval in References (b) and (c), respectively. NMPNS requests that the NRC re-authorize these requests for the NMP1 fourth ten-year IST interval.

Nine Mile Point Unit 2 (NMP2) Request (Attachment 4)

- Request MSS-VR-01 (formerly GVRR-7) was previously authorized for the remainder of the NMP2 second ten-year IST interval in Reference (d). NMPNS requests that the NRC re-authorize this request for the NMP2 third ten-year IST interval.

NMP2 request GV-RR-08 is also included in the IST program update for completeness. This request was previously authorized in Reference (e) for the duration of the term of the original NMP2 operating license (i.e., until October 31, 2026). Thus, no further NRC action is required for the NMP2 third ten-year IST interval, which ends on December 31, 2018.

NMPNS requests authorization of the 10 CFR 50.55a requests (as noted above) prior to the start of the next NMP1 and NMP2 ten-year IST intervals, which will both begin on January 1, 2009.

This letter does not contain any regulatory commitments. Should you have any questions regarding the information in this submittal, please contact T. F. Syrell, Licensing Director, at (315) 349-5219.

Very truly yours,

Peter Mazzaferro
for
Gary Jay Laughlin
Manager Engineering Services

GJL/DEV

Attachments:

1. Pump & Valve Inservice Testing Program - Unit 1 Fourth 10-Year Interval; Unit 2 Third 10-Year Interval
2. Pump and Valve Inservice Testing Program, General Program 10 CFR 50.55a Requests for the Nine Mile Point Unit 1 Fourth 10-Year Interval and Nine Mile Point Unit 2 Third 10-Year Interval
3. Pump and Valve Inservice Testing Program, 10 CFR 50.55a Requests for the Nine Mile Point Unit 1 Fourth 10-Year Interval
4. Pump and Valve Inservice Testing Program, 10 CFR 50.55a Request for the Nine Mile Point Unit 2 Third 10-Year Interval

cc: S. J. Collins, NRC
R. V. Guzman, NRC
Resident Inspector, NRC

ATTACHMENT 1

PUMP & VALVE INSERVICE TESTING PROGRAM

UNIT 1 FOURTH 10-YEAR INTERVAL

UNIT 2 THIRD 10-YEAR INTERVAL

Nine Mile Point Nuclear Station, LLC
June 30, 2008

Constellation Energy Group

Nine Mile Point
Nuclear Station

P.O. Box 63
Lake Road
Lycoming, NY 13093

PUMP & VALVE INSERVICE TESTING PROGRAM

UNIT 1
FOURTH 10-YEAR INTERVAL

Commercial Service Date:	December 26, 1969
NRC Docket Number:	50-220

UNIT 2
THIRD 10-YEAR INTERVAL

Commercial Service Date:	April 5, 1988
NRC Docket Number:	50-410

Document Number: NMPNS-IST-001
Revision Number: 1
Date: June 30, 2008
Effective date: January 1, 2009

Prepared:	Preparer: F. Phillip Kehoe / Engineering Programs (IST)	Date	6/27/08
Reviewed:	Independent Reviewer: John Raby/ Engineering Programs	Date	6/30/08
Reviewed:	Corporate Engineering Programs: Gregg Joss (IST)	Date	6/30/08
Approved:	Gen. Supervisor Engineering Programs: Michael Conway	Date	6-30-08

LIST OF EFFECTIVE SECTIONS

DESCRIPTION	CHANGE NUMBER	DATE
Section IA – General Program Text	Rev 1	1/1/09
Section IB – Generic Program Relief Requests	Rev 1	1/1/09
Section IC – Unit 1 Relief Requests	Rev 1	1/1/09
Section ID – Unit 2 Relief Requests	Rev 1	1/1/09
Section IIA – UNIT 1 PROGRAM TABLES	Rev 1	1/1/09
Table 1, Unit 1 Pump and Valve (IST) Program P&IDs	Rev 1	1/1/09
Attachment 1 – Pumps	Rev 1	1/109
Attachment 2 – Valves	Rev 1	1/1/09
Section IIB – Unit 1 Cold Shutdown and Refueling Outage Justifications	Rev 1	1/1/09
Section IIIA – UNIT 2 PROGRAM TABLES	Rev 1	1/1/09
Table 2, Unit 2 Pump and Valve (IST) Program P&IDs	Rev 1	1/1/09
Attachment 1 – Pumps	Rev 1	1/1/09
Attachment 2 – Valves	Rev 1	1/1/09
Section IIIB – Unit 2 Cold Shutdown and Refueling Outage Justifications	Rev 1	1/1/09
Section IV – Engineering Judgment Criteria	Rev 1	1/1/09

SUMMARY OF CHANGES

Date Rev #	DESCRIPTION OF CHANGE	REASON FOR CHANGE
1/1/09 Rev 1	Unit 1 and Unit 2 combined 10 year Program Plan update to the requirements of ASME OM CODE - 2004	To comply with the requirements of 10CFR50.55a(f). This update supersedes Rev 0 and all open PCN's prior to 1/1/09.

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I. SECTION IA – GENERAL

1.0 INTRODUCTION

This document outlines the Nine Mile Point Nuclear Station (NMPNS) Unit 1 (NMP1) and Unit 2 (NMP2) IST Programs for the next 10-year interval (fourth for NMP1, third for NMP2) based on the requirements of the American Society of Mechanical Engineers (ASME) Operations and Maintenance (OM) Code, 2004 Edition. (upon approval of Relief Request GA-RR-01) This revision of the NMPNS ASME Inservice Testing (IST) Program will be in effect through the end of the 120-month (10-year) interval unless changed and re-issued for reasons other than the routine update required at the start of the next interval per 10 CFR 50.55a(f). The inspection interval begins on January 1, 2009, and ends on December 31, 2018.

1.1 IST PROGRAM PLAN ORGANIZATION

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

I. Section I presents the general program commitment basis and the conceptual framework used in developing the Program Plan. Also included are generic program and unit specific Relief Requests. (Note Subsection 7.0, paragraph 7.12 contains Valve Program Table notes.)

- IA General Program text
- IB Generic Program Relief Requests
- IC Unit 1 Relief Requests
- ID Unit 2 Relief Requests

II. Section II deals specifically with Unit 1 and includes test tables, cold shutdown justifications and refueling outage justifications.

- IIA Pump & Valve Test Tables
- IIB Cold Shutdown and Refueling Outage Justifications

III. Section III deals specifically with Unit 2 and includes test tables, cold shutdown justifications and refueling outage justifications.

- IIIA Pump & Valve Test Tables
- IIIB Cold Shutdown and Refueling Outage Justifications

In those cases where additional discussion of the test requirements for a component is needed, the notes column of the Test Table contains a note number. A detailed description of each note is included in section 7.12 of the program. Where quarterly testing has been found to be impracticable, a cold shutdown justification (CSJ), a refueling outage justification (ROJ), or a Relief Request (PR or VR) is provided.

Changes to the IST program plan are issued as whole sections, rather than as single replacement pages. Program Change Notices (PCNs) shall be initiated, prepared, approved, and controlled in accordance with NIP-IIT-01. When a new revision to the IST program is issued, the PCN numbers will be removed, and the program plan will be issued as a "clean" document.

2.0 ASME CODE

For Nine Mile Point Nuclear Station, the next 120-month interval begins on January 1, 2009. Therefore, the Code Edition of interest is the one endorsed by the NRC in 10CFR50.55a as of January 1, 2008. The Code Edition in effect on January 1, 2008 was the 2001 Edition of ASME Operation and Maintenance (OM) Code including the 2003 Addenda. However, NMPNS has submitted relief request GA-RR-01, requesting to use the 2004 Edition of the OM Code.

2.1 OM CODE CASE ACCEPTABILITY

Regulatory Guide 1.192 identifies the Code Cases that have been determined by the NRC to be acceptable alternatives to applicable parts of the OM Code.

Appendix A lists the OM Code edition or addenda for each Code Case, with the date of approval by the ASME Board on Nuclear Codes and Standards. Table 1, "Acceptable OM Code Cases," lists the Code Cases that are acceptable to the NRC for implementation in the IST of light-water cooled nuclear power plants. Table 2, "Conditionally Acceptable OM Code Cases," lists the Code Cases that are acceptable provided they are used with the identified limitations or modifications, i.e., the Code Case is generally acceptable but the NRC has determined that the alternative requirements must be supplemented in order to provide an acceptable level of quality and safety.

2.1.1 Code Case OMN-1

ASME OM Code Case OMN-1,"Alternative Rules for Preservice and Inservice Testing of Certain Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants," allows the use of MOV diagnostic testing as an alternative to stroke time testing and position indication verification for certain motor operated valves. Use of this Code Case is authorized by Regulatory Guide 1.192,"Operation and Maintenance Code Case Acceptability, ASME OM Code." The Regulatory Guide is incorporated by reference in the Code of Federal Regulations 10CFR50.55a(b). The Code Case is listed in Table 2 of this Regulatory Guide as a conditionally approved Code Case. A conditionally approved Code Case may be used without request to the NRC provided it is used with any identified limitations or modifications. The stipulations listed in Table 2 include the following:

(1) The adequacy of the diagnostic test interval for each motor-operated valve (MOV) must be evaluated and adjusted as necessary but not later than 5 years or three refueling outages (which ever is longer) from initial implementation of OMN-1.
(2) When extending exercise test intervals for high risk MOVs beyond a quarterly frequency, ensure that the potential increase of Core Damage Frequency (CDF) and risk associated with the extension is small and consistent with the intent of the Commissions Safety Goal Policy Statement.
(3) When applying risk insights, MOVs must be categorized according to their safety significance using the methodology described in Code Case OMN-3 or use other MOV risk ranking methodologies accepted by the NRC on a plant specific or industry-wide basis.

This Code Case will be used, (upon approval of Relief Request GV-RR-01), with the associated stipulations, as an alternative to the motor-operated valve testing required by the OM Code in Subsection ISTC. The valve tables will be annotated with "OMN1" in the "Frequency" column as appropriate.

2.1.2 Code Case OMN-8

ASME OM Code Case OMN-8, "Alternative Rules for Preservice and Inservice Testing of Power-Operated Valves That Are Used for System Control and Have a Safety Function per OM-10," provides an alternative to stroke time testing of system control valves whose only safety function is to "fail-safe" to either the open or closed position. The Code Case requires that any abnormality or erratic action experienced during valve exercising be recorded in the record of tests, and an evaluation made regarding the need for corrective action.

This Code Case will be used, (upon approval of Relief Request GV-RR-02) for certain control valves. Power-operated control valves for which this Code Case is utilized as an alternative to stroke-timing, will be annotated in the Program tables "Remarks" column as appropriate to explain the lack of stroke-time test requirement.

3.0 GENERIC LETTER 89-04 AND NUREG-1482

Generic Letter 89-04 provided mandatory guidance for several areas of IST Program Plan scoping and content that the NRC staff had determined to be an industry generic weakness. Subsequent to the Generic Letter, NUREG-1482 was issued and the Generic Letter was included as an appendix in the NUREG. The NUREG expands on the guidance provided by the Generic Letter. To keep the guidance in the NUREG current, the NRC issued Revision 1 in January 2005. Revision 1 incorporates regulatory changes up to and including the 2004 Edition of Title 10, Part 50, of the Code of Federal Regulations. The "code of record" for this revision of the NUREG is the ASME OM Code, 1998 Edition through the 2000 Addenda.

Revision 0 of NUREG-1482 is still valid and is to be used by plants that have not updated their inservice testing programs to the ASME OM Code, 1995 Edition with 1996 Addenda, or later edition of the Code.

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.

This IST Program Plan is based on the recommendations of NUREG 1482, Revision 1. This Program Plan describes the testing requirements and NMPNS Unit 1 & 2 commitments for testing those ASME Code Class 1, 2, and 3 components that meet the criteria for inclusion in the IST Program.

4.0 GENERIC REFERENCE DOCUMENTS

This Program Plan was developed per the requirements and guidance provided by the following documents:

- Title 10, Code of Federal Regulations, Part 50.55a(f), Inservice Testing Requirements
- Regulatory Guide 1.192, "Operations and Maintenance Code Case Acceptability, ASME OM Code"
- NUREG-0800, Standard Review Plan Section 3.9.6, "Inservice Testing of Pumps and Valves"
- NUREG 1482, Revision 1, "Guidelines for Inservice Testing at Nuclear Power Plants"
- NUREG/CR-6396, Examples, Clarifications, and Guidance on Preparing Requests for Relief from Pump and Valve Inservice Testing Requirements
- Summary of Public Workshops Held in NRC Regions on Inspection Procedure 73756, "Inservice Testing of Pumps and Valves and Answers to Panel Questions on Inservice Testing Issues," dated 7/18/97
- NRC Regulatory Guide 1.26, "Quality Group Classification and Standards for Water-, Steam, and Radioactive-Waste-Containing Components of Nuclear Power Plants", dated March 23, 1972
- ASME OM Code-2004, "Code for Operation and Maintenance of Nuclear Power Plants"
- NIP-IIT-01, ASME Section XI Programs

- GAP-PSH-02, Preventive Maintenance and Surveillance Test Database
- GAP-SAT-02, Pre/Post Maintenance Test Requirements
- NEP-ECA-01, Engineering Supporting Analysis
- DER 2-98-0298, Failure to Evaluate Relief Requests
- NIP-IIT-02, ASME Section XI Repair and Replacement Activities.
- NDD-IIT, Inservice Inspection and Testing

5.0 THE PROGRAM

This document is the Pump and Valve Inservice Testing Program Plan for Nine Mile Point Nuclear Station Unit 1 (NMP1) and Unit 2 (NMP2) in compliance with the requirements of 10CFR50.55a(f) and Station Technical Specifications. This Program Plan was prepared in accordance with the rules of the ASME Operation and Maintenance (OM) Code-2004. Appendix I is used for safety and relief valves; Section ISTB for pump testing; and ISTC for most valve testing along with Appendix II for check valves and Code Case OMN-1 for motor operated valve testing.

Nine Mile Point Unit 1 components were generally designed and built to ANSI B31.1-1955 with portions of some systems to ASME I-1962 and/or ASME III-1965. In accordance with ASME OM Code, ISTA-1320, some systems are ASME classified as an optional upgrade. The upgrade directs that the repair, replacement, and maintenance activities will be performed to ASME rules. It does not require the owner to conduct periodic inservice, functional, or hydrostatic testing. For optionally upgraded systems, ISTA-1320 states that the application of the rules (ASME Code) is at the option of the owner and not a requirement.

5.1 COMMERCIAL OPERATION DATE AND IST INTERVALS

Effective November 7, 2001 Niagara Mohawk Power Corporation (NMPC) transferred ownership of the Nine Mile Point Nuclear Station, LLC to Constellation Nuclear, the owner of record.

5.1.1 Niagara Mohawk Power Corporation was issued the Construction Permit for Nine Mile Point Unit 1 (NMP1) on April 12, 1965. The first Ten Year Inservice Inspection (ISI) interval began on December 26, 1974 and was scheduled to end on December 25, 1984. The interval was extended due to a maintenance outage, and actually ended on June 26, 1986. The first ten-year IST interval, which began in December 1979, was scheduled to conclude in December 1989. NMPC voluntarily changed the IST interval schedule to make the IST interval coincide with the ISI interval. The second IST ten year interval began on June 27, 1986 and was scheduled to end on June 26, 1996. The second ten-year interval was extended until December 25, 1998, due to a 30-month maintenance outage. In accordance with ISTA-3120, paragraph (d), the second ten-year interval was extended an additional period, not to exceed 12 months, to conclude on December 25, 1999. Therefore, the third ten-year interval began on December 26, 1999 and was scheduled to conclude on December 25, 2009. However, NMPNS, in accordance with ISTA-3120, paragraph (d), changed the IST interval to establish a concurrent interval with Unit 2. The third ten-year interval is scheduled to end on December 31, 2008.

NMP1 is licensed with a safe shutdown condition of hot shutdown.

5.1.2 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 2 initial ISI and IST Code periods and 10-year intervals began on April 5, 1988. Therefore, the Second IST Ten-Year Interval began on April 5, 1998 and was scheduled to conclude on April 4, 2008. However, NMPNS, in accordance with ISTA-3120, paragraph (d), changed the IST interval to establish a concurrent interval with Unit 1. The second ten-year interval is scheduled to end on December 31, 2008.

NMP2 is licensed with a safe shutdown condition of cold shutdown.

5.2 NMPNS PLANT-SPECIFIC BASIS FOR THE IST PROGRAM SCOPE

5.2.1 Safety Analysis Report (SAR)

The USAR (UFSAR for Unit 1) was used to establish the ASME Code Class for safety-related components. In most cases, the Unit Master Equipment List (MEL) was used for convenience. The MEL was derived from SAR requirements and commitments.

The Nine Mile Point Unit 2 USAR contains two tables of active, safety-related valves. Table 3.9A 12, "Active Valves (BOP)," and Table 3.9B-4, "GE Supplied Active Pumps and Valves," are two of the principal bases for determining whether or not a particular component is relied upon to provide an active safety-related function.

The SAR also contains a table of primary containment isolation valves and penetrations. These tables are another principal basis for identifying Category A valves.

5.2.2 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, a note is referenced in the IST Valve Table. The Note describes the difference and how the Technical Specification meets or exceeds the Code requirement. Table notes are included in section 7.12 of the Program. In all cases, the more restrictive test requirement or acceptance criterion is imposed.

5.2.3 Pumps and Valves Included in the IST Program

The IST Program Plan specifies testing to ISTC requirements for the active and passive ASME Code Class 1, 2, and 3 valves and to ISTB requirements for 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.

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. ISTC 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. The OM Code does not acknowledge the existence of passive Category C valves.

The determination of whether or not a component provides a safety function may come from any combination of the following:

- UFSAR
- SER
- Technical Specifications
- SAR Tables
- Safety Classification (Appendix B) Determinations performed for specific components

5.3 AUGMENTED COMPONENTS

Certain non-ASME class safety-related components are voluntarily included in the IST Program Plan based on their relative importance to nuclear safety. Where possible, the testing requirements of the OM Code are followed. If OM Code testing requirements cannot be met for augmented components, test table notes, listed in the valve tables, are used to describe the owner defined test requirements. Changes made to the testing requirements and notes for the augmented components are at the discretion of the NMP.

Included as augmented are those components in systems which were not included in the March 23, 1972 issue of Safety Guide 26 (Reg. Guide 1.26), but were upgraded to ASME Class voluntarily by the owner. These systems, such as Instrument Air, Nitrogen, Containment Dilution, etc., were originally considered outside the scope of Safety Guide 26 (Reg. Guide 1.26), since the Safety Guide only "describes a quality classification system related to specified industry codes that may be used to determine quality standards that satisfy General Design Criterion 1 for other water- and steam-containing components important to safety of water-cooled nuclear power plants."

The following Unit 1 systems contain augmented components:

1. Reactor Vessel Instrumentation
2. Combustible Gas Control
3. Reactor Building Closed Loop Cooling
4. Emergency Service Water
5. Emergency Diesel Generator Cooling Water
6. Emergency Diesel Generator Starting Air
7. Emergency Diesel Generator Fuel Oil
8. Emergency Diesel Generator Lube Oil
9. Instrument Air
10. Condensate Transfer
11. H2O2 Monitoring
12. Emergency Cooling

5.4 SKID-MOUNTED COMPONENTS

Code class systems may include skid-mounted components or component subassemblies. A skid-mounted component is one that is integral to, or that supports operation, of a major component. These components are usually procured as part of a larger component assembly and are often not designed to meet the requirements for components in ASME classes 1, 2, and 3. A component that functionally meets this description may be treated as "skid-mounted" even if it is not located directly on the skid of the major component. Often the "major" component is not subject to 10 CFR 50.55a and inservice testing requirements because only specific components/subcomponents are ASME Code Class 1, 2, or 3. However, the major component is typically subject to other testing requirements. As defined in Subsection ISTA-2000 and specifically addressed in Subsections ISTB-1200(c) and ISTC-1200, skid-mounted components may be excluded from the specific applicable OM testing requirements provided that their operational readiness is verified when the major component is tested and justified by the owner to be adequately tested. In NUREG-1482, Rev. 1, Section 3.4, the NRC Staff has determined that the testing of the major component is an acceptable means for verifying the operational readiness of skid-mounted components and component subassemblies provided this approach is discussed in the IST Program document.

5.5 COMPONENT EXCLUSIONS AND JUSTIFICATIONS

Components that are not tested as part of the IST Program Plan are not required to be listed in the IST Program tables. Certain noteworthy excluded components are listed in the IST Bases Document.

5.6 RELIEF REQUESTS

The relief requests contained in this program plan shall be reviewed for continued applicability as well as potential withdrawal on a periodic basis. [Reference DER 1998-0286]

Relief Requests provide justification for:

1. Tests that are impracticable during operation, cold shutdown, and refueling outages. These are tests that cannot be performed as required because of plant design or as-built configuration. Relief from testing requirements in this case is governed by 10CFR50.55a(f)(5).

2. The use of alternate testing methods when code requirements impose an undue burden or hardship, or where the alternate methods provide equal or greater assurance of pump and valve operational readiness. Although we continue to call these alternatives "relief requests," they are submitted and approved in accordance with 10CFR50.55a(a)(3).

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

Generic 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.

Generic Relief Requests are numbered as follows:

GA-RR-Y, GP-RR-Y or GV-RR-Y where:

GA-RR = General Administrative Relief Request;
GV-RR = General Valve Relief Request;
GP-RR = General Pump Relief Request;
Y = Sequential Number

5.7 CLARIFICATIONS AND TECHNICAL POSITIONS

5.7.1 Program Plan Updates and Implementation of Updates

The following process shall be used to provide for the orderly and timely incorporation of changes to the plant that result in changes to Inservice Testing Program Plan requirements:

- Specific changes to the plant licensing basis and technical specifications shall be incorporated into the IST Program Plan and implementing procedures within the timeframe specified by the Licensing commitment (e.g., within 30 days, 60 days, etc. of NRC approval).

- For design changes/modifications the IST Program and implementing procedures shall be revised following receipt of the operations acceptance package. Typically the implementing procedures are revised as part of the design change package. A PCN number is reserved against the IST Program prior to work completion and subsequently processed when the work is completed. Permanent IST Program and implementing procedure changes shall be incorporated before the components next scheduled test date.

- For other IST Program Plan changes (either by PCN or full revision) the implementing procedures shall be revised consistent with the test interval specified for the affected component such that testing is factored into the 12-week rolling testing cycle and performed within the specified interval. In certain cases for example, where a quarterly test is added to the program and insufficient time exists to properly schedule testing in a near-term work week, then the new test may be re-scheduled for the next appropriate work week (within the specified test interval) in which routine testing will be performed.

5.7.2 Scheduling of Inservice Tests

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.

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

A. Quarterly Testing

Quarterly testing shall be routinely scheduled at intervals not to exceed 92 days. The 25% extension allowed by Technical Specification may be used.

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

pose an unreasonable safety hazard or radiological hazard to personnel;
cause a reactor scram or turbine trip;
produce an unpredictable upset condition or transient
require a deviation from normal operations that results in a significant risk;
require entry into inaccessible station areas;
increase the possibility of an inter–system LOCA.

B. 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. A Cold Shutdown Justification (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.

C. Testing During Cold Shutdowns

The Operations staff is responsible for scheduling, performing and terminating cold shutdown surveillance tests during cold shutdown conditions. As described in NUREG 1482, Revision 1, 3.1.1.1, "IST Cold Shutdown Testing", a "good faith" reasonable effort is expected to accomplish the required tests.

Valve exercising to be performed during cold shutdown shall commence within 48 hours of achieving cold shutdown and shall continue as evidenced by daily surveillance testing until all tests are complete or the plant is ready to return to power.

The Operations staff is responsible for determining when cold shutdown testing shall cease to allow preparation for returning the plant to power operation. The Operations staff is not required to keep the plant in cold shutdown solely to complete cold shutdown testing. Should questions arise, the Code does not require documentation for valves not tested during a cold shutdown, however the Operations staff should be prepared to address scheduling practices and termination criteria.

If a shutdown condition lasts beyond 92 days then all cold shutdown testing shall be completed within the last 92 days of the shutdown. For extended outages, testing need not begin within 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.

D. Refueling Outage Testing

Testing specified at a refueling outage frequency shall be performed at each refueling outage. Since ISTC 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. A Refueling Outage Justification (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 submitted with the IST Program Plan.

E. Leakage Rate Testing

All leakage rate testing performed under the 10CFR50 Appendix J Testing Program shall be performed at the intervals specified in the Appendix J Program Plan. The Industry Guideline For Implementing The Performance-Based Option of 10 CFR 50, Appendix J, NEI 94 01, Section 10.1, specifically allows an extension of up to 25%, "consistent with standard scheduling practices for Technical Specification required surveillances." Leakage rate testing performed in accordance with ISTC-3630, "Leakage Rate Testing for Other Than Containment Isolation Valves," shall be performed at least once every two years. The test abbreviation for this test is "LK," and this test applies to RCPB Pressure Isolation Valves and a few others.

5.8 IST BASES DOCUMENT

NUREG-1482, Revision 1, "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 the NUREG discusses the IST Bases Document.

The purpose of the IST Bases Document is to document the reason that ASME-Code Class safety-related components are 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 specifically excluded in ISTC-1200, "Exemptions," and are not included in the Bases Document. The IST Bases Document does not list every safety-related component used in the plant. The IST basis for an individual component is information taken from the USAR, SER, Technical Specifications, Safety Classification (Appendix B) Determinations, or other design-basis or licensing-basis source, as available.

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.

5.9 UNIT SPECIFIC REFERENCES

Unit 1 References

1. Nine Mile Point Nuclear Station (NMPNS) Unit 1 Updated Final Safety Analysis Report
2 Nine Mile Point Nuclear Station (NMPNS) Unit 1 Technical Specifications
3 NMP1-IST-001, NMP1 Pump and Valve Inservice Testing Program Plan, 3rd Ten-Year Interval
4 Nine Mile Point Station Unit 1 MEL database
5. Nine Mile Point Station Unit 1 ASME Section XI Boundary Diagrams
6. Nine Mile Point Station Unit 1 Piping and Instrumentation Diagrams, Q List
7. NMP1-APPJ-001, 10CFR50 Appendix J Testing Program Plan
8. Internal Correspondence, File Code 54299, K.B. Thomas to P.F. Francisco, dated February 7, 1990: Subject: Instrument Air and Containment Atmosphere Dilution (CAD) Systems
9. Internal Correspondence, File Code (no code), D.J. Wolniak to K.B. Thomas, dated February 21, 1990: Subject: ASME Classification of Instrument Air and Nitrogen Systems
10. Internal Correspondence, File Code (SM-ISI92-0061), M.S. Leonard to D.J. Wolniak, dated March 2, 1992: Subject: ASME Classification of Gas Systems - Unit 1

11. C.V. Mangan to D.B. Vassallo, NRC; first interval extension due to recirculation system piping and safe-end work, September 13, 1983
12. Internal Correspondence, File Code (NMP1-M98-030), W.S. McLeod/T.G. Mogren to Larry Lukens, dated October 20, 1998: Subject: Manual Valves, IST Program Third Ten-Year Interval. Supplemented by DDC's 1M00665 and 1M00902. Also see revised Safety Class Determination 89-083 for additional detail regarding normally open manual boundary valves.
13. NRC Safety Evaluation of Third Ten Year Interval IST Program Relief Requests, Dated December 14, 1999, (TAC No. MA5957)
14. NRC Safety Evaluation of IST Relief Request PMP-RR-1, Revision 1, dated October 26, 2001 (TAC No. MB2168).
15. NRC Correspondence (from Second Ten-Year Program)
    - NRC Letter, TAC 65888, dated March 29, 1988, from R.A. Capra to C.V. Mangan, "Relief Request Transmitted by Letter Dated July 8, 1987 for Nine Mile Point Unit 1"
    - NRC Letter, TAC 60450, dated March 3, 1988, "Nine Mile Point 1 Inservice Testing Program - Summary of September 9 and 10, 1987 Meeting"
    - NRC Letter, TAC 54152, dated May 6, 1988, from R.A. Capra to C.V. Mangan, "Proposed Technical Specifications and Exemption Requests Related to Appendix J"
    - NRC Letter, TAC 68462, dated October 17, 1988, from R.A. Capra to C.V. Mangan, "Schedular Exemption from the Requirements of Appendix J to 10CFR50 for the Emergency Condenser Condensate Return Line Valves"
    - NRC Letter, TAC 54152, dated November 9, 1988, from M.F. Haughey to C.V. Mangan, "Review of the July 28, 1988 Letter on Appendix J Containment Leakage Rates Testing at Nine Mile Point Unit 1"
    - NRC Letter, dated March 10, 1989, "Summary of Meeting with Niagara Mohawk Power Corporation on February 22 and 23, 1989 to Discuss the Pump and Valve Inservice Test Interface Program for Nine Mile Point, Unit 1"
    - NRC Letter, TAC 60450, dated August 10, 1989, "Nine Mile Point Nuclear Station Unit No. 1 Inservice Testing Program"
    - NRC Letter, TAC 76410, dated June 22, 1990, "Interim Relief Request PR-8, Emergency Diesel Generator Cooling Water System Pumps 72-62 and 72-63"
    - NRC Safety Evaluation of Second Ten-Year Interval Inservice Testing Program for Pumps and Valves, NMP1 (TAC No. 60450), dated March 7, 1991
    - NRC Safety Evaluation of NMP1 IST Relief Requests CTS-RR-2 and VG-2 (TAC 79447), dated May 30, 1991
    - NRC Safety Evaluation of NMP1 IST Relief Requests MS-RR-1, CS-RR-1, CTS-RR-2 and EDGCW-RR-1 (TAC Nos. M81833 and M83539), dated September 22, 1992.

Unit 2 References

1. Nine Mile Point Nuclear Station (NMPNS) Unit 2 Updated Safety Analysis Report (USAR)
2. Nine Mile Point Nuclear Station (NMPNS) Unit 2 Technical Specifications
3. Nine Mile Point Unit 2 Safety Evaluation Report, NUREG-1047, including Supplements SSER1 through SSER6
4. Nine Mile Point Unit 2 Master Equipment List (MEL)
5. Nine Mile Point Unit 2 First Ten-Year Interval IST Program Plan, NMP2 IST 001, Rev. 5
6. 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."
7. 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.

8. 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"

9. NMPC Internal Correspondence: Jeff Neyhard to Ali Egap, March 16, 1995; Subject: "OM-10 interpretation regarding NOT testing non-ADS SRVs after being installed in the plant"

10. 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.

5.10 VALVE TABLE CODES

TABLE CODES

VALVE POSITIONS		TEST DIRECTION	
CODE	**DESCRIPTION**	**CODE**	**DESCRIPTION**
O	Open	O	Open
C	Closed	C	Closed
OC	Open or Closed	F	Forward Flow
LO	Locked Open	R	Reverse Flow
LC	Locked Closed		
As-Is	As-Is; Fail Position For Typical MOVs		
NA	Not Applicable; No Fail Position		

TEST TYPE AND DESCRIPTION

CODE	DESCRIPTION	CODE	DESCRIPTION
BE	Bellows test on balanced valves	LW	Leak Test per Appendix J Water seal Requirements
BDT	Bi-Directional test for check valves	PE	Partial Stroke Exercise
DI	Disassembly and inspection per ISTC-5221(c)	PI	Remote Position Indication Test per ISTC-3700
DIAG	Diagnostic test for MOVs tested per Code Case OMN1	RD	Replacement per Appendix 1 (ISTC-5250 rupture disks)
EX	Explosive Valve Tests per ISTC-5260	RT	Valve Set Pressure Test
FE	Full–Stroke Exercise per ISTC-3520	RVTh	Thermal Relief Valve Testing
FS	Fail–Safe Test per ISTC-3560	SKID	Skid Mounted Component
LA	As–Found Tightness Leakage Test	ST	Stroke Time per ISTC
LJ	Leak Test per 10 CFR 50 App. J	VP	Relief Valve Position Indication
LK	Leak Test per ISTC-3630	VR	Exercise Vacuum Relief Valves
LL	As–Left Tightness Leakage Test	VT	Visual Examination

TEST INTERVAL

CODE	DESCRIPTION	CODE	DESCRIPTION
APP J	Interval defined by LLRT Performance Analysis Report	2Y	At least once every 2 years
CMP	Interval defined in Check Valve Condition Monitoring Program (CVCMP) Plan	2Y-S	2 Year Sampling Basis
CS	Cold Shutdown	3Y	At least once every 36 months
M	Monthly	30	At least once every 30 months
OMN1	Interval defined by Code Case OMN1 MOV Program	5Y	At least once every 5-years
Q	Quarterly	5Y-S	5 Year Sampling Basis
R	Refueling	6M	At least once every 6 months
R-S	Refueling on a Sampling Basis	6Y	At least once every 6-years
TS	Per Technical Specifications	10Y	At least once every 10-years
24	At least once every 24 months	10Y-S	10 Year Sampling Basis

6.0 INSERVICE TESTING PROGRAM FOR PUMPS

6.1 Code Compliance

The IST Program for pumps meets the requirements of Subsections ISTA and ISTB of the OM Code and any applicable interpretations or clarifications of existing requirements. Paragraph and table references in this section refer to specific paragraphs and tables in the OM Code. Where these requirements have been determined to be impractical, an alternative test provides an acceptable level of quality and safety, or conformance would cause unreasonable hardship without any compensating increase in safety, relief from Code requirements is/was requested pursuant to the requirements of 10CFR 50.55a(f)(5)(iii), 10CFR50.55a(a)3(i) or 10CFR50.55a(a)3(ii).

6.2 Allowable Ranges of Test Quantities

The allowable ranges for test parameters as specified in the OM Code, Tables ISTB-5121-1, ISTB-5221-1 and ISTB-5321-1 will be used for all measurements of pressure, flow, and vibration except as provided for in specific relief requests.

6.3 Testing Intervals

The test frequency for pumps included in the Program will be as set forth in the OM Code, paragraph ISTB-3400, and related relief requests. An allowable extension, not to exceed +25 percent of the surveillance interval may be applied to a test schedule as allowed by the Nine Mile Point Unit 2 Technical Specifications to provide for operational flexibility.

The frequencies used for scheduling pump tests are defined as:

- Quarterly - 92 days
- Refueling - 730 days
- Cold Shutdown - Per the applicable Relief Request consistent with the cold shutdown testing requirements for valves in the OM Code. When all cold shutdown testing will not be completed, priorities for testing will be established per approved NMPNS procedures.

6.4 Pump Program Tables

Attachment 1 list those pumps included in the IST Program with references to parameters to be measured and applicable requests for relief.

6.5 Relief Requests for Pump Testing

Relief requests are/were submitted per 10CFR50.55a where appropriate and are included in Section I, Attachment 1.

6.6 Instrument Accuracy

Instruments will meet the requirements specified in the OM Code, paragraph ISTB-3500, and amplified in NUREG 1482, Revision 1, Section 5, except where specific relief is granted.

6.7 Pump Design Flow

Comprehensive pump testing is required to be performed with the pump operating within 20% of design flow. The OM Code does not; however, define the term "design" flow. The industry has considered 4 different definitions: 1) the pump manufacturer's design flow for the pump, 2) the pump's best efficiency point (BEP), 3) the system design flow, and 4) the maximum required accident flow rate. The NRC has stated their position as this "design" flow rate must be at least the maximum credited accident flow rate. NMPNS has determined that for the comprehensive pump testing the selected reference flow rate will be at least the maximum credited accident flow rate as stipulated by the NRC.

7.0 INSERVICE TESTING PROGRAM FOR VALVES

7.1 Vacuum Relief Valves (Appendix I)

If a check valve is capacity-certified, then it shall be classified as a vacuum relief device and tested in accordance with OM-1. If a check valve is not capacity-certified, it shall be classified as a check valve and tested in accordance with OM-10. (Reference: Summary of Public Workshops, dated July 18, 1997 - Questions 2.3.15 and 2.4.11)

7.2 Valve Position Indication Verification (ISTC-3700)

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. NMPC internal memorandum dated March 20, 1996; File Code NMP90831 describes a method that has been found to be satisfactory for Target Rock SOVs.

7.3 Category A and B Valves (ISTC-1300)

7.3.1 Classification of Valves:

NUREG-1482, Revision 1, 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 (. . .)"

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

7.3.2 Active Valves

Active valves include manual and power-operated valves that may be required to reposition in response to an automatic or manual signal. These include valves that are routinely tested and valves that are occasionally moved from their required safety-related position during normal plant operation. Valves that receive a containment isolation signal to close and valves that receive an automatic signal to reposition during an ECCS initiation are classified as active and are tested as active valves, unless the design basis or licensing basis provides an exception.

7.3.3 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 IST Basis Document.

7.4 Reference Values

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. Design Engineering provides design "Limiting Values" of full stroke-time. For valves where no specific design limiting value exists, the Engineering Judgment Criteria listed in Figure 2 of Administrative Procedure N1-TDP-IIT-0101, "Establishment of IST Pump and Valve Acceptance Criteria" shall be used.

7.5 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 valves are classified as control systems and excluded per ISTC-1200.

7.6 Stroke-Time Testing of Multiple Valves Operated From A Single Switch

Some power-operated valves are grouped together on a common control switch. Valves tested as a group will be identified in the valve test tables. When individual valve position indication is available for multiple valves stroked from a single switch, and the ability exists to measure stroke time, the time shall be recorded. Such valves shall be stroke timed using sufficient stopwatches and resources to ensure that all valves are timed on the same switch movement. This satisfies the Code requirement for stroke-timing each valve individually, and prevents inadvertent pre-conditioning that could be caused by multiple switch manipulations and multiple valve strokes. This clarification is a commitment in DER 2 2000-2925.

7.7 Containment Isolation Valve Testing - Leak Rate Testing In 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 or ASME Section XI pressure testing requirements.

7.8 Reactor Coolant System Pressure Isolation Valves

Reactor Coolant System Pressure Isolation Valves (PIVs) are Category A valves. ISTC-3630(f), requires that a valve with leakage rates exceeding the value specified by the Owner per ISTC-3630(e) shall be declared inoperable and either repaired or replaced. An ASME Code Interpretation (Interpretation 95-5) states, "It is up to the Owner to define what activities constitute maintenance, replacement, or a repair." These definitions are drawn from existing definitions in ASME Section XI and from NMPNS procedures. Activities undertaken to correct or prevent unsatisfactory or abnormal conditions shall fulfill the requirement for Corrective Action in ISTC-3630(f).

Unit 1 - There are 14 PIVs listed in the Unit 1 Technical Specifications. These valves are sealed with a qualified water seal system and are not subject to Appendix J Type C testing.

Unit 1
Primary Coolant System Pressure Isolation Valves

Valve Number	Valve Type	Qualifies For Reduced Pressure Testing?
CKV-40-03	Check Valve	No
CKV-40-13	Check Valve	No
CKV-40-20	Check Valve	No
CKV-40-21	Check Valve	No
CKV-40-22	Check Valve	No
CKV-40-23	Check Valve	No
CKV-38-165	Check Valve	No
CKV-38-166	Check Valve	No
CKV-38-167	Check Valve	No
CKV-38-168	Check Valve	No
CKV-38-169	Check Valve	No
CKV-38-170	Check Valve	No
CKV-38-171	Check Valve	No
CKV-38-172	Check Valve	No

Unit 2 - There are 27 PIVs listed in the Unit 2 Technical Specifications. Of these 27 PIVs, 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, several are eligible for reduced pressure testing in accordance with ISTC-3630. These valves use a correlation (Safety Evaluation 93 076 and Calculation A10.1-E-116) that permits using the Appendix J air test (LJ) data to satisfy the ASME PIV seat leakage test (LK). The correlation establishes a screening value for valves that are tested with low pressure air. Using the screening value, the correlation establishes that low-pressure air seat leakage below the screening value corresponds to a high-pressure water test that would be below the acceptance criterion for the PIV. Since the Appendix J LLRT may be used to satisfy the Code-required PIV test, and since the Code-required test may also be satisfied by a high-pressure water test, either test may be used to satisfy the requirements of ISTC-3630. An Appendix J LLRT shall be performed when Appendix J testing is required in accordance with the Appendix J program plan. That is, the LLRT may be used to satisfy the requirements of ISTC-3630; however, a high-pressure water test can never be used to satisfy Appendix J testing requirements.

Unit 2
Reactor Coolant System Pressure Isolation Valves

Valve Number	Valve Type	Qualifies For Reduced Pressure Testing?
2CSH*V108	Check	Yes
2CSH*MOV107	Flex-Wedge Gate	No
2CSL*V101	Check	Yes
2CSL*MOV104	Flex-Wedge Gate	No
2ICS*V156	Check	Yes
2ICS*V157	Check	Yes
2RHS*V16A	Check	Yes
2RHS*V16B	Check	Yes
2RHS*V16C	Check	Yes
2RHS*V39A	Check	Yes
2RHS*V39B	Check	Yes
2RHS*MOV104	Globe	Yes
2RHS*MOV112	Flex-Wedge Gate	No
2RHS*MOV113	Flex-Wedge Gate	No
2RHS*MOV22A	Globe	No
2RHS*MOV22B	Globe	No
2RHS*MOV23A	Globe	No
2RHS*MOV23B	Globe	No
2RHS*MOV24A	Flex-Wedge Gate	No
2RHS*MOV24B	Flex-Wedge Gate	No
2RHS*MOV24C	Flex-Wedge Gate	No
2RHS*MOV40A	Globe	Yes
2RHS*MOV40B	Globe	Yes
2RHS*MOV67A	Globe	Yes
2RHS*MOV67B	Globe	Yes
2RHS*MOV80A	Globe	No
2RHS*MOV80B	Globe	No

7.9 Check Valve Testing

7.9.1 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.

7.9.2 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. 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.

7.9.3 Non-Intrusive Check Valve Testing

As discussed in NUREG-1482, Revision 1, Section 4.1.2, the NRC determined that the use of non-intrusive techniques is acceptable to verify the full stroke of a check valve. The licensee may use non-intrusive techniques to verify the capability to open, close, and fully stroke in accord with quality assurance program requirements. These techniques are considered "other positive means" in accordance with paragraph ISTC-5221(a), and relief is not required except as would be necessary for the testing frequency if the test interval extends beyond each refueling outage as allowed by the OM Code.

During the initial test of each valve, non-intrusive techniques will be used to verify that the system pressures and flow conditions specified in the test procedures cause the valves to fully stroke. Initial testing of check valves using non-intrusive techniques shall only be performed when the valve is known to be operating acceptably. During subsequent testing, if the system conditions are repeatable, each valve would typically be stroked and monitored using non-intrusive techniques.

Another alternative that may be employed is radiography. The position of the disk and the general condition of the internals may be determined using the radiographic method. This methodology is normally used for verification of valve closure only.

7.9.4 Check Valves Verified Closed by Leak Testing

The OM Code requires that check valves performing a safety function in the closed position be exercised to that position. Certain of these valves cannot be verified in the closed position quarterly because they do not have remote position indication and are generally located inside reactor containment or at other inaccessible locations. These valves may lack design provisions for system testing to verify closure capability at any plant condition. The only practical means of verifying valve closure may be by performing a seat leakage test. Many of these valves are Category AC valves that are Type C leak-rate tested during each refueling outage as specified in Appendix J to 10 CFR Part 50.

If no other practical means is available, it is acceptable to verify that check valves are capable of closing by performing leak-rate testing, such as local leak rate testing in accordance with Appendix J to 10 CFR Part 50, at each reactor refueling outage. Recognizing that the setup and performance limitations may render leak testing impractical during power operation and cold shutdown outages, the NRC has determined that implementation of an extension of the test frequency for such valves is acceptable in accordance with 10 CFR 50.55a(f).

In accordance with paragraph ISTC-5222, and as discussed in NUREG-1482, Revision 1, Section 4.4.7, as an alternative to check valve closure verification by Type C seat leakage testing at refueling, the Appendix II Check Valve Condition Monitoring Program could justify extending the exercise test interval to the leak test frequencies specified in Option B of Appendix J based on the valve's performance and operating condition.

7.9.5 Check Valve Disassembly and Inspection

When using check valve disassembly in a sampling plan, the IST Program may implement testing such that similar valves in the same service are grouped for testing purposes, not to exceed four valves in a single group (for valve groups of greater than four, the grouping and test schedule must be justified in the description of the testing plan). The sample examination program shall group check valves of similar design, application, and service condition and require a periodic examination of one valve from each group. Grouping of check valves shall be technically justified and shall consider, as a minimum, valve manufacturer, design, service, size, materials of construction, and orientation.

Maintenance and modification history should be considered in the grouping process. The details and bases of the sampling program shall be documented and recorded. (paragraph ISTC-5221(c))

During the disassembly process, the full-stroke motion of the obturator shall be verified. Full-motion of the obturator shall be re-verified immediately prior to completing reassembly. Check valves that have their obturator disturbed before full-stroke motion is verified shall be examined to determine if a condition exists that could prevent full opening or closure of the obturator.

At least one valve from each group shall be disassembled and examined at each refueling outage; all valves in each group shall be disassembled and examined at least once every 6 years (8 years if on a 24 month fuel cycle). If problems are found with the sample valve, that are determined to affect the operational readiness of the valve, all valves in the group must be tested during the same outage.

Before return to service, valves that were disassembled for examination or that received maintenance that could affect their performance; shall be exercised, full or part stroke if practicable, with flow in accordance with paragraph ISTC-3520. Those valves shall also be tested for other applicable requirements (e.g., closure verification or leak rate testing) before returning them to service.

As an alternative to the aforementioned disassembly and inspection frequency, the Appendix II Check Valve Condition Monitoring Program could justify extending the disassembly and inspection interval to reduce the burden of unnecessary IST based on previous disassembly and inspection results.

7.9.6 Check Valve Condition Monitoring

As an alternative to the testing or examination requirements of paragraphs ISTC-3510, ISTC-3520, ISTC-3530, ISTC-3550, and ISTC-5221, NMPNS shall establish a check valve condition monitoring program per paragraph ISTC-5222 and implement the program in accordance with Appendix II "Check Valve Condition Monitoring Program."

The purpose of this program is to both (a) improve check valve performance and to (b) optimize testing, examination, and preventive maintenance activities in order to maintain the continued acceptable performance of a select group of check valves.

Examples of candidates for (a) improved valve performance are check valves that: (1) have an unusually high failure rate during inservice testing or operations; (2) cannot be exercised under normal operating conditions or during shutdown; (3) exhibit unusual, abnormal, or unexpected behavior during exercising or operation, or (4) NMPNS elects to monitor for improved valve performance.

Examples of candidates for (b) optimization of testing, examination, and preventive maintenance activities are check valves with documented acceptable performance that: (1) have had their performance improved under the Condition Monitoring Program; (2) cannot be exercised or are not readily exercised during normal operating conditions or during shutdowns; (3) can only be disassembled and examined, or (4) NMPNS elects to optimize all the associated activities of the valve or valve group in a consolidated program.

If the Appendix II Condition Monitoring Program for a valve or valve group is discontinued then the requirements of paragraphs ISTC-3510, ISTC-3520, ISTC-3530, ISTC-3550, and ISTC-5221 must be implemented.

Valves included in the Check Valve Condition Monitoring Program (CVCMP) will be annotated with "CMP" in the "Frequency" column of the Valve Tables. The Code testing specified in the Tables is replaced by the activities/tests identified in the specific CMP Plan.

7.10 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. The Valve Table Notes list the reference where the increased frequency requirement can be found.

7.11 Manual Valves

Manual valves within the scope of IST that perform an active safety function shall be exercised at least once every 2 years as required by 10 CFR 50.55a(b)(3)(vi).

7.12 Valve Table Notes

7.12.1 Common Notes

CKV Program	This valve is also tested in the Check Valve Program.
AOV Program	This valve is also tested in the AOV Program.

7.12.2 Unit 1 Notes

Note 1	The MEL1 designator(*) is unique for each hydraulic control unit (HCU); only the typical of 129 HCUs is listed.
Note 2	Scram accumulator pressure decay testing performed each refueling outage verifies closure. (Ref. GL 89-04 Position 7)
Note 3	Control rod scram insertion time testing per TS 3.1.1 verifies valve proper operation and operability. (Ref. GL 89-04 position 7)
Note 4	Normal control rod motion verifies the valve moves to the closed position. Each partially or fully withdrawn control rod shall be exercised at least once each week per TS 3.1.1. For control rods that are in the safe position, the valve is not required to be exercised. (Ref. GL 89-04 Position 7)
Note 5	The valve is a primary reactor coolant system pressure isolation valve and is leak tested in accordance with Technical specification 3/4.2.7.1. Leakage testing is performed each time the plant is placed in a cold shutdown condition for 72 hour if testing has not been accomplished in the preceding 9 months.
Note 6	This valve is a containment isolation valve and is part of a qualified water seal system. Performance-based test intervals are permitted under the Appendix J Program through NEI-94-01, Section 6.0, General Requirements.
Note 7	These valves are grouped (IV-201.2-109/110/111/112, IV-201.7-02/03) and (IV-201.7-08/09/10/11) and each group is controlled by one switch.
Note 8	This valve is normally closed and remains closed to ensure the integrity of the qualified water seal system. NMPC water seal safety evaluations 89-013 and 94-063 take credit for the combination of the check valve and the associated FCV to ensure cross-tie leakage is minimal during an accident. The safety evaluations credit quarterly reverse flow exercise testing and exposure to the type A containment test as confirmation that cross-tie leakage remains minimal. The FCV remains category B passive and is also exposed to the containment type A test with the check valve. No local leak rate testing is performed or required for these valves.
Note 9	The monthly start and operability test per Technical Specification 4.6.3.b satisfies the testing requirements of this valve.
Note 10	Refer to DER 1991-1024 for initial identification of testing requirements. As stated in the Unit TS 3.6.3 bases "Two fuel oil storage tanks are provided with piping inter-ties to permit supplying either diesel generator. A two-day supply will provide adequate time to

arrange for fuel makeup if needed. The full capacity of both tanks will hold a four-day supply."

Note 11 EFV testing - Verification of proper valve closure is by an audible indication. When the excess flow check valve closes, a noticeable noise is generated by the hydraulic surge within the piping, followed by an obvious decrease in the flow noise through the line. Visual observation of any flow from the drain piping is not possible since the drain line is hard piped directly to the equipment drain tank.

Note 12 Fail-safe testing of valves IV-01-03/04 is by removing electric power from the solenoids.

Note 13 Preservice and as-found water leakage tests shall be performed in accordance with specified engineering methods and acceptance criteria. A satisfactory leakage test satisfies full-stroke exercising. The leakage test may be performed on the bench or in-situ.

Note 14 The valve is a containment isolation valve that is provided with a qualified seal water system in accordance with 10CFR50 Appendix J for all post-accident conditions. Therefore, this valve does not require an Appendix J Type C air/nitrogen test. The valve is required to be leak tested with water at a pressure of at least 1.1*Pa in the direction of the applied seal water. Water leakage limits are assigned to ensure that the qualified water seal pressure of 1.1*Pa is maintained.

7.12.3 Unit 2 Notes

PIV Pressure Isolation Valve testing required by Improved Technical Specification 3.4.6.1. List of Pressure Isolation Valves is in TRM Table T3.4.6-1.

Note – 1 The following relief valve tests shall be performed in the following order (Appendix I):

- VT: Visual Examination
- LA: As–Found Seat–Tightness
- RT: Valve Set Pressure
- LL: As-Left Seat–Tightness at least once every 10 years. 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.

Note – 2 Valves leak–rate tested per Improved Technical Specification SR 3.6.1.3.11, Primary Containment Leakage, Potential Bypass Leakage Paths and Table 3.6.1.3-1.

Note – 3 The leak rate requirement "LK" may be satisfied by correlation of the Appendix J test results (Safety Evaluation #93-076)

Note – 4 LLRT performed quarterly since valves are stroke-timed closed quarterly. Technical Specifications permit leakage rate testing at least once every 184 days AND within 92 days after opening the valve, as required by Improved Technical Specification SR 3.6.1.3.6.

Note – 5 2CSL*RV105 and 2CSL*RV123 are specifically exempted from Type C testing by Note 25 in USAR Table 6.2-56. They are also exempt from Type C testing on the basis that they terminate below the minimum suppression pool water level.

Note – 6 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.

Note – 7 Tested functionally as part of the monthly diesel surveillance. A successful starting, loading, and running of the diesel provide adequate demonstration that this component is capable of performing its safety-related functions.

Note – 8 This non-ASME, skid-mounted component is tested on an augmented basis, commensurate with its importance to safety. This check valve is mounted upside down such that the disk lays in the full open position by gravity. No degradation mechanism exists since dry air is used and no movement takes place unless an upstream pipe break occurs. Reverse flow closure capability shall be demonstrated via freedom of movement checks performed during disassembly and inspection activities. The D&I shall be performed on a 24-month sampling basis. Specifically, one of four associated check valves shall be disassembled and inspected every 24-months such that all four valves are exercised within an 8-year period. D&I may be performed during plant operation with other LCO activities or during refueling outages.

Note – 9 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.

Note – 10 Design Change PC2-0139-99 (ref. DDC 2M11650A) replaced these valves with leak-tight valves. They are the credited inlet boundary for the ADS Receiver Tanks (TK4 & TK5). Therefore, they are tested as part of the Receiver Tank boundary, with an acceptance criterion of 1 scfh per ADS valve. For 2GSN*V70A and TK4, the criterion is 3 scfh; for 2GSN*V70B and TK5, the criterion is 4 scfh.

Note – 11 RD-5Y: Refer to Vendor Manual for rupture disks, N20227. The replacement rupture disk shall pass visual examination in accordance with NMPC receipt inspection procedures. Refer to DER NM-2002-2406, PM Assessment Analyses GTS-04-008, GTS-05-008, GTS-04-012 and GTS-05-012 justified 5 year replacement interval.

Note – 12 This valve is part of a leak-rate tested boundary. The acceptance criterion for the system is 3 scfh. Therefore, the maximum leakage the valve could have is 3 scfh.

Note – 13 Fails open on loss of electric power; fails as-is on loss of hydraulics.

Note – 14 RD–5Y: The replacement rupture disks shall pass visual examination in accordance with NMPNS receipt inspection procedures. Refer to PM Basis #14876, TPM Record IAS-06-001 for increase from 2 to 5 year replacement interval justification.

Note – 15 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, Revision 1, Section 3.1.1.2, Testing at a Refueling Outage Frequency for Valves Tested During Power Ascension)

Note – 16 2ICS*V39 and 2ICS*V40 are "simple check valves," and must be exercised quarterly in accordance with OM Code. In addition, the set point shall be verified at least once per 10 years, although this is not a Code requirement.

Note – 17 Tested functionally with RCIC turbine. Successful cold start satisfies the functional test.

Note – 18 Refer to Vendor Manual for rupture disks, N20227. The replacement rupture disk shall pass visual examination in accordance with NMPC receipt inspection procedures.

Note – 19 Improved Technical Specification SR 3.6.1.7.1, SR 3.6.1.7.2, and SR 3.6.1.7.3, "Suppression Chamber / Drywell Vacuum Breakers," satisfies the test requirements specified in OM Code-2004 Appendix I.

Note – 20 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, Appendix I, I-1380, Test Frequency, Classes 2 and 3 Vacuum Relief Valves, Except for Primary Containment Vacuum Relief Valves, is the correct OM Code section.

Note – 21 The excess flow check valves with PID Coordinates "CHR1" are listed on Chart I on PID–28C.

Note – 22 Although these valves are outside the scope of Code-required inservice testing, they are tested on an augmented basis. The leak rate test performed every refueling outage will be credited for the reverse flow exercise. See IST Bases document NER-2A-002-ISC for details.

Note – 23 All 18 Main Steam SRVs are Class 1 Main Steam Pressure Relief Valves with Auxiliary Actuation Devices as defined in OM Code-2004, Appendix I. They are not equipped with direct position indication. The SRVs are removed for as–found testing, preventive maintenance, and as–left testing. Since the SRV equipment mark number designates a particular location and set-point, 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 Appendix I and specified in the NMP2 Technical Support testing schedule. The applicable set-point and leakage criteria are in Technical Specification List M2–0004, "ANSI/ASME OM–1 Relief & Vacuum Relief Valve Acceptance Criteria." Tests for SRVs shall be in accordance with the sequence stipulated in Appendix I, I-3300: "When on–line testing is performed to satisfy periodic testing requirements, visual examination may be performed out of sequence." Paragraph I-3310, Class 1 Main Steam Pressure Relief Valves With Auxiliary Actuating Devices, states, "Tests before maintenance or set-pressure adjustment, or both, shall be performed for I-3310(a), (b), and (c) in sequence. The remaining tests shall be performed in sequence after maintenance or set-pressure adjustments."

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

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 test, removed valves shall be reset to within 1% of the safety set pressure listed in the Technical Specifications.

Note – 24 Tested per Improved Technical Specification SR 3.6.1.3.10, "Primary Containment Isolation Valves;" TIP explosive isolation valve operability.

Note – 25 Scram Inlet and Outlet valves AOV126 and AOV127, the scram pilot valve SOV139, the scram discharge riser check V114, the drive water check V137, and the cooling water check valve V138 are tested functionally by Technical Specification-required surveillance testing. See IST Bases document NER–2A–002–RDS.

Note – 26 The backup scram valves SOV137 and SOV138 are tested every refueling outage by an Operations surveillance procedure. See IST Bases document NER-2A-002-RDS.

Note – 27 The scram discharge volume air isolation valves SOV154 and SOV155 are tested with the SDV vent and drain valves. See IST Bases document NER-2A-002-RDS.

Note – 28 The alternate rod insertion (ARI) valves are tested by an I&C preventive maintenance procedure. See IST Bases document NER-2A-002-RDS.

Note – 29 The accumulator charging water check valve V115 is tested every refueling outage by an Operations surveillance procedure. See IST Bases document NER-2A-002-RDS.

Note – 30 Type C leakage rate testing not required. (NIP–DES–04, Note (d); Improved Technical Specification TRM 3.6.1 and Table T3.6.1-2)

Note – 31 May be tested in the reverse direction. (NIP–DES–04, Note (n); USAR Table 6.2-65; Improved Technical Specification TRM 3.6.1 and Table T3.6.1-2)

Note – 32 Outboard Isolation Valve bonnet pressure relief valves are Type C tested as part of 2RHS*MOV15A, B assembly. (NIP–DES–04, Note (n); Improved Technical Specification TRM 3.6.1 and Table T3.6.1-2).

Note – 33 Valves are tested as a pair. Should the test fail, both valves shall be declared inoperable and shall be repaired or replaced as necessary.

Note – 34 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.

SECTION IB

GENERIC PROGRAM RELIEF REQUEST

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

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10 CFR 50.55a Request Number: GA-RR-01

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

The American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code provides the requirements for the implementation of the Inservice Testing (IST) Program.

Applicable Code Edition and Addenda:

ASME OM Code-2004 Edition

Applicable Code Requirement:

ISTA-3200(f)(3) The test plan for each successive test interval shall comply with the edition and addenda of the Section that have been adopted by the regulatory authority 12 months prior to the start of the inservice test interval, or subsequent editions and addenda that have been adopted by the regulatory authority.

Reason for Request:

The current Code edition/addenda incorporated by reference in 10CFR50.55a(b)(3) is the 2001 Edition with Addenda through OMb-2003. Nine Mile Point Nuclear Station (NMPNS) is part of the Constellation Energy fleet of nuclear plants. The other plants in the Constellation fleet have recently updated or will be updating their IST Programs within the next 2 years. Constellation's goal for uniformity and economic benefit is to have all their plants in the fleet using the same ASME Code edition/addenda for their IST Programs. Constellation Energy/Nine Mile Point Nuclear Station proposes to use the ASME OM Code-2004 Edition.

NMPNS has evaluated the differences between the ASME OM Code-2004 Edition and the 2001 Edition with Addenda through OMb-2003. The majority of the changes are editorial. The changes to Subsection ISTB for pumps are limited to table and figure number updates. The changes to Subsection ISTC for valves are predominately corrections to referenced paragraph numbers. The following differences in Subsection ISTC are noted:

1) In ISTC-3620 & ISTC-3630 the word "Nonmandatory" has been deleted where Appendix J is referenced.
2) In ISTC-3630 subparagraphs (e)(1) & (e)(2) the leakage calculation conversion values and units have been revised.

The changes to Mandatory Appendix I for relief valves are predominately corrections to referenced paragraph numbers. The following differences in Mandatory Appendix I are noted:

1) In I-3410 subparagraph (a) the words "except for on-line testing" have been deleted.
2) In I-3410 subparagraph (d) the words "refurbished in place" have been deleted.
3) In I-3410 subparagraph (d) the requirement to 'verify open and close capability' of the main disc has been eliminated.

4) In I-4120, "Compressible Fluid Services Other Than Steam," the minimum time between successive openings is reduced from 10 minutes to 5 minutes. (This change was previously made for steam service, I-4110, and liquid service, I-4130, in the ASME OMb Code-1997.)

NMPNS believes these changes to be improvements that provide an acceptable level of quality and safety compared to the requirements in the existing approved ASME OM Code. This is supported by the fact that the NRC has issued a notice in the Federal Register (72 FR 16731) of their intent to update the ASME Code referenced in 10CFR50.55a(b)(3) to the ASME OM Code-2004 Edition.

Proposed Alternative and Basis for Use:

NMPNS will use the 2004 Edition of the ASME OM Code as the Code of record for the IST Program. NMPNS will apply the following modifications and limitations in 10 CFR 50.55a(b)(3) to the 10-Year Interval IST Program:

10 CFR 50.55a(b)(3)(i) - Quality Assurance
(Note: The applicable paragraph reference for OM-Code-2004 Edition is ISTA-1400)
10 CFR 50.55a(b)(3)(ii) - Motor-Operated Valve testing
(Note: See GV-RR-01 for implementation of Code Case OMN-1)
10 CFR 50.55a(b)(3)(iv) - Appendix II
10 CFR 50.55a(b)(3)(vi) - Exercise interval for manual valves.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This relief request, upon approval, will be applied to the NMPNS Unit 1 Fourth and Unit 2 Third Ten-Year IST Intervals.

Precedent:

NRC letter, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Relief Requests for the Fourth 10-Year Inservice Testing Program for Pumps and Valves," dated June 18, 2008, has authorized a comparable relief request (also identified as GA-RR-01) for the Calvert Cliffs plants.

Constellation Energy
Pump & Valve Inservice Testing Program Plan
Nine Mile Point Nuclear Station - Units 1 & 2

10 CFR 50.55a Request Number: GV-RR-01

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Certain Motor-Operated Valves in ASME Safety Class 1, 2, and 3 systems which are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. The valves are those that include the designation "OMN1" in the "Frequency" column of the Valve Tables.

Applicable Code Edition and Addenda:

ASME OM Code-2004 Edition

Applicable Code Requirement:

ISTA-3130(b) states: "Code Cases shall be applicable to the edition and addenda specified in the test plan." The edition and addenda specified in the test plan for next Ten-Year Interval for the Nine Mile Point Nuclear Station is the ASME OM Code-2004 Edition.

Reason for Request:

Code Case OMN-1 contains no applicability statement. In the latest edition/addenda incorporated by reference in 10 CFR 50.55a(b)(3) (i.e., 2001 Edition with Addenda through OMb-2003), the expiration date given for OMN-1 is March 30, 2004. OMN-1 is included in the 2006 Addenda to the 2004 Edition of the OM Code with a new expiration date of March 30, 2007. The ASME OM committee has recently reaffirmed this Code Case; however, neither the 2004 Edition of the OM Code nor any Addenda have been incorporated by reference in 10 CFR 50.55a(b)(3). Paragraph 10 CFR 50.55a(b)(6) references Regulatory Guide 1.192, which conditionally approves the use of Code Case OMN-1 "in lieu of the provisions for stroke-time testing in Subsection ISTC of the 1995 Edition up to and including the 2000 Addenda of the ASME OM Code".

Proposed Alternative and Basis for Use:

Nine Mile Point Nuclear Station will apply the requirements of OMN-1 "Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants," including the conditions specified in Table 2 of USNRC Regulatory Guide 1.192, in lieu of the provisions for motor-operated valve testing in Subsection ISTC of the 2004 Edition of the ASME OM Code.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This relief request, upon approval, will be applied to the NMPNS Unit 1 Fourth and Unit 2 Third Ten-Year IST Intervals.

Precedent:

NRC letter, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Relief Requests for the Fourth 10-Year Inservice Testing Program for Pumps and Valves," dated June 18, 2008, has authorized a comparable relief request (identified as GV-RR-02) for the Calvert Cliffs plants.

10 CFR 50.55a Request Number: GV-RR-02

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Certain control valves in ASME Safety Class 1, 2, and 3 systems which are required fail-safe to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. The valves are those that include the designation "OMN-8" in the "Comments" column of the Valve Tables.

Applicable Code Edition and Addenda:

ASME OM Code-2004 Edition

Applicable Code Requirement:

ISTA-3130(b) states: "Code Cases shall be applicable to the edition and addenda specified in the test plan." The edition and addenda specified in the test plan for next Ten-Year Interval for the Nine Mile Point Nuclear Station is the ASME OM Code-2004 Edition.

Reason for Request:

Code Case OMN-8 contains no applicability statement. In the latest edition/addenda incorporated by reference in 10 CFR 50.55a(b)(3) (i.e., 2001 Edition with Addenda through OMb-2003), the expiration date given for OMN-8 is November 20, 2006. OMN-8 is included in the 2006 Addenda to the 2004 Edition of the OM Code without a new expiration date. The ASME OM committee has recently reaffirmed this Code Case; however, neither the 2004 Edition of the OM Code nor any subsequent Addenda have been incorporated by reference in 10 CFR 50.55a(b)(3). Paragraph 10 CFR 50.55a(b)(6) references Regulatory Guide 1.192, which approves the use of Code Case OMN-8. Code Case OMN-8 provides an alternative to stroke time testing power-operated control valves that have only a fail safe safety function.

Proposed Alternative and Basis for Use:

Nine Mile Point Nuclear Station will apply the requirements of Code Case OMN-8 "Alternative Rules for Preservice and Inservice Testing of Power-Operated Valves That Are Used for System Control and Have a Safety Function per OM-10," in lieu of the provisions for power-operated control valve testing specified in paragraphs ISTC-5131, ISTC-5132, ISTC-5133(b), ISTC-5141, ISTC-5142 & ISTC-5143(b), in Subsection ISTC of the 2004 Edition of the ASME OM Code.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This relief request, upon approval, will be applied to the NMPNS Unit 1 Fourth and Unit 2 Third Ten-Year IST Intervals.

Precedent:

NRC letter, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Relief Requests for the Fourth 10-Year Inservice Testing Program for Pumps and Valves," dated June 18, 2008, has authorized a comparable relief request (identified as GV-RR-03) for the Calvert Cliffs plants.

SECTION IC

UNIT 1 RELIEF REQUESTS

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

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10 CFR 50.55a Request Number: CRD-VR-01 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	**Class**	**Cat.**	**Label**
IV-44.2-15	2	A	SCRAM DISCHARGE VOLUME (SDV) VENT INBOARD IV
IV-44.2-16	2	A	SDV VENT OUTBOARD IV
IV-44.2-17	2	A	SDV DRAIN OUTBOARD IV
IV-44.2-18	2	A	SDV DRAIN INBOARD IV

Applicable Code Edition and Addenda:

ASME OM Code 2004 Edition

Applicable Code Requirement:

OM Code-2004 paragraph ISTC-5131(a), Valve Stroke Testing, requires that active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

Reason for Request:

The SDV containment isolation valves (IVs) are normally open valves. These valves close on the loss of air or the de-energizing of the solenoid valves (SOV-113-275 and SOV-113-276 for IV-44.2-16 and IV-44.2-17; and SOV-113-273 and SOV-113-274 for IV-44.2-15 and IV-44.2-18). The SDV air header and valve arrangement are single failure proof. The solenoid valves are powered from either reactor trip bus 131 or 141 through fuses. Removing the fuses to fail-safe test these valves causes a scram in approximately six seconds due to the de-energizing of SOV-113-271 and SOV-113-272. Venting the scram air header due to exercising of the valves by pulling fuses subjects the control rod drives to higher differential pressures than observed during a scram at normal operating conditions. The high differential pressure applied to control rods fully inserted has resulted in equipment damage. Testing via the safety-related scram exhaust path can not be performed during power operation. The safety-related exhaust path (scram path) is through SOV-113-275 and SOV-113-276 or SOV-113-273 and SOV-113-274 exhaust ports. A test solenoid valve (SOV-113-277) was installed as a result of IE Bulletin 80-17 dated July 3, 1980, to permit fail-safe and stroke time testing without causing a scram. The test solenoid exhaust path (test path) adds a restriction that is not present in the scram path. When the test solenoid is energized, the SDV air header and valve actuators are vented through SOV-113-277. The restriction is due to exhausting air through the SOV-113-274 and SOV-113-276 air inlet supply port, since the solenoids are energized. The solenoid valve employs an internal pilot in the inlet port. Air can exhaust through the inlet port; however, the flow path is not a fixed resistance path. The variable resistance can cause variations in the quarterly stroke time measurements of the valves. These variations can result in inaccurate stroke times and mask the true valve performance. This limits the ability to accurately monitor for and detect degradation. Additionally, the test path is not the safety-related exhaust path (scram path) for the containment isolation valves.

Stroke time testing through the scram path can be performed during refueling outages. Stroke times obtained during refueling outage tests (using the scram vent path) have provided consistent accurate results. This testing method provides an accurate indication of valve performance and provides the ability to monitor for and detect degradation.

Proposed Alternative and Basis for Use:

These valves will be full stroke exercised and fail safe tested quarterly using the test solenoid valve. These valves will be stroke-time tested through the scram path during refueling outages.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

10 CFR 50.55a Request Number: CTNH2O2-VR-01 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	**Class**	**Cat.**	**Label**
IV-201.2-109	2	A	#11 TORUS RETURN INBOARD IV
IV-201.2-110	2	A	#11 TORUS SAMPLE INBOARD IV
IV-201.2-111	2	A	#11 TORUS SAMPLE OUTBOARD IV
IV-201.2-112	2	A	#11 TORUS RETURN OUTBOARD IV
IV-201.7-01	2	A	#11 SAMPLE STREAM B INBOARD IV
IV-201.7-02	2	A	#11 SAMPLE STREAM B OUTBOARD IV
IV-201.7-08	2	A	DW CAM SAMPLE INBOARD IV
IV-201.7-09	2	A	DW CAM SAMPLE OUTBOARD IV
IV-201.7-10	2	A	#11 DW RETURN INBOARD IV
IV-201.7-11	2	A	#11 DW RETURN OUTBOARD IV

Applicable Code Edition and Addenda:

ASME OM Code 2004 Edition

Applicable Code Requirement:

ISTC-5131 Valve Stroke Testing
(a) Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

ISTC-5132 Stroke Test Acceptance Criteria. Test results shall be compared to the reference values established in accordance with ISTC-3300, ISTC-3310, or ISTC-3320.

Reason for Request:

These pneumatically operated valves are grouped together on common control switches.

The groups are:
IV-201.7-08, IV-201.7-09, IV-201.7-10, & IV-201.7-11 and
IV-201.2-109, IV-201.2-112, IV-201.2-110, IV-201.2-111, IV-201.7-01, & IV-201.7-02

These arrangements have a common closed light (green) for a group of valves and individual open lights (red) for each valve. Reference values are established for each group by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to pre-conditioning. An individual reference value is developed for each valve in a group. A composite (group) reference value is developed by averaging the individual reference values. Typically, the individual valves reference values are within ½ second of the group reference value.

As needed, primarily after rework or repair, the individual reference values and the group reference value are re-established. This group reference value is used as a common reference value for each valve in the group. The valve stroke-time test uses switch-actuation-to-red-light-out (closed indication) for open-to-close stroke time. The stroke-time of the slowest valve is observed and recorded. Typically, the same valve in a group is not always the slowest. If the slowest valve exceeds the acceptance criterion (i.e., ± 50% of the group reference value), the group is declared inoperable. Corrective Action per ISTC-5133 is then taken.

The group reference values are <10 seconds, significantly below the Updated Final Safety Analysis Report (UFSAR) limiting value of 60 seconds. While some performance degradation is masked by this testing methodology, nuclear safety will not be compromised. Prior to any valve degrading and exceeding the limiting value of 60 seconds, the acceptance criterion would be significantly exceeded, and corrective action would be taken. The proposed alternate testing method provides an adequate capability to monitor and detect individual valve degradation prior to exceeding the UFSAR limiting value. This method provides an equivalent level of quality and safety compared to the Code required Individual valve stroke-timing.

Proposed Alternative and Basis for Use:

Establish individual reference values, group reference values, and group acceptance criteria. Stroke-time the valve groups, recording the slowest operating valve and the corresponding stroke-time. Compare the slowest valve stroke-time to the acceptance criterion to determine the valve group operability status. As necessary, take corrective actions for exceeding the acceptance criterion.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

Precedent:

NRC Safety Evaluation of Third Ten Year Interval IST Program Requests for Relief, Dated December 14, 1999, (TAC No. MA5957), authorized relief request GEN-VR-01 for the subject valves.

Constellation Energy
Pump & Valve Inservice Testing Program Plan
Nine Mile Point Nuclear Station - Units 1 & 2

10 CFR 50.55a Request Number: CTNH2O2-VR-02 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	**Class**	**Cat.**	**Label**
IV-201.2-23	2	A	#12 TORUS SAMPLE INBOARD IV
IV-201.2-24	2	A	#12 TORUS SAMPLE OUTBOARD IV
IV-201.2-29	2	A	#12 DRYWELL SAMPLE INBOARD IV
IV-201.2-30	2	A	#12 DRYWELL SAMPLE OUTBOARD IV

Applicable Code Edition and Addenda:

ASME OM Code 2004 Edition

Applicable Code Requirement:

ISTC-5151 Valve Stroke Testing
(a) Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

ISTC-5152 Stroke Test Acceptance Criteria. Test results shall be compared to the reference values established in accordance with ISTC-3300, ISTC-3310, or ISTC-3320.

Reason for Request:

These solenoid operated valves are grouped together on a common control switch.

The group is:
IV-201.2-23, IV-201.2-24, IV-201.2-29, & IV-201.2-30

This arrangement has a common closed light (green) for each pair of valves and individual open lights (red) for each valve. A reference value is established for each pair by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to pre-conditioning. A composite (group) reference value is developed by averaging the valve pair reference values. Individual reference values are not established. These valves stroke in less than 2 seconds and are all designated as "rapid acting" valves. A limiting value of 2 seconds is assigned to the group.

As needed, primarily after rework or repair, the valve pair reference values and the group reference value are re-established. This group reference value is used as a common reference value for each valve in the group. The valve stroke-time test uses switch-actuation-to-red-light-out (closed indication) for open-to-close stroke time. The stroke-time of the slowest valve is observed and recorded. Typically, the same valve in the group is not always the slowest. If the slowest valve exceeds the acceptance criterion (i.e., ± 50% of the group reference value or 2 second limiting value for rapid acting valves), the group is declared inoperable. Corrective Action per ISTC-5153 is then taken.

The group limiting value of 2 seconds is significantly below the UFSAR limiting value of 60 seconds. While some performance degradation is masked by this testing methodology, nuclear safety will not be compromised. Prior to any valve degrading and exceeding the limiting value of 60 seconds, the acceptance criterion would be significantly exceeded, and corrective action would be taken. The proposed alternate testing method provides an adequate capability to monitor and detect individual valve degradation prior to exceeding the UFSAR limiting value. This method provides an equivalent level of quality and safety compared to the Code required Individual valve stroke-timing.

Proposed Alternative and Basis for Use:

Establish valve pair reference values, group reference values, and group acceptance criteria. Stroke-time the valve group recording the slowest operating valve and the corresponding stroke-time. Compare the slowest valve stroke-time to the acceptance criterion to determine the valve group operability status. As necessary, take corrective actions for exceeding the acceptance criterion.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

Precedent:

NRC Safety Evaluation of Third Ten Year Interval IST Program Requests for Relief, Dated December 14, 1999, (TAC No. MA5957), authorized relief request GEN-VR-01 for a similar group of valves.

10 CFR 50.55a Request Number: RBCLC-PR-01 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(ii)

-- Hardship or Unusual Difficulty
Without Compensating Increase in Level of Quality or Safety --

ASME Code Component(s) Affected:

Component ID	**Class**	**Group**	**Label**
PMP-70-01	3	A	Reactor Building Closed Loop Cooling Water #11
PMP-70-02	3	A	Reactor Building Closed Loop Cooling Water #12
PMP-70-03	3	A	Reactor Building Closed Loop Cooling Water #13

Applicable Code Edition and Addenda:

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code - 2004 Edition

Applicable Code Requirement:

ISTB-3400, Frequency of Inservice Tests & Table ISTB-3400-1:
An inservice test shall be run on each Group A pump quarterly as specified in Table ISTB-3400-1.

ISTB-5121, Group A Test Procedure:
Group A tests shall be conducted with the pump operating at a specified reference point. The test parameters shown in Table ISTB-3000-1 shall be determined and recorded as required by this paragraph.

Reason for Request:

The Reactor Building Closed Loop Cooling (RBCLC) system is not a fixed resistance system. For the RBCLC system, no pump test loops or individual pump flow instrumentation is installed. Individual pump flow can only be determined by measuring system flow rate. The system flow rate and differential pressure are a function of the number of pumps running and system heat loads. During normal plant operations, system heat loads prevent removing the RBCLC system from service. Operating conditions do not permit single pump operation at repeatable test conditions to allow individual pump parameters (i.e., flow rate and differential pressure) to be measured.

Therefore, during normal plant operation, operating a single RBCLC pump at a fixed reference condition (per ISTB-5121) to perform a Group A test (per ISTB-3400) would require reducing system heat loads and may result in a plant shutdown to cold shutdown conditions. Complying with the Code would require Nine Mile Point Unit 1 to enter cold shutdown conditions every quarter where RBCLC system operating conditions allow single pump operation. Cold shutdown reduces system heat loads sufficiently to allow single RBCLC pump operation at a fixed reference condition and thus allows measurement of individual pump parameters (i.e., flow rate and differential pressure). Obtaining flow rate and differential pressure measurements (parameters required by Table ISTB-3000-1) for an individual RBCLC pump on a quarterly basis poses a significant hardship (plant shutdown).

Alternatively, compliance could be achieved by a major system redesign and modification such as installation of individual pump test loops with flow instrumentation. This would allow a single pump to be removed from the system flow path and operated on a test flow path at Code required fixed reference conditions. Such a major system modification would be costly and burdensome with no compensating increase in the level of quality or safety.

Proposed Alternative and Basis for Use:

Quarterly, during normal system operation, vibration (V) shall be measured for each RBCLC pump. During cold shutdowns, all the applicable parameters for a Group A test from Table ISTB-3000-1 (flow rate (Q), vibration (V), and differential pressure (DP)) shall be measured for each RBCLC pump. The comprehensive test specified in Table ISTB-3400-1 will also be performed biennially. The testing alternative described above will still allow an adequate determination of pump operational readiness and permit detection of component degradation.

Relief is requested from paragraphs ISTB-3400 and ISTB-5121 pursuant to 10CFR50.55a(a)(3)(ii) based on the hardship and burden imposed by compliance with these OM Code requirements.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

Precedents:

NRC Letter, "Nine Mile Point Nuclear Station, Unit No. 1 - Inservice Testing Relief Request PMP-RR-1 (TAC No. MB2168)", dated October 26, 2001, previously authorized this relief request as PMP-RR-1 (revision 1) for the third 10-year interval.

NRC Letter, "Request for Relief for the Third 10-Year Interval of the Pump and Valve Inservice Testing Program Plan, Nine Mile Point Nuclear Station, Unit No. 1 (TAC No. MA5957)", dated December 14, 1999, previously authorized a portion of this relief request as PMP-RR-1 (revision 0) for the third 10-year interval.

SECTION ID

UNIT 2 RELIEF REQUESTS

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

Constellation Energy
Pump & Valve Inservice Testing Program Plan
Nine Mile Point Nuclear Station - Units 1 & 2

10 CFR 50.55a Request Number: GV-RR-08 (Unit 2)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	Class	Cat.	System	Label
2CSH*EFV3	2	C	CSH	Instrument Line to 2CSH*PDT109
2CSL*EFV1	2	C	CSL	Instrument Line to 2CSL*PDT132 & 2RHS*PDT18A
2ICS*EFV1	2	C	ICS	Instrument Line to 2ICS*PDT167; *PDS167; *PT167X
2ICS*EFV2	2	C	ICS	Instrument Line to 2ICS*PDT167; *PT167Y
2ICS*EFV3	2	C	ICS	Instrument Line to 2ICS*PDT168; *PT168X
2ICS*EFV4	2	C	ICS	Instrument Line to 2ICS*PDT168; *PT168Y
2ICS*EFV5	2	C	ICS	Instrument Line to 2ICS*PT142, *PT143
2ISC*EFV1	2	C	ISC	Instrument Line To 2ISC*PDT110; LT105
2ISC*EFV10	2	C	ISC	Instrument Line To 2ISC*LT8C; LT8D; LT9B; LT9D; LT11B; LT112; PDI31B
2ISC*EFV11	2	C	ISC	Instrument Line to 2ISC*FT47K; *FT48B
2ISC*EFV13	2	C	ISC	Instrument Line to 2ISC*FT47H
2ISC*EFV14	2	C	ISC	Instrument Line to 2ISC*PDI103; 2ISC-FT47s in RCS Loop A
2ISC*EFV15	2	C	ISC	Instrument Line to 2ISC*LT10C; LT10A; LT11C
2ISC*EFV17	2	C	ISC	Instrument Line to 2ISC*PDI31A; LT11D; LT101; LT9A; LT9C; LT8A; LT8B
2ISC*EFV18	2	C	ISC	Instrument Line to 2ISC-FT47J; FT48A
2ISC*EFV2	2	C	ISC	Instrument Line to 2ISC*PT113; PT115; PT4B;PI3B; PT2C; PT2D; PT6B
2ISC*EFV20	2	C	ISC	Instrument Line to 2ISC-FT47E
2ISC*EFV21	2	C	ISC	Instrument Line to 2ISC-PDT114; 2CSH*PDT109; 2RDS-PDT114; PDT117
2ISC*EFV22	2	C	ISC	Instrument Line to 2ISC-PDT114; FT47B; 2WCS-FT134; 2ISC-FT47s, RCS Loop B
2ISC*EFV23	2	C	ISC	Instrument Line to 2ISC-FT48C
2ISC*EFV24	2	C	ISC	Instrument Line to 2ISC-FT48D
2ISC*EFV25	2	C	ISC	Instrument Line to 2ISC-FT47L
2ISC*EFV26	2	C	ISC	Instrument Line to 2ISC-FT47C
2ISC*EFV27	2	C	ISC	Instrument Line to 2ISC-FT47A
2ISC*EFV28	2	C	ISC	Instrument Line to 2ISC-FT47R
2ISC*EFV29	2	C	ISC	Instrument Line to 2ISC-FT47G
2ISC*EFV3	2	C	ISC	Instrument Line to 2ISC*LT7C; PDT14C; PT4C; PT122
2ISC*EFV30	2	C	ISC	Instrument Line to 2ISC-FT47N
2ISC*EFV31	2	C	ISC	Instrument Line to 2ISC-FT48A
2ISC*EFV32	2	C	ISC	Instrument Line to 2ISC-FT47T
2ISC*EFV33	2	C	ISC	Instrument Line to 2ISC-FT47V; 2ISC-FT48C
2ISC*EFV34	2	C	ISC	Instrument Line to 2ISC-FT47B
2ISC*EFV35	2	C	ISC	Instrument Line to 2ISC-FT47D
2ISC*EFV36	2	C	ISC	Instrument Line to 2ISC-FT47F
2ISC*EFV37	2	C	ISC	Instrument Line to 2ISC-FT47S
2ISC*EFV38	2	C	ISC	Instrument Line to 2ISC-FT47M
2ISC*EFV39	2	C	ISC	Instrument Line to 2ISC-FT47P

10 CFR 50.55a Request Number: GV-RR-08 (Unit 2)

ASME Code Component(s) Affected (cont.):

Component ID	**Class**	**Cat.**	**System**	**Label**
2ISC*EFV4	2	C	ISC	Instrument Line to 2ISC*LT7C; PDT14C; LT12B; LT7B; PDT14B; LT105; PDT110
2ISC*EFV40	2	C	ISC	Instrument Line to 2ISC-FT48B
2ISC*EFV41	2	C	ISC	Instrument Line to 2ISC-FT47U
2ISC*EFV42	2	C	ISC	Instrument Line to 2ISC-FT47W; 2ISC-FT48D
2ISC*EFV5	2	C	ISC	Instrument Line to 2ISC*PT102; PT5A; PT2B; PT2A; PI3A; PT4D; PT5D; PT6A
2ISC*EFV6	2	C	ISC	Instrument Line to 2ISC*PT4A; PT109; PT108; PDT14A; LT7A; LT115
2ISC*EFV7	2	C	ISC	Instrument Line to 2ISC*LT7D; LT12A; PDT14A; LT7A; LT115
2ISC*EFV8	2	C	ISC	Instrument Line to 2ISC*LT11A; LT10B; LT10D
2MSS*EFV1A	2	C	MSS	Instrument Line to 2MSS*FT14A; FT15A
2MSS*EFV1B	2	C	MSS	Instrument Line to 2MSS*FT14B; FT15B
2MSS*EFV1C	2	C	MSS	Instrument Line to 2MSS*FT14C; FT15C
2MSS*EFV1D	2	C	MSS	Instrument Line to 2MSS*FT14D; FT15D
2MSS*EFV2A	2	C	MSS	Instrument Line to 2MSS*FT11A; FT12A; FT13A
2MSS*EFV2B	2	C	MSS	Instrument Line to 2MSS*FT11B; FT12B; FT13B
2MSS*EFV2C	2	C	MSS	Instrument Line to 2MSS*FT11C; FT12C; FT13C
2MSS*EFV2D	2	C	MSS	Instrument Line to 2MSS*FT11D; FT12D; FT13D
2MSS*EFV3A	2	C	MSS	Instrument Line to 2MSS*FT11A; FT12A; FT13A
2MSS*EFV3B	2	C	MSS	Instrument Line to 2MSS*FT11B; FT12B; FT13B
2MSS*EFV3C	2	C	MSS	Instrument Line to 2MSS*FT11C; FT12C; FT13C
2MSS*EFV3D	2	C	MSS	Instrument Line to 2MSS*FT11D; FT12D; FT13D
2MSS*EFV4A	2	C	MSS	Instrument Line to 2MSS*FT14A; FT15A
2MSS*EFV4B	2	C	MSS	Instrument Line to 2MSS*FT14B; FT15B
2MSS*EFV4C	2	C	MSS	Instrument Line to 2MSS*FT14C; FT15C
2MSS*EFV4D	2	C	MSS	Instrument Line to 2MSS*FT14D; FT15D
2RCS*EFV45A	2	C	RCS	Instrument Line to 2RCS*FT7A; FT9A
2RCS*EFV45B	2	C	RCS	Instrument Line to 2RCS*FT7B; FT9B
2RCS*EFV46A	2	C	RCS	Instrument Line to 2RCS*FT7A; FT9A
2RCS*EFV46B	2	C	RCS	Instrument Line to 2RCS*FT7B; FT9B
2RCS*EFV47A	2	C	RCS	Instrument Line to 2RCS*FT6A; FT8A
2RCS*EFV47B	2	C	RCS	Instrument Line to 2RCS*FT6B; FT8B
2RCS*EFV48A	2	C	RCS	Instrument Line to 2RCS*FT6A; FT8A
2RCS*EFV48B	2	C	RCS	Instrument Line to 2RCS*FT6B; FT8B
2RCS*EFV52A	2	C	RCS	Instrument Line to 2RCS*PDT15A
2RCS*EFV52B	2	C	RCS	Instrument Line to 2RCS*PDT15B
2RCS*EFV53A	2	C	RCS	Instrument Line to 2RCS*PDT15A
2RCS*EFV53B	2	C	RCS	Instrument Line to 2RCS*PDT15B
2RCS*EFV62A	2	C	RCS	Instrument Line to 2RCS*PI44A
2RCS*EFV62B	2	C	RCS	Instrument Line to 2RCS*PI44B
2RCS*EFV63A	2	C	RCS	Instrument Line to 2RCS*PI42A
2RCS*EFV63B	2	C	RCS	Instrument Line to 2RCS*PI42B
2RHS*EFV5	2	C	RHS	Instrument Line to 2RHS*PDT18B
2RHS*EFV6	2	C	RHS	Instrument Line to 2RHS*PDT18B
2RHS*EFV7	2	C	RHS	Instrument Line to 2RHS*PDT18A
2WCS*EFV221	2	C	WCS	Instrument Line to 2WCS-FT134
2WCS*EFV222	2	C	WCS	Instrument Line to 2WCS*FT67X; PDS115
2WCS*EFV223	2	C	WCS	Instrument Line to 2WCS*FT67Y

10 CFR 50.55a Request Number: GV-RR-08 (Unit 2)

ASME Code Component(s) Affected (cont.):

Component ID	**Class**	**Cat.**	**System**	**Label**
2WCS*EFV224	2	C	WCS	Instrument Line to 2WCS*FT67Y
2WCS*EFV300	2	C	WCS	Instrument Line to 2WCS*FT67X; PDS115

Applicable Code Edition and Addenda:

ASME Section XI 1989 Edition, ASME/ANSI OM-1987 w/ OMa-1988 Addenda

Applicable Code Requirement:

Check valves shall be full-stroke exercised nominally every 3 months in accordance with OM-10, paragraph 4.3.2.1, except as provided in paragraph 4.3.2.2. Full stroke exercising may be limited to refueling outages in accordance with 4.3.2.2(e).

Valves with remote position indicators shall be observed locally at least once every two years to verify that valve operation is accurately indicated in accordance with OM-10, paragraph 4.1.

Reason for Request:

Pursuant to 10CFR50.55a(a)(3)(i), authorization is requested to implement an alternative to the requirements of OM-10, paragraphs 4.1 and 4.3.2.2(e), which specify that position indication of valves be observed at least once every two years; and full-stroke exercising of check valves be conducted during each refueling outage, respectively. The proposed alternative is to conduct exercising and valve position verification tests on a sampling basis; that is, an approximately equal number of EFCVs every refueling outage and each EFCV at least once every ten years. The bases for the proposed alternative testing are consistent with approved generic Improved Technical Specification change TSTF-334 and GE Nuclear Energy topical report NEDO-32977-A, dated June 2000.

EFCVs are installed on reactor instrumentation lines penetrating containment to minimize leakage in the unlikely event of an instrument line break downstream of the EFCV outside containment. Installation of EFCVs conforms to Regulatory Guide 1.11. These valves cannot be exercised closed during normal power operation since closing these valves would isolate instrumentation required for power operation. These valves are verified to close by testing performed during each refueling outage.

An EFCV is basically a spring-loaded ball check valve with a notched disc. Since the system is normally in a static condition, the valve ball is held open by the spring. A sudden increase in flow (i.e., line break) will result in differential pressure across the valve disc, and result in forces that overcome the spring force and close the valve.

The valve is designed to allow leakage past the seat in the closed position to equalize pressure across the valve when the excess flow condition is corrected, thus allowing the spring to reopen the valve. 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, and by verifying that the leakage rate slows. Following system restoration, the valve reopens and verification of open position indication is performed.

The test methods described above are identical for the proposed alternative testing. EFCVs have been extremely reliable throughout the industry (reference GE Nuclear Energy topical report NEDO-32977-A, "Excess Flow Check Valve Testing Relaxation," June 2000). Consistent with the data presented in the topical report, 602 as-found surveillance tests conducted over a total aggregate time of 1075 valve years resulted in two as-found failures of EFCVs to check at Nine Mile Point Unit 2 (NMP2). Based on NMP2's experience to date, the calculated upper limit failure rate for these valves is 6.7E-07/hr. The failure rate demonstrates the high reliability of these valves and that NMP2's experience is comparable to that of the 12 BWR plants upon which the topical report was based. The total plant release frequency for a random break of any of the 87 NMP2 reactor instrumentation lines and a concurrent failure of the line's EFCV to close to isolate the break has been calculated in accordance with the method described in NEDO-32977-A. The increase in release frequency due to the relaxed frequency of EFCV testing is considered to be insignificant. In addition, the consequences of an unisolable rupture of a reactor instrumentation line have been evaluated in NMP2 Updated Safety Analysis Report (USAR) Section 15.6.2 without crediting the EFCV function, and the calculated offsite exposures are substantially below the guidelines of 10 CFR 100. Therefore, considering the historically high reliability of the EFCVs and their low risk significance and radiological consequences should they fail, the alternative testing of a representative sample, rather than each EFCV, during each refueling outage provides an acceptable level of quality and safety, in accordance with 10CFR50.55a(a)(3)(i).

Proposed Alternative and Basis for Use:

EFCV reverse flow exercising and position indication verification will be conducted by testing a representative sample of EFCVs every refueling outage, such that each EFCV will be tested at least once every 10 years.

Duration of Proposed Alternative:

This alternative was authorized by the NRC on September 17, 2001 (reference TAC No. MB1491). This alternative is authorized for use for the duration of the term of the original operating license (October 31, 2026). Therefore, it does not need to be renewed for the 3rd Interval. This approved alternative works in conjunction with Technical Specification Amendment No. 96, approved July 12, 2001 (reference TAC No. MB0301). All EFCVs were tested in RFO-06 and in RFO-07; the 10 year interval for EFCVs subject to GV-RR-08 begins in RFO-08.

Precedents:

This alternative was authorized by the NRC on September 17, 2001 (reference TAC No. MB1491).

10 CFR 50.55a Request Number: MSS-VR-01 (Unit 2)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	**Class**	**Cat.**	**Label**
2MSS*PSV120	1	C	MAIN STEAM SAFETY RELIEF VALVE (SRV)
2MSS*PSV121	1	C	MAIN STEAM SRV (ADS*)
2MSS*PSV122	1	C	MAIN STEAM SRV
2MSS*PSV123	1	C	MAIN STEAM SRV
2MSS*PSV124	1	C	MAIN STEAM SRV
2MSS*PSV125	1	C	MAIN STEAM SRV
2MSS*PSV126	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV127	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV128	1	C	MAIN STEAM SRV
2MSS*PSV129	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV130	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV131	1	C	MAIN STEAM SRV
2MSS*PSV132	1	C	MAIN STEAM SRV
2MSS*PSV133	1	C	MAIN STEAM SRV
2MSS*PSV134	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV135	1	C	MAIN STEAM SRV
2MSS*PSV136	1	C	MAIN STEAM SRV
2MSS*PSV137	1	C	MAIN STEAM SRV (ADS)

* ADS = Automatic Depressurization System

Applicable Code Edition and Addenda:

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code - 2004 Edition

Applicable Code Requirement:

ASME OM Code-2004, Mandatory Appendix I, paragraph I-1320 requires Class 1 pressure relief valves be tested at least once every 5 years with a minimum of 20% of the valves from each valve group tested within any 24-month interval. This 20% shall consist of valves that have not been tested during the current 5-year interval, if they exist. The test interval for any individual valve shall not exceed 5 years.

Reason for Request:

Pursuant to 10CFR50.55a(a)(3)(i), an alternative is proposed to the requirements of ASME OM Code-2004, Mandatory Appendix I, paragraph I-1320. Nine Mile Point Unit 2 (NMP2) has implemented a 24-month fuel cycle. When the fuel cycle was 18 months, it was possible to replace approximately one-third of the relief valves each refueling outage and meet the 5-year period requirements and the 20% in 24 months requirement. With the 24-month fuel cycle, one-half of the relief valves typically must be replaced each refueling outage to meet the 5-year period requirements.

NMP2 submits that increasing the period for Class 1 relief valves from 5 years to 3 refueling cycles (~6 years) continues to provide an acceptable level of quality and safety while restoring the operational and maintenance flexibility that was lost when the 24-month fuel cycle produced the unintended consequence of additional testing burden. This alternative period continues to provide assurance of valve operational readiness, as required by ASME OM Code-2004, Mandatory Appendix I, paragraph I-1310(b), and provides an acceptable level of quality and safety in accordance with 10CFR50.55a(a)(3)(i).

The basis for this request is as follows:
A review of the setpoint testing results for the time period from initial operation to the present (20 years), which comprises 103 data points, shows that the average setpoint change is 0.86%. This slight deviation is well within the NMP2 Improved Technical Specification surveillance requirement (SR 3.4.4.1) that the as-left setpoint be within 1% of the nameplate, and well within the as-found Code requirement of 3%. The testing of SRVs at NMP2 was taken over by the onsite test facility in 1997. There is no significant difference in the average change between the Wyle Labs data and the NMPNS onsite test facility data. A significant number of the as-found setpoints were greater than 1% above the nameplate set pressure. However, only 11 were greater than 2% above the nameplate, and only 3 exceeded the Code tolerance of 3% for the as-found setpoint test, requiring testing of additional SRVs. Two valve as-found tests were more than 3% below the nameplate set pressure. Note that there is a slight tendency toward higher as-found setpoints, but this tendency is well within both the Technical Specification and the Code requirements. The testing data indicate that setpoint history has been good with only infrequent need for Code-required additional testing. Therefore, the increased testing required by the switch to a 24 month refueling cycle (all SRVs tested in two cycles/48 months, compared to all SRVs tested in three 18-month cycles/54 months) will not result in any additional safety benefit to the plant.

Proposed Alternative and Basis for Use:

Class 1 pressure relief valves shall be tested at least once every three refueling cycles. A minimum of 20% of the valves from each valve group shall be tested within any 24 month interval. This 20% shall consist of valves that have not been tested during the current three cycle interval, if they exist. The test interval for any individual valve shall not exceed three refueling cycles.

Additionally, as required by the Code, if the setpoint of any SRV is found to be = 3% above the stamped set pressure, two additional SRVs are required to be tested for each valve found to be =3% above its stamped set pressure, which would significantly increase the rate of testing as a corrective measure.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 2 Third 10-Year Interval.

Precedent:

This Alternative was authorized by the NRC as GV-RR-07 on April 17, 2001 for the remainder of the second ten year interval. (Reference TAC No. MB0290)

<u>SECTION IIA</u>

<u>UNIT 1 PUMP AND VALVE TABLES</u>

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

TABLE 1 UNIT 1 PUMP AND VALVE (IST) PROGRAM P&IDs			
PID Number	**System Name**	**System Code**	**Valve Table Attachment Number**
Unit 1	**Unit 1 Systems**	**Unit 1**	**Unit 1**
C-18002-C	Automatic Depressurization	01, 66	1
C-18027-C C-18578-C	Breathing Air & Service Water to Drywell	114	2
C-18047-C	Control Room Chill Water and HVAC	210.1	3
C-18016-C	Control Rod Drive	44, 44.2, 44.3	4
C-18007-C	Core Spray	40, 81	5
C-18003-C C-18008-C C-18035-C C-18036-C C-18048-C	Condensate Transfer	50, 53, 57, 57.1, 59, 91	6
C-18014-C	Combustible Gas Control	201, 201.1, 201.2, 201.8, 201.9	7
C-18014-C	Hydrogen-Oxygen Monitoring	201.2, 201.7, 201.8	8
C-18012-C	Containment Spray	80, 93	9
C-18009-C	Clean Up	33, 37	10
C-18026-C	Emergency Diesel Generator Cooling Water, Air Start, Fuel Oil, Lube Oil	79, 96, 82, 79.1	11
C-18017-C	Emergency Cooling	05, 36, 39, 60, 28.2	12
C-18008-C	Spent Fuel Pool Cooling	54	13
C-18005-C	Feedwater	31	14
C-18011-C	Instrument Air	94, 113	15
C-18019-C	Liquid Poison	42, 42.1	16
C-18002-C	Main Steam	01, 37	17
C-18014-C C-19405-C	Traversing Incore Probe (TIP)	36, 201.2	18
C-18006-C	Primary Containment Vacuum Relief	68	19
C-18008-C C-18018-C C-18022-C C-18047-C	Reactor Building Closed Loop Cooling	70	20
C-18015-C C-18020-C	Reactor Recirculation	32, 44.1	21
C-18045-C	Waste Disposal	83.1	22
C-18015-C C-18016-C	Reactor Vessel Instrumentation	36	23
C-18007-C C-18018-C	Shutdown Cooling	38	24
C-18020-C C-18041-C	Sampling	110, 122	25
C-18022-C C-18027-C	Emergency Service Water	72	26

Constellation Energy (NMP Unit 1) IST Program

Pump Matrix

SYSTEM: PUMPS - IST Program Pumps

Component	PID(Coord)	Code Class	Group	Test Parameters: Disc. Press	DP	Flow	VIB	Speed	Freq	Code Dev.	Comments
PMP-210.1-36	C-18047-C (F-2)	3	A	No	Yes	Yes	Yes	No	Q		
Control Room Chilled Water #12				No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-210.1-37	C-18047-C (F-2)	3	A	No	Yes	Yes	Yes	No	Q		
Control Room Chilled Water #11				No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-42-38	C-18019-C (E-5)	2	B	Yes	No	Yes	No	No	Q		
LIQUID POISON #12				Yes	No	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-42-39	C-18019-C (E-4)	2	B	Yes	No	Yes	No	No	Q		
LIQUID POISON # 11				Yes	No	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-54-01	C-18008-C (C-4)	3	A	No	Yes	Yes	Yes	No	Q		
SPENT FUEL POOL COOLING #11				No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-54-02	C-18008-C (C-5)	3	A	No	Yes	Yes	Yes	No	Q		
SPENT FUEL POOL COOLING #12				No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-57-11	C-18048-C (E-5)	3	A	No	Yes	Yes	Yes	No	Q		
CONDENSATE TRANSFER #12				No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-57-12	C-18048-C (F-5)	3	A	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CONDENSATE TRANSFER #11				No	Yes	Yes	Yes	No	Q		
PMP-70-01	C-18022-C (A-5)	3	A	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
Reactor Building Closed Loop Cooling Water #11				No	Yes	Yes	Yes	No	CS		
				No	No	No	Yes	No	Q	RBCLC -PR - 01	
PMP-70-02	C-18022-C (B-5)	3	A	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
Reactor Building Closed Loop Cooling Water #12				No	No	No	Yes	No	Q	RBCLC -PR - 01	
				No	Yes	Yes	Yes	No	CS		
PMP-70-03	C-18022-C (C-5)	3	A	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
Reactor Building Closed Loop Cooling Water #13				No	No	No	Yes	No	Q	RBCLC -PR - 01	
				No	Yes	Yes	Yes	No	CS		

Constellation Energy (NMP Unit 1) IST Program

Pump Matrix

SYSTEM: PUMPS - IST Program Pumps

Component	PID(Coord)	Code Class	Group	Test Parameters: Disc. Press	DP	Flow	VIB	Speed	Freq	Code Dev.	Comments
PMP-72-03	C-18022-C (D-6)	3	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
EMERGENCY SERVICE WATER #12				No	Yes	No	No	No	Q		
PMP-72-04	C-18022-C (C-6)	3	B	No	Yes	Yes	Yes	No	Q		Comprehensive Pump Test
EMERGENCY SERVICE WATER #11				No	Yes	No	No	No	Q		
PMP-79-53	C-18026-C (B-6)	3	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
Emergency Diesel Generator #102 Cooling Water				No	Yes	Yes	No	No	Q		
PMP-79-54	C-18026-C (B-6)	3	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
Emergency Diesel Generator #103 Cooling Water				No	Yes	Yes	No	No	Q		
PMP-80-03	C-18012-C (B-6)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CONTAINMENT SPRAY PUMP #121				No	Yes	Yes	No	No	Q		
PMP-80-04	C-18012-C (C-5)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CONTAINMENT SPRAY PUMP #111				No	Yes	Yes	No	No	Q		
PMP-80-23	C-18012-C (G-6)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CONTAINMENT SPRAY PUMP #122				No	Yes	Yes	No	No	Q		
PMP-80-24	C-18012-C (F-5)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CONTAINMENT SPRAY PUMP #112				No	Yes	Yes	No	No	Q		
PMP-81-03	C-18007-C (G-5)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY PUMP #121				No	Yes	Yes	No	No	Q		
PMP-81-04	C-18007-C (G-5)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY PUMP #122				No	Yes	Yes	No	No	Q		
PMP-81-23	C-18007-C (B-5)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY PUMP #111				No	Yes	Yes	No	No	Q		
PMP-81-24	C-18007-C (B-5)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY PUMP #112				No	Yes	Yes	No	No	Q		
PMP-81-49	C-18007-C (A-4)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY TOPPING PUMP #112				No	Yes	Yes	No	No	Q		
PMP-81-50	C-18007-C (A-4)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY TOPPING PUMP #111				No	Yes	Yes	No	No	Q		
PMP-81-51	C-18007-C (H-4)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY TOPPING PUMP #121				No	Yes	Yes	No	No	Q		

SYSTEM: PUMPS - IST Program Pumps

Component	PID(Coord)	Code Class	Group	Test Parameters Disc. Press	DP	Flow	VIB	Speed	Freq	Code Dev.	Comments
PMP-81-52	C-18007-C (H-4)	2	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CORE SPRAY TOPPING PUMP #122				No	Yes	Yes	No	No	Q		
PMP-82-40	C-18026-C SH1 (C	N	B	No	No	Yes	Yes	No	Q		
Emergency Diesel Generator #102 Fuel Oil Transfer											
PMP-82-41	C-18026-C SH2 (B	N	B	No	No	Yes	Yes	No	Q		
Emergency Diesel Generator #103 Fuel Oil Transfer											
PMP-93-01	C-18012-C SH1 (E	3	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CONTAINMENT SPRAY RAW WATER PUMP #112				No	Yes	Yes	No	No	Q		
PMP-93-02	C-18012-C SH1 (C	3	B	No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
CONTAINMENT SPRAY RAW WATER PUMP #111				No	Yes	Yes	No	No	Q		
PMP-93-03	C-18012-C SH1 (G	3	B	No	Yes	Yes	No	No	Q		
CONTAINMENT SPRAY RAW WATER PUMP #122				No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test
PMP-93-04	C-18012-C SH1 (A	3	B	No	Yes	Yes	No	No	Q		
CONTAINMENT SPRAY RAW WATER PUMP #121				No	Yes	Yes	Yes	No	2Y		Comprehensive Pump Test

Valve Table

ADS - Automatic Depressurization

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-66-07 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-08 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-09 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (B-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-10 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (B-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-11 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (D-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-12 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (D-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-13 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (D-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-14 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (D-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-15 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (D-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-16 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (D-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-17 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-18 VACUUM BKR	2	N	C	A	4	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-25 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		

ADS - Automatic Depressurization

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-66-26 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-27 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (B-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-28 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (B-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-29 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (D-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-30 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (D-2)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-31 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (D-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-32 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (D-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-33 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (D-4)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-34 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (D-4)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-35 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		
CKV-66-36 VACUUM BKR	2	N	C	A	10	CHV	SE	C-18002-C SH1 (B-3)	C	OC	NA	FE-F FE-R	CMP CMP		
PSV-01-102A (PSV-A) ADS-3	1	N	B	A	6	GLV	SO	C-18002-C SH1 (B-3)	C	OC	C	FE FS-C PI ST-C ST-O	R R 2Y R R	ADS-ROJ - 01 ADS-ROJ - 01 ADS-ROJ - 01 ADS-ROJ - 01	

Valve Table

ADS - Automatic Depressurization

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PSV-01-102B	1	N	B	A	6	GLV	SO	C-18002-C SH1 (B-2)	C	OC	C	FE	R	ADS-ROJ - 01	
(PSV-B) ADS-1												FS-C	R	ADS-ROJ - 01	
												PI	2Y		
												ST-C	R	ADS-ROJ - 01	
												ST-O	R	ADS-ROJ - 01	
PSV-01-102C	1	N	B	A	6	GLV	SO	C-18002-C SH1 (C-2)	C	OC	C	FE	R	ADS-ROJ - 01	
(PSV-C) ADS-2												FS-C	R	ADS-ROJ - 01	
												PI	2Y		
												ST-C	R	ADS-ROJ - 01	
												ST-O	R	ADS-ROJ - 01	
PSV-01-102D	1	N	B	A	6	GLV	SO	C-18002-C SH1 (C-3)	C	OC	C	FE	R	ADS-ROJ - 01	
(PSV-D) ADS-4												FS-C	R	ADS-ROJ - 01	
												PI	2Y		
												ST-C	R	ADS-ROJ - 01	
												ST-O	R	ADS-ROJ - 01	
PSV-01-102E	1	N	B	A	6	GLV	SO	C-18002-C SH1 (B-3)	C	OC	C	FE	R	ADS-ROJ - 01	
(PSV-E) ADS-5												FS-C	R	ADS-ROJ - 01	
												PI	2Y		
												ST-C	R	ADS-ROJ - 01	
												ST-O	R	ADS-ROJ - 01	
PSV-01-102F	1	N	B	A	6	GLV	SO	C-18002-C SH1 (C-3)	C	OC	C	FE	R	ADS-ROJ - 01	
(PSV-F) ADS-6												FS-C	R	ADS-ROJ - 01	
												PI	2Y		
												ST-C	R	ADS-ROJ - 01	
												ST-O	R	ADS-ROJ - 01	

Valve Table

BA/SW - Breathing Air & Service Water to Drywell

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-114-114 BA OUTBOARD IV	2	N	A	P	1	GLV	MAN		LC	C	NA	LJ-C	30		
IV-114-116 BA INBOARD IV	2	N	A	P	1	GLV	MAN		C	C	NA	LJ-C	60		

Valve Table

CNS - Condensate Transfer System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-50-52 DEMIN OUTLET	3	N	B	A	6	GTV	MAN	C-18003-C (F-3)	O	C	NA	FE	R		
BV-53-02 CST OUTLET	3	N	B	A	4	GTV	MAN	C-18003-C (G-2)	O	C	NA	FE	R		
BV-53-03 CST OUTLET	3	N	B	A	4	GTV	MAN	C-18003-C (H-2)	O	C	NA	FE	R		
BV-57.1-01 SFP SLUDGE	3	N	B	P	1.5	GLV	AO	C-18048-C (E-6)	C	C	C	PI	2Y		
BV-57.1-03 CU SLUDGE	3	N	B	P	1.5	GLV	AO	C-18048-C (E-6)	C	C	C	PI	2Y		
BV-57.1-104 SFPC FILTER SLUDGE PUMP	3	N	B	A	1.5	GLV	MAN	C-18048-C (C-6)	O	C	NA	FE	R		
BV-59-03 COND MAKE-UP	3	N	B	A	12	GTV	MAN	C-18003-C (F-2)	O	C	NA	FE	R		
BV-59-05 COND MAKE-UP	3	N	B	A	8	PGV	MAN	C-18003-C (F-2)	O	C	NA	FE	R		
BV-91-184 SEAL WTR TO CT BLDG	3	N	B	A	0.75	GLV	MAN	C-18036-C (G-1)	O	C	NA	FE	R		
BV-91-209 SEAL WTR TO TURB BLDG	3	N	B	A	1.5	GLV	MAN	C-18036-C (F-3)	O	C	NA	FE	R		
CKV-57-03 SFP MAKE-UP	N	Y	C	A	3	CHV	SE	C-18008-C (C-2)	OC	O	NA	BDT-C FE-F	CMP CMP		
CKV-57-13 PUMP DISCHARGE	3	N	C	A	4	CHV	SE	C-18048-C (E-5)	OC	OC	NA	FE-F FE-R	Q Q		CKV Program
CKV-57-136 MIN FLOW	3	N	C	A	0.75	CHV	SE	C-18048-C (F-5)	OC	O	NA	BDT-C FE-F	R Q		

Valve Table

CNS - Condensate Transfer System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-57-14 PUMP DISCHARGE	3	N	C	A	4	CHV	SE	C-18048-C (F-5)	OC	OC	NA	FE-F FE-R	Q Q		CKV Program
CKV-57-142 MIN FLOW	3	N	C	A	0.75	CHV	SE	C-18048-C (F-5)	OC	O	NA	BDT-C FE-F	R Q		
IV-57-162 FILTER AID PUMP	3	N	B	A	0.5	GLV	MAN	C-18048-C (A-5)	O	C	NA	FE	R		
IV-57-176 INST FILL	3	N	B	A	1	GTV	MAN	C-18008-C (E-1)	O	C	NA	FE	R		
LCV-57-25 SFP MAKE-UP	3	N	B	A	3	DIV	AO	C-18008-C (C-2)	OC	O	O	FE FS-O	Q Q		OMN-8
LCV-57-58 SFP SURGE TANK MAKE-UP	3	N	B	A	3	GLV	AO	C-18008-C (D-2)	OC	O	O	FE FS-O	Q Q		OMN-8
PSV-57-57 COND XFER PMPS DISCH HDR RV	3	N	C	A	3	REV	SE	C-18048-C (F-4)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
VLV-57.1-101 SFPC FILTER SLUDGE PUMP	3	N	B	A	2	GLV	MAN	C-18048-C (C-6)	O	C	NA	FE	R		
VLV-57-231	3	N	B	A	0.75	GLV	MAN	C-18048-C (E-5)	O	C	NA	FE	R		
VLV-57-32 DEMIN RESIN FLUSH INLET	3	N	B	A	3	GLV	MAN	C-18048-C (A-6)	O	C	NA	FE	R		
VLV-57-41	3	N	B	A	4	GTV	MAN	C-18048-C (F-4)	O	C	NA	FE	R		
VLV-91-313 SEAL WTR TO REAC BLDG	3	N	B	A	0.75	GLV	MAN	C-18036-C (B-5)	O	C	NA	FE	R		

Valve Table

CRAC - Control Room Chilled Water and HVAC

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-210.1-01	3	N	B	A	3	PGV	AO	C-18047-C (E-3)	OC	O	O	FE	Q		AOV Program
												FS-O	Q		
COOLER INLET												ST-O	Q		
BV-210.1-02	3	N	B	A	3	PGV	AO	C-18047-C (E-3)	OC	O	O	FE	Q		AOV Program
												FS-O	Q		
COOLER INLET												ST-O	Q		
CKV-210.1-34	3	N	C	A	2.5	CHV	SE	C-18047-C (F-2)	OC	OC	NA	FE-F	Q		
PUMP DISCHARGE												FE-R	Q		
CKV-210.1-35	3	N	C	A	2.5	CHV	SE	C-18047-C (F-2)	OC	OC	NA	FE-F	Q		
PUMP DISCHARGE												FE-R	Q		
PSV-210.1-87	3	N	C	A	0.7	REV	SE	C-18047-C (E-1)	C	OC	NA	LA	10Y-S		
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
TCV-210.1-56	3	N	B	A	2.5	TWV	MO	C-18047-C (D-4)	OC	O	O	FE	Q		
												FS-O	Q		
												ST-O	Q		

Constellation Energy (NMP Unit 1) IST Program
Valve Table
CRD - Control Rod Drive

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-44-*(106) CHARGING WATER (Typical of 129)	2	N	C	A	0.5	SCV	SE	C-18016-C SH1 (C-3)	OC	C	NA	FE-R	R	CRD-ROJ - 02	Notes 1 & 2
CKV-44-*(108) SCRAM DISCHARGE (Typical of 129)	2	N	C	A	0.5	PICV	SE	C-18016-C SH1 (A-3)	OC	O	NA	SKID-F	TS	CRD-ROJ - 01	Notes 1 & 3
CKV-44-*(138) COOLING WATER INLET (Typical of 129)	1	N	C	A	0.5	CHV	SE	C-18016-C SH1 (C-2)	OC	C	NA	SKID-R	TS		Notes 1 & 4
CKV-44.3-12 OUTBOARD IV	1	N	A/C	A	3	CHV	SE	C-18016-C SH1 (H-5)	OC	C	NA	BDT-O FE-R LJ-C	CMP CMP APPJ		
CKV-44.3-13 INBOARD IV	1	N	A/C	A	3	CHV	SE	C-18016-C SH1 (H-5)	OC	C	NA	BDT-O FE-R LJ-C	CMP CMP APPJ		
FCV-44-*(126) SCRAM INLET (Typical of 129)	1	N	B	A	0.75	GLV	AO	C-18016-C SH1 (C-2)	C	O	O	FE FS-O SKID-O	TS TS TS	CRD-ROJ - 01	Notes 1 & 3
FCV-44-*(127) SCRAM OUTLET (Typical of 129)	1	N	B	A	0.75	GLV	AO	C-18016-C SH1 (A-2)	C	O	O	FE FS-O SKID-O	TS TS TS	CRD-ROJ - 01	Notes 1 & 3
IV-44.2-15 SDV VENT INBOARD IV	2	N	A	A	2	GLV	AO	C-18016-C SH2 (A-3)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y R	 CRD-VR - 01	AOV Program
IV-44.2-16 SDV VENT OUTBOARD IV	2	N	A	A	2	GLV	AO	C-18016-C SH2 (A-3)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y R	 CRD-VR - 01	AOV Program
IV-44.2-17 SDV DRAIN OUTBOARD IV	2	N	A	A	2	GLV	AO	C-18016-C SH2 (E-5)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y R	 CRD-VR - 01	AOV Program

Valve Table

CRD - Control Rod Drive

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-44.2-18	2	N	A	A	2	GLV	AO	C-18016-C SH2 (F-5)	O	C	C	FE	Q		AOV Program
SDV DRAIN INBOARD IV												FS-C	Q		
												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	R	CRD-VR - 01	

Valve Table

CRS - Core Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-40-03 OUBOARD IV PIV	1	N	A/C	A	12	CHV	SE	C-18007-C SH1 (G-3)	C	OC	NA	FE-F FE-R LK PE-F	R Q TS Q	CRS-ROJ - 01 CRS-ROJ - 01	Note 5 CKV Program
CKV-40-13 OUTBOARD IV PIV	1	N	A/C	A	12	CHV	SE	C-18007-C SH1 (B-3)	C	OC	NA	FE-F FE-R LK PE-F	R Q TS Q	CRS-ROJ - 01 CRS-ROJ - 01	Note 5 CKV Program
CKV-40-20 KEEPFILL OUTBOARD IV PIV	2	N	A/C	A	2	CHV	SE	C-18007-C SH1 (B-2)	OC	C	NA	BDT-O FE-R LK	R CS TS	 CRS-CSJ - 01	Note 5
CKV-40-21 KEEPFILL INBOARD IV PIV	1	N	A/C	A	2	CHV	SE	C-18007-C SH1 (B-3)	OC	C	NA	BDT-O FE-R LK	R Q TS		Note 5
CKV-40-22 KEEPFILL INBOARD IV PIV	1	N	A/C	A	2	CHV	SE	C-18007-C SH1 (G-3)	OC	C	NA	BDT-O FE-R LK	R Q TS		Note 5
CKV-40-23 KEEPFILL OUTBOARD IV PIV	2	N	A/C	A	2	CHV	SE	C-18007-C SH1 (G-2)	OC	C	NA	BDT-O FE-R LK	R CS TS	 CRS-CSJ - 01	Note 5
CKV-40-80 PEN X-14 Overpressure	1	N	A/C	A	0.50	CHV	SE	C-18007-C SH1 (D-3)	OC	OC	NA	FE-F FE-R LK	R R 2Y	CRS-ROJ - 02 CRS-ROJ - 02	
CKV-40-83 PEN X-13A Overpressure	1	N	A/C	A	0.50	CHV	SE	C-18007-C SH1 (E-3)	OC	OC	NA	FE-F FE-R LK	R R 2Y	CRS-ROJ - 02 CRS-ROJ - 02	
CKV-81-07 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18007-C SH1 (H-4)	C	OC	NA	FE-F FE-R PE-F	CMP CMP Q		
CKV-81-08 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18007-C SH1 (H-4)	C	OC	NA	FE-F FE-R PE-F	CMP CMP Q		
CKV-81-169 VACUUM BREAKER	2	N	C	A	0.75	CHV	SE	C-18007-C SH1 (G-3)	C	OC	NA	DI	CMP		

Valve Table

CRS - Core Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-81-170 VACUUM BREAKER	2	N	C	A	0.75	CHV	SE	C-18007-C SH1 (B-4)	C	OC	NA	DI	CMP		
CKV-81-183 CSTP 111 COOLING WATER CHECK VALVE	2	N	C	A	0.75	CHV	SE	C-18007-C SH1 (H-1)	C	O	NA	SKID-F	Q		
CKV-81-184 CSTP 112 COOLING WATER CHECK VALVE	2	N	C	A	0.75	CHV	SE	C-18007-C SH1 (H-1)	C	O	NA	SKID-F	Q		
CKV-81-185 CSTP 121 COOLING WATER CHECK VALVE	2	N	C	A	0.75	CHV	SE	C-18007-C SH1 (H-1)	C	O	NA	SKID-F	Q		
CKV-81-186 CSTP 122 COOLING WATER CHECK VALVE	2	N	C	A	0.75	CHV	SE	C-18007-C SH1 (H-1)	C	O	NA	SKID-F	Q		
CKV-81-27 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18007-C SH1 (A-4)	C	OC	NA	FE-F FE-R PE-F	R-S Q Q		
CKV-81-28 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18007-C SH1 (A-4)	C	OC	NA	FE-F FE-R PE-F	CMP CMP Q		
IV-40-01 INBOARD IV	1	N	A	A	12	GTV	MO	C-18007-C SH1 (E-3)	C	OC	AI	DIAG FE LW	OMN1 Q APPJ		Note 6
IV-40-02 OUTBOARD IV	1	N	B	A	12	GTV	MO	C-18007-C SH1 (F-3)	O	O	AI	DIAG FE	OMN1 Q		
IV-40-05 TEST LINE IV	1	N	A	A	6	GTV	MO	C-18007-C SH1 (G-3)	C	OC	AI	DIAG FE LW	OMN1 Q APPJ		Note 6
IV-40-06 TEST LINE	1	N	A	A	6	GTV	MO	C-18007-C SH1 (B-3)	C	OC	AI	DIAG FE LW	OMN1 Q APPJ		Note 6
IV-40-09 INBOARD IV	1	N	A	A	12	GTV	MO	C-18007-C SH1 (E-3)	C	OC	AI	DIAG FE LW	OMN1 Q APPJ		Note 6

Valve Table

CRS - Core Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-40-10 INBOARD IV	1	N	A	A	12	GTV	MO	C-18007-C SH1 (D-3)	C	OC	AI	DIAG FE LW	OMN1 Q APPJ		Note 6
IV-40-11 INBOARD IV	1	N	A	A	12	GTV	MO	C-18007-C SH1 (D-3)	C	OC	AI	DIAG FE LW	OMN1 Q APPJ		Note 6
IV-40-12 OUTBOARD IV	1	N	B	A	12	GTV	MO	C-18007-C SH1 (C-3)	O	O	AI	DIAG FE	OMN1 Q		
IV-40-30 HI POINT VENT INBOARD IV	1	N	A	A	1	GTV	MO	C-18007-C SH1 (D-2)	C	C	AI	DIAG FE LW	OMN1 Q APPJ		Note 6
IV-40-31 HI POINT VENT INBOARD IV	1	N	A	A	1	GTV	MO	C-18007-C SH1 (E-2)	C	C	AI	DIAG FE LW	OMN1 Q APPJ		Note 6
IV-40-32 HI POINT VENT OUTBOARD IV	2	N	A	A	1	GLV	AO	C-18007-C SH1 (C-2)	C	C	C	FE FS-C LW PI ST-C	Q Q APPJ 2Y Q		Note 6 AOV Program
IV-40-33 HI POINT VENT OUTBOARD IV	2	N	A	A	1	GLV	AO	C-18007-C SH1 (F-2)	C	C	C	FE FS-C LW PI ST-C	Q Q APPJ 2Y Q		Note 6 AOV Program
IV-81-01 SUCTION IV	2	N	B	A	14	GTV	MO	C-18007-C SH1 (F-4)	O	OC	AI	FE PI ST-C	Q 2Y Q		
IV-81-02 SUCTION IV	2	N	B	A	14	GTV	MO	C-18007-C SH1 (F-4)	O	OC	AI	FE PI ST-C	Q 2Y Q		
IV-81-21 SUCTION IV	2	N	B	A	14	GTV	MO	C-18007-C SH1 (C-4)	O	OC	AI	FE PI ST-C	Q 2Y Q		

Valve Table

CRS - Core Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-81-22 SUCTION IV	2	N	B	A	14	GTV	MO	C-18007-C SH1 (C-4)	O	OC	AI	FE PI ST-C	Q 2Y Q		
PRV-81-73 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (B-4)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-81-74 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (B-5)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-81-75 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (G-4)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-81-76 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (G-5)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-81-77 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (H-2)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-81-78 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (H-2)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-81-79 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (H-2)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-81-80 MOTOR COOLER	2	N	C	A	0.75	REV	SE	C-18007-C SH1 (H-2)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		

Valve Table

CRS - Core Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PSV-81-241	2	N	A/C	A	2	REV	SE	C-18007-C SH1 (A-4)	C	OC	NA	LA	10Y-S		
												LJ-C	30		
MIN FLOW IV												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-81-242	2	N	A/C	A	2	REV	SE	C-18007-C SH1 (B-4)	C	OC	NA	LA	10Y-S		
												LJ-C	30		
MIN FLOW IV												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-81-243	2	N	A/C	A	2	REV	SE	C-18007-C SH1 (H-3)	C	OC	NA	LA	10Y-S		
												LJ-C	30		
MIN FLOW IV												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-81-244	2	N	A/C	A	2	REV	SE	C-18007-C SH1 (H-3)	C	OC	NA	LA	10Y-S		
												LJ-C	30		
MIN FLOW IV												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		

Valve Table

CTN - Combustible Gas Control

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-201.2-02 DW N2 SUPPLY	3	Y	B	A	1	GLV	AO	C-18014-C SH1 (F-3)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-201.2-04 TORUS N2 SUPPLY	3	Y	B	A	1	GLV	AO	C-18014-C SH1 (F-4)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-201.2-05 TORUS N2 PUMP BACK	3	Y	B	P	3	PGV	AO	C-18014-C SH1 (F-4)	C	C	C	PI	2Y		
BV-201.2-08 DW N2 PUMP BACK	3	Y	B	P	3	PGV	AO	C-18014-C SH1 (F-3)	C	C	C	PI	2Y		
BV-201.2-136 PUMP BACK VENT	3	Y	B	P	3	PGV	AO	C-18014-C SH1 (H-3)	C	C	C	PI	2Y		
BV-201.8-03 VAPORIZER INLET	3	Y	B	A	1.5	BLV	AO	C-18014-C SH4 (B-2)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
BV-201.8-04 VAPORIZER INLET	3	Y	B	A	1	GTV	AO	C-18014-C SH4 (D-2)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		
BV-201.9-19 VAPORIZER INLET	3	Y	B	A	1	GTV	AO	C-18014-C SH3 (E-3)	O	O	O	FS-O PI ST-O	Q 2Y Q		
BV-201.9-46 DW N2 SUPPLY	3	Y	B	A	1.5	GTV	AO	C-18014-C SH1 (E-3)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		

Valve Table

CTN - Combustible Gas Control

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-201.9-47 TORUS N2 SUPPLY	3	Y	B	A	1.5	GTV	AO	C-18014-C SH1 (F-4)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-201-18 RBEVS BV	N	Y	B	P	12	BFV	AO	C-18014-C SH1 (H-2)	C	C	C	PI	2Y		AOV Program
CKV-201.9-94 CAD N2 SUPPLY	3	Y	C	A	1	CHV	SE	C-18014-C SH3 (F-5)	OC	O	NA	BDT-C FE-F	R Q		
DISK-201.8-97 Rupture disk	3	Y	C	A	1	RD	SE	C-18014-C SH4 (C-2)	C	OC	NA	RD	5Y		
FCV-201.8-02 FILL & CAD N2 SUPPLY	3	Y	B	A	1	GLV	AO	C-18014-C SH4 (F-5)	OC	O	O	FE FS-O	Q Q		OMN-8
FCV-201.9-49 FILL & CAD N2 SUPPLY	3	Y	B	A	1	GLV	AO	C-18014-C SH3 (G-3)	OC	O	O	FE FS-O	Q Q		OMN-8
IV-201.1-09 POST LOCA VENT INBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH1 (F-2)	C	OC	C	FE FS-C LJ-C PI ST-C ST-O	Q Q 60 2Y Q Q		
IV-201.1-11 POST LOCA VENT OUTBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH1 (F-2)	C	OC	C	FE FS-C LJ-C PI ST-C ST-O	Q Q 60 2Y Q Q		

Valve Table

CTN - Combustible Gas Control

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-201.1-14	2	N	A	A	1	GLV	AO	C-18014-C SH1 (D-2)	C	OC	C	FE	Q		
POST LOCA VENT INBOARD IV												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-201.1-16	2	N	A	A	1	GLV	AO	C-18014-C SH1 (C-2)	C	OC	C	FE	Q		
POST LOCA VENT OUTBOARD IV												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-201.2-03	2	N	A	A	4	GLV	AO	C-18014-C SH1 (F-2)	C	OC	C	FE	Q		
DW N2 FILL & BLEED OUTBOARD IV												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-201.2-06	2	N	A	A	3	GLV	AO	C-18014-C SH1 (F-4)	C	OC	C	FE	Q		
TORUS N2 FILL & BLEED OUTBOARD IV												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-201.2-32	2	N	A	A	4	GLV	AO	C-18014-C SH1 (F-2)	C	OC	C	FE	Q		
DW N2 FILL & BLEED INBOARD IV												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-201.2-33	2	N	A	A	3	GLV	AO	C-18014-C SH1 (F-5)	C	OC	C	FE	Q		
TORUS N2 FILL & BLEED INBOARD IV												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		

Valve Table

CTN - Combustible Gas Control

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-201-07 TORUS V&P OUTBOARD IV	2	N	A	A	20	BFV	MO	C-18014-C SH1 (A-6)	C	C	AI	DIAG FE LJ-C	OMN1 Q 30		
IV-201-08 TORUS V&P INBOARD IV	2	N	A	A	20	BFV	AO	C-18014-C SH1 (B-6)	C	C	C	FE FS-C LJ-C PI ST-C	Q Q 30 2Y Q		AOV Program
IV-201-09 DW V&P OUTBOARD IV	2	N	A	A	24	BFV	MO	C-18014-C SH1 (B-5)	C	C	AI	DIAG FE LJ-C	OMN1 Q 30		
IV-201-10 DW V&P INBOARD IV	2	N	A	A	24	BFV	AO	C-18014-C SH1 (B-5)	C	C	C	FE FS-C LJ-C PI ST-C	Q Q 30 2Y Q		AOV Program
IV-201-16 TORUS V&P INBOARD IV	2	N	A	A	20	BFV	AO	C-18014-C SH1 (G-5)	C	C	C	FE FS-C LJ-C PI ST-C	Q Q 30 2Y Q		AOV Program
IV-201-17 TORUS V&P OUTBOARD IV	2	N	A	A	20	BFV	MO	C-18014-C SH1 (H-5)	C	C	AI	DIAG FE LJ-C	OMN1 Q 30		
IV-201-31 DW V&P OUTBOARD IV	2	N	A	A	24	BFV	MO	C-18014-C SH1 (F-2)	C	C	AI	DIAG FE LJ-C	OMN1 Q 30		
IV-201-32 DW V&P INBOARD IV	2	N	A	A	24	BFV	AO	C-18014-C SH1 (F-2)	C	C	C	FE FS-C LJ-C PI ST-C	Q Q 30 2Y Q		AOV Program
PSV-201.8-10 CTN RELIEF VALVE	3	Y	C	A	0.5	REV	SE	C-18014-C SH4 (D-2)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		

Valve Table

CTN - Combustible Gas Control

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PSV-201.8-105	3	Y	C	A	0.5	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (B-4)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.8-109	3	Y	C	A	0.25	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (C-4)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.8-11	3	Y	C	A	0.5	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (D-3)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.8-12	3	Y	C	A	0.5	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (D-4)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.8-13	3	Y	C	A	1	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (F-4)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.8-14	3	Y	C	A	1	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (G-4)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.8-39	3	Y	C	A	0.25	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (C-3)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.8-96	3	Y	C	A	1	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH4 (B-2)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-10	3	Y	C	A	1	REV	SE	C-18014-C	C	OC	NA	LA	10Y-S		
								SH3 (D-2)				LL	10Y-S		
CTN RELIEF VALVE												RT	10Y-S		
												VT	10Y-S		

Valve Table

CTN - Combustible Gas Control

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PSV-201.9-11	3	Y	C	A	1	REV	SE	C-18014-C SH3 (C-2)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-14	3	Y	C	A	0.5	REV	SE	C-18014-C SH3 (D-2)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-17	3	Y	C	A	0.5	REV	SE	C-18014-C SH3 (D-3)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-24	3	Y	C	A	0.5	REV	SE	C-18014-C SH3 (F-3)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-25	3	Y	C	A	0.5	REV	SE	C-18014-C SH3 (E-3)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-33	3	Y	C	A	0.5	REV	SE	C-18014-C SH3 (E-4)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-40	3	Y	C	A	0.5	REV	SE	C-18014-C SH3 (C-4)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-69	3	Y	C	A	1	REV	SE	C-18014-C SH3 (G-3)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
PSV-201.9-70	3	Y	C	A	1	REV	SE	C-18014-C SH3 (G-2)	C	OC	NA	LA	10Y-S		
CTN RELIEF VALVE												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		

Valve Table

CTN(H2O2) - Hydrogen-Oxygen Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-201.2-67	2	N	A/C	A	0.75	CHV	SE	C-18014-C SH2 (E-5)	OC	C	NA	BDT-O	CMP		
												FE-R	CMP		
H2-O2 RETURN INBOARD IV												LJ-C	APPJ		
CKV-201.2-68	2	N	A/C	A	0.75	CHV	SE	C-18014-C SH2 (F-5)	OC	C	NA	BDT-O	CMP		
												FE-R	CMP		
H2-O2 RETURN OUTBOARD IV												LJ-C	APPJ		
CKV-201.2-70	2	N	A/C	A	0.75	CHV	SE	C-18014-C SH2 (F-5)	OC	C	NA	BDT-O	CMP		
												FE-R	CMP		
H2-O2 RETURN INBOARD IV												LJ-C	APPJ		
CKV-201.2-71	2	N	A/C	A	0.75	CHV	SE	C-18014-C SH2 (F-5)	OC	C	NA	BDT-O	CMP		
												FE-R	CMP		
H2-O2 RETURN OUTBOARD IV												LJ-C	APPJ		
IV-201.2-109	2	N	A	A	0.75	GLV	AO	C-18014-C SH2 (B-5)	O	C	C	FE	Q		Note 7 AOV Program
												FS-C	Q		
H2-O2 #11 TORUS RETURN INBOARD IV												LJ-C	60		
												PI	2Y		
												ST-C	Q	CTNH2O2-VR - 01	
IV-201.2-110	2	N	A	A	0.75	GLV	AO	C-18014-C SH2 (C-4)	O	C	C	FE	Q		Note 7 AOV Program
												FS-C	Q		
H2-O2 #11 TORUS SAMPLE INBOARD IV												LJ-C	60		
												PI	2Y		
												ST-C	Q	CTNH2O2-VR - 01	
IV-201.2-111	2	N	A	A	0.75	GLV	AO	C-18014-C SH2 (C-5)	O	C	C	FE	Q		Note 7 AOV Program
												FS-C	Q		
H2-O2 #11 TORUS SAMPLE OUTBOARD IV												LJ-C	60		
												PI	2Y		
												ST-C	Q	CTNH2O2-VR - 01	
IV-201.2-112	2	N	A	A	0.75	GLV	AO	C-18014-C SH2 (B-5)	O	C	C	FE	Q		Note 7 AOV Program
												FS-C	Q		
H2-O2 #11 TORUS RETURN OUTBOARD IV												LJ-C	60		
												PI	2Y		
												ST-C	Q	CTNH2O2-VR - 01	

CTN(H2O2) - Hydrogen-Oxygen Monitoring

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-201.2-23 H2-O2 #12 TORUS SAMPLE INBOARD IV	2	N	A	A	0.5	GLV	SO	C-18014-C SH2 (E-5)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 02	
IV-201.2-24 H2-O2 #12 TORUS SAMPLE OUTBOARD IV	2	N	A	A	0.5	GLV	SO	C-18014-C SH2 (E-5)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 02	
IV-201.2-29 H2-O2 #12 DRYWELL SAMPLE INBOARD IV	2	N	A	A	0.5	GLV	SO	C-18014-C SH2 (E-3)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 02	
IV-201.2-30 H2-O2 #12 DRYWELL SAMPLE OUTBOARD IV	2	N	A	A	0.5	GLV	SO	C-18014-C SH2 (E-3)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 02	
IV-201.7-01 H2-O2 #11 SAMPLE STREAM B INBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH2 (C-2)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 01	Note 7 AOV Program
IV-201.7-02 H2-O2 #11 SAMPLE STREAM B OUTBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH2 (C-2)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 01	Note 7 AOV Program

Valve Table

CTN(H2O2) - Hydrogen-Oxygen Monitoring

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-201.7-08 DW CAM SAMPLE INBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH2 (E-2)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 01	Note 7 AOV Program
IV-201.7-09 DW CAM SAMPLE OUTBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH2 (E-2)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 01	Note 7 AOV Program
IV-201.7-10 H2-O2 #11 DW RETURN INBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH2 (E-3)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 01	Note 7 AOV Program
IV-201.7-11 H2-O2 #11 DW RETURN OUTBOARD IV	2	N	A	A	1	GLV	AO	C-18014-C SH2 (E-3)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q	 CTNH2O2-VR - 01	Note 7 AOV Program
VLV-201.8-66 N2 SUP TO STACK DILUTION	3	Y	B	A	0.75	GLV	MAN	C-18014-C SH4 (C-4)	O	C	NA	FE	R		

Valve Table

CTN-SP - Containment Spray

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-80-40 INTER-TIE	2	N	B	A	6	GTV	AO	C-18012-C SH2 (B-2)	O	OC	O	FE FS-O PI ST-C ST-O	Q Q 2Y Q Q		
BV-80-41 INTER-TIE	2	N	B	A	6	GTV	AO	C-18012-C SH2 (B-1)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-80-44 INTER-TIE	2	N	B	A	6	GTV	AO	C-18012-C SH2 (G-2)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-80-45 INTER-TIE	2	N	B	A	6	GTV	AO	C-18012-C SH2 (G-1)	O	OC	O	FE FS-O PI ST-C ST-O	Q Q 2Y Q Q		
BV-93-25 DISCHARGE BV	3	N	B	P	12	GTV	MO	C-18012-C SH1 (C-3)	O	O	AI	PI	2Y		
BV-93-26 DISCHARGE BV	3	N	B	P	12	GTV	MO	C-18012-C SH1 (B-3)	O	O	AI	PI	2Y		
BV-93-27 DISCHARGE BV	3	N	B	P	12	GTV	MO	C-18012-C SH1 (F-3)	O	O	AI	PI	2Y		
BV-93-28 DISCHARGE BV	3	N	B	P	12	GTV	MO	C-18012-C SH1 (D-3)	O	O	AI	PI	2Y		
CKV-80-05 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH2 (A-6)	C	OC	NA	FE-F FE-R	CMP CMP		Condition Monitoring Program component
CKV-80-06 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH2 (B-5)	C	OC	NA	FE-F FE-R	CMP CMP		Condition Monitoring Program component

Valve Table

CTN-SP - Containment Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-80-17 DW INLET INBOARD IV	2	N	C	A	12	CHV	SE	C-18012-C SH2 (D-2)	OC	OC	NA	DI PE-F	CMP R		Condition Monitoring Program component
CKV-80-18 DW INLET INBOARD IV	2	N	C	A	12	CHV	SE	C-18012-C SH2 (D-3)	OC	OC	NA	DI PE-F	CMP R		Condition Monitoring Program component
CKV-80-19 TORUS INLET INBOARD IV	2	N	C	A	3	CHV	SE	C-18012-C SH2 (F-3)	OC	OC	NA	DI	CMP		Condition Monitoring Program component
CKV-80-25 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH2 (H-6)	C	OC	NA	FE-F FE-R	CMP CMP		Condition Monitoring Program component
CKV-80-26 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH2 (G-5)	C	OC	NA	FE-F FE-R	CMP CMP		Condition Monitoring Program component
CKV-80-37 DW INLET INBOARD IV	2	N	C	A	12	CHV	SE	C-18012-C SH2 (E-2)	OC	OC	NA	DI PE-F	CMP R		Condition Monitoring Program component
CKV-80-38 DW INLET INBOARD IV	2	N	C	A	12	CHV	SE	C-18012-C SH2 (E-3)	OC	OC	NA	DI PE-F	CMP R		Condition Monitoring Program component
CKV-80-39 TORUS INLET INBOARD IV	2	N	C	A	3	CHV	SE	C-18012-C SH2 (C-3)	OC	OC	NA	DI	CMP		Condition Monitoring Program component
CKV-80-65 TORUS INLET INBOARD IV	2	N	C	A	3	CHV	SE	C-18012-C SH2 (D-3)	OC	OC	NA	DI PE-F	CMP R		Condition Monitoring Program component
CKV-80-66 TORUS INLET OUTBOARD IV	2	N	C	A	3	CHV	SE	C-18012-C SH2 (C-2)	OC	OC	NA	DI	CMP		Condition Monitoring Program component
CKV-80-67 TORUS INLET INBOARD IV	2	N	C	A	3	CHV	SE	C-18012-C SH2 (E-3)	OC	OC	NA	DI PE-F	CMP R		Condition Monitoring Program component
CKV-80-68 TORUS INLET OUTBOARD IV	2	N	C	A	3	CHV	SE	C-18012-C SH2 (F-2)	OC	OC	NA	DI	CMP		Condition Monitoring Program component
CKV-93-09 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (A-4)	OC	O	NA	BDT-C FE-F	R Q		CKV Program

Valve Table

CTN-SP - Containment Spray

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-93-10 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (B-4)	OC	O	NA	BDT-C FE-F	R Q		CKV Program
CKV-93-11 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (G-4)	OC	O	NA	BDT-C FE-F	R Q		CKV Program
CKV-93-12 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (E-4)	OC	O	NA	BDT-C FE-F	R Q		CKV Program
CKV-93-57 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (B-3)	OC	O	NA	BDT-C FE-F	R Q		CKV Program
CKV-93-58 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH1 (C-1)	C	C	NA	BDT-O FE-R LJ	R Q APPJ		Note 8 CKV Program
CKV-93-59 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (E-3)	OC	O	NA	BDT-C FE-F	R Q		CKV Program
CKV-93-60 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH1 (E-2)	C	C	NA	BDT-O FE-R LJ	R Q APPJ		Note 8 CKV Program
CKV-93-61 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (E-2)	OC	O	NA	BDT-C FE-F	R Q		CKV Program
CKV-93-62 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH1 (A-2)	C	C	NA	BDT-O FE-R LJ	R Q APPJ		Note 8 CKV Program
CKV-93-63 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18012-C SH1 (F-3)	OC	O	NA	BDT-C FE-F	R Q		CKV Program
CKV-93-64 PUMP DISCHARGE	2	N	C	A	12	CHV	SE	C-18012-C SH1 (F-1)	C	C	NA	BDT-O FE-R LJ	R Q APPJ		Note 8 CKV Program
FCV-80-118 TEST LINE	2	N	B	A	6	GLV	MO	C-18012-C SH2 (F-4)	C	OC	AI	DIAG FE	OMN1 2Y		

CTN-SP - Containment Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
FCV-93-71 RAW INTER-TIE	2	N	B	P	12	PGV	MO	C-18012-C SH1 (C-1)	C	C	AI	LJ PI	APPJ 2Y		Note 8
FCV-93-72 RAW INTER-TIE	2	N	B	P	12	PGV	MO	C-18012-C SH1 (E-2)	C	C	AI	LJ PI	APPJ 2Y		Note 8
FCV-93-73 RAW INTER-TIE	2	N	B	P	12	PGV	MO	C-18012-C SH1 (A-2)	C	C	AI	LJ PI	APPJ 2Y		Note 8
FCV-93-74 RAW INTER-TIE	2	N	B	P	12	PGV	MO	C-18012-C SH1 (F-1)	C	C	AI	LJ PI	APPJ 2Y		Note 8
IV-80-01 SUCTION IV	2	N	B	A	12	GTV	MO	C-18012-C SH2 (C-5)	O	OC	AI	FE PI ST-C	Q 2Y Q		
IV-80-02 SUCTION IV	2	N	B	A	12	GTV	MO	C-18012-C SH2 (D-6)	O	OC	AI	FE PI ST-C	Q 2Y Q		
IV-80-114 RW DISCHARGE	2	N	B	A	4	PGV	MO	C-18012-C SH2 (H-2)	C	C	AI	FE PI ST-C	Q 2Y Q		
IV-80-115 RW DISCHARGE	2	N	B	A	4	PGV	MO	C-18012-C SH2 (H-2)	C	C	AI	FE PI ST-C	Q 2Y Q		
IV-80-15 INLET OUTBOARD IV	2	N	B	A	12	GTV	AO	C-18012-C SH2 (C-2)	O	OC	O	FE FS-O PI ST-C ST-O	Q Q 2Y Q Q		
IV-80-16 INLET OUTBOARD IV	2	N	B	A	12	GTV	AO	C-18012-C SH2 (C-3)	O	OC	O	FE FS-O PI ST-C ST-O	Q Q 2Y Q Q		
IV-80-21 SUCTION IV	2	N	B	A	12	GTV	MO	C-18012-C SH2 (F-5)	O	OC	AI	FE PI ST-C	Q 2Y Q		

Valve Table

CTN-SP - Containment Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-80-22	2	N	B	A	12	GTV	MO	C-18012-C SH2 (E-6)	O	OC	AI	FE	Q		
												PI	2Y		
SUCTION IV												ST-C	Q		
IV-80-35	2	N	B	A	12	GTV	AO	C-18012-C SH2 (F-2)	O	OC	O	FE	Q		
												FS-O	Q		
INLET OUTBOARD IV												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-80-36	2	N	B	A	12	GTV	AO	C-18012-C SH2 (F-3)	O	OC	O	FE	Q		
												FS-O	Q		
INLET OUTBOARD IV												PI	2Y		
												ST-C	Q		
												ST-O	Q		
PSV-80-102A	2	N	C	A	0.5	REV	SE	C-18012-C SH1 (H-3)	C	OC	NA	LA	10Y-S		
												LL	10Y-S		
PUMP COOLER A												RT	10Y-S		
												VT	10Y-S		
PSV-80-102B	2	N	C	A	0.5	REV	SE	C-18012-C SH1 (H-3)	C	OC	NA	LA	10Y-S		
												LL	10Y-S		
PUMP COOLER B												RT	10Y-S		
												VT	10Y-S		
PSV-80-102C	2	N	C	A	0.5	REV	SE	C-18012-C SH1 (H-3)	C	OC	NA	LA	10Y-S		
												LL	10Y-S		
PUMP COOLER C												RT	10Y-S		
												VT	10Y-S		
PSV-80-102D	2	N	C	A	0.5	REV	SE	C-18012-C SH1 (H-3)	C	OC	NA	LA	10Y-S		
												LL	10Y-S		
PUMP COOLER D												RT	10Y-S		
												VT	10Y-S		

Valve Table

CU - Reactor Water Cleanup System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-37-08R RX DRAIN	1	N	B	P	2	GLV	MO	C-18009-C SH1 (B-2)	C	C	AI	PI	2Y		
BV-37-09R RX DRAIN	1	N	B	P	2	GLV	MO	C-18009-C SH1 (B-2)	C	C	AI	PI	2Y		
CKV-33-03 RETURN OUTBOARD IV	1	N	A/C	A	6	CHV	SE	C-18009-C SH1 (C-1)	OC	C	NA	BDT-O FE-R LJ-C	CMP CMP APPJ		Condition Monitoring Program component
IV-33-01R RETURN INBOARD IV	1	N	A	A	6	GTV	MO	C-18009-C SH1 (C-1)	O	C	AI	DIAG FE LJ-C	OMN1 CS 60		
IV-33-02R SUPPLY INBOARD IV	1	N	A	A	6	GTV	MO	C-18009-C SH1 (A-2)	O	C	AI	DIAG FE LJ-C	OMN1 CS 60		
IV-33-04 SUPPLY OUTBOARD IV	1	N	A	A	6	GTV	MO	C-18009-C SH1 (A-2)	O	C	AI	DIAG FE LJ-C	OMN1 CS 60		

Valve Table

DG - Diesel Generator Air Start, Fuel/Lube Oil Systems

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-96-107 DG 103 AIR START RELAY	N	Y	B	A	1.5	GTV	AO	C-18026-C SH2 (F-3)	C	O	C	FE SKID-O	Q Q		Note 9
BV-96-85 DG 102 AIR START RELAY	N	Y	B	A	1.5	GTV	AO	C-18026-C SH1 (F-3)	C	O	C	FE SKID-O	Q Q		Note 9
CKV-79.1-19 DG 102 L.O. COOLER DISCHARGE	N	Y	C	A	0.75	CHV	SE	C-18026-C SH1 (E-4)	OC	OC	NA	SKID-F SKID-R	Q Q		
CKV-79.1-38 DG 103 L.O. COOLER DISCHARGE	N	Y	C	A	0.75	CHV	SE	C-18026-C SH2 (E-4)	OC	OC	NA	SKID-F SKID-R	Q Q		
CKV-79-59 DG 102 COOLING WATER PUMP DISCHARGE	3	N	C	A	4	CHV	SE	C-18026-C SH1 (B-5)	OC	O	NA	BDT-C FE-F	Q Q		CKV Program
CKV-79-60 DG 103 COOLING WATER PUMP DISCHARGE	3	N	C	A	4	CHV	SE	C-18026-C SH2 (B-5)	OC	O	NA	BDT-C FE-F	Q Q		CKV Program
CKV-82-64 DG 103 FUEL STORAGE TANK VENT	N	Y	C	A	0.75	CHV	SE	C-18026-C SH2 (B-3)	OC	O	NA	SKID-F	Q		Note 9
CKV-82-73 DG 102 FUEL PUMP DISCHARGE	N	Y	C	A	0.5	CHV	SE	C-18026-C SH1 (B-1)	OC	OC	NA	SKID-F SKID-R	Q Q		
CKV-82-78 DG 103 FUEL PUMP DISCHARGE	N	Y	C	A	0.5	CHV	SE	C-18026-C SH2 (B-1)	OC	OC	NA	SKID-F SKID-R	Q Q		
CKV-82-79 DG 103 FUEL PUMP RECIRC	N	Y	C	A	0.75	CHV	SE	C-18026-C SH2 (C-1)	OC	O	NA	SKID-F	Q		
CKV-82-80 DG 102 FUEL PUMP RECIRC	N	Y	C	A	0.5	CHV	SE	C-18026-C SH1 (B-1)	OC	O	NA	SKID-F	Q		
CKV-82-85 DG 102 STORAGE TANK FILL	N	Y	C	A	0.75	CHV	SE	C-18026-C SH1 (B-3)	OC	O	NA	SKID-F	Q		Note 9
CKV-82-86 DG 103 STORAGE TANK FOOT	N	Y	C	A	1.5	CHV	SE	C-18026-C SH1 (C-3)	OC	OC	NA	FE-F FE-R SKID-R	Q Q Q		Note 9

Valve Table

DG - Diesel Generator Air Start, Fuel/Lube Oil Systems

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-82-87 DG 103 STORAGE TANK FOOT	N	Y	C	A	1.5	CHV	SE	C-18026-C SH2 (A-3)	OC	OC	NA	FE-F FE-R SKID-R	Q Q Q		Note 9
CKV-96-11 102-1 COMPRESSOR DISCHARGE	N	Y	C	A	0.75	SCV	SE	C-18026-C SH1 (E-1)	OC	C	NA	FE-R	Q		
CKV-96-12 102-2 COMPRESSOR DISCHARGE	N	Y	C	A	0.75	SCV	SE	C-18026-C SH1 (E-2)	OC	C	NA	FE-R	Q		
CKV-96-121 DG 102 AIR START MOTOR CHECK	N	Y	C	A	0.375	CHV	SE	C-18026-C SH1 (F-3)	OC	OC	NA	SKID-F SKID-R	Q Q		Note 9
CKV-96-122 DG 103 AIR START MOTOR CHECK	N	Y	C	A	0.375	CHV	SE	C-18026-C SH2 (F-3)	OC	OC	NA	SKID-F SKID-R	Q Q		Note 9
CKV-96-38 103-1 COMPRESSOR DISCHARGE	N	Y	C	A	0.75	SCV	SE	C-18026-C SH2 (E-1)	OC	C	NA	FE-R	Q		
CKV-96-39 103-2 COMPRESSOR DISCHARGE	N	Y	C	A	0.75	SCV	SE	C-18026-C SH2 (E-2)	OC	C	NA	FE-R	Q		
PSV-96-15 TANK 96-04	N	Y	C	A	0.5	REV	SE	C-18026-C SH1 (F-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-16 TANK 96-05	N	Y	C	A	0.5	REV	SE	C-18026-C SH1 (G-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-17 TANK 96-06	N	Y	C	A	0.5	REV	SE	C-18026-C SH1 (G-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-18 TANK 96-07	N	Y	C	A	0.5	REV	SE	C-18026-C SH1 (H-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		

Constellation Energy (NMP Unit 1) IST Program

Valve Table

DG - Diesel Generator Air Start, Fuel/Lube Oil Systems

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PSV-96-19 TANK 96-08	N	Y	C	A	0.5	REV	SE	C-18026-C SH1 (H-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-20 DG 102 AIR HEADER	N	Y	C	A	0.5	REV	SE	C-18026-C SH1 (G-3)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-44 TANK 96-31	N	Y	C	A	0.5	REV	SE	C-18026-C SH2 (F-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-45 TANK 96-32	N	Y	C	A	0.5	REV	SE	C-18026-C SH2 (G-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-46 TANK 96-33	N	Y	C	A	0.5	REV	SE	C-18026-C SH2 (G-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-47 TANK 96-34	N	Y	C	A	0.5	REV	SE	C-18026-C SH2 (H-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-48 TANK 96-35	N	Y	C	A	0.5	REV	SE	C-18026-C SH2 (H-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-96-49 DG 103 AIR HEADER	N	Y	C	A	0.5	REV	SE	C-18026-C SH2 (G-3)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
SOV-96-108 DG 103 PINION DRIVES	N	Y	B	A	0.375	TWV	SO	C-18026-C SH2 (F-3)	C	O	C	FE SKID-O	Q Q		Note 9

Valve Table

DG - Diesel Generator Air Start, Fuel/Lube Oil Systems

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
SOV-96-86 DG 102 PINION DRIVES	N	Y	B	A	0.375	TWV	SO	C-18026-C SH1 (F-3)	C	O	C	FE SKID-O	Q Q		Note 9
VLV-82-33 1-1/2" GATE VALVE - TIE VALVE (PUMP SUCTION)	N	Y	B	A	1.5	GTV	MAN	C-18026-C SH1 (C-3)	LC	O	NA	FE	R		Note 10
VLV-82-34 1-1/2" GATE VALVE - TIE VALVE (PUMP SUCTION)	N	Y	B	A	1.5	GTV	MAN	C-18026-C SH2 (A-3)	LC	O	NA	FE	R		Note 10

Constellation Energy (NMP Unit 1) IST Program
Valve Table
EC - Emergency Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-05-05 3	2	N	B	A	1.5	GLV	MO	C-18017-C (E-2)	C	OC	AI	DIAG FE	OMN1 2Y		
BV-05-07 VENT	2	N	B	A	1.5	GLV	MO	C-18017-C (E-3)	C	OC	AI	DIAG FE	OMN1 2Y		
BV-60-03 MAKE-UP	3	N	B	A	4	GLV	AO	C-18017-C (G-1)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-60-04 MAKE-UP	3	N	B	A	4	GLV	AO	C-18017-C (B-1)	C	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
CKV-28.2-05 CRD-KEEPFULL	2	N	C	A	0.5	CHV	SE	C-18017-C (C-6)	OC	C	NA	BDT-O FE-R	R Q		
CKV-28.2-11 CRD-KEEPFULL	2	N	C	A	0.5	CHV	SE	C-18017-C (F-6)	OC	C	NA	BDT-O FE-R	R Q		
CKV-36-57 STM FLOW	1	N	C	A	0.75	EFV	SE	C-18017-C (A-6)	O	C	NA	BDT-O FE-R	R R	EC-ROJ - 01	Note 11
CKV-36-62 STM FLOW	1	N	C	A	0.75	EFV	SE	C-18017-C (A-6)	O	C	NA	BDT-O FE-R	R R	EC-ROJ - 01	Note 11
CKV-36-67 STM FLOW	1	N	C	A	0.75	EFV	SE	C-18017-C (A-6)	O	C	NA	BDT-O FE-R	R R	EC-ROJ - 01	Note 11
CKV-36-72 STM FLOW	1	N	C	A	0.75	EFV	SE	C-18017-C (A-6)	O	C	NA	BDT-O FE-R	R R	EC-ROJ - 01	Note 11
CKV-39-03 INBOARD IV	1	N	A/C	A	10	CHV	SE	C-18017-C (D-6)	C	OC	NA	FE-F FE-R LJ-C	CMP CMP APPJ		Condition Monitoring Program component

Valve Table

EC - Emergency Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-39-04 INBOARD IV	1	N	A/C	A	10	CHV	SE	C-18017-C (E-6)	C	OC	NA	FE-F FE-R LJ-C	CMP CMP APPJ		Condition Monitoring Program component
CKV-39-166 KEEPFULL	2	N	C	A	0.5	CHV	SE	C-18017-C (C-6)	OC	C	NA	BDT-O FE-R	Q Q		
CKV-39-170 KEEPFULL	2	N	C	A	0.5	CHV	SE	C-18017-C (F-6)	OC	C	NA	BDT-O FE-R	Q Q		
CKV-60-05 MAKE-UP TANK INLET	3	N	C	A	4	CHV	SE	C-18017-C (B-1)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
CKV-60-06 MAKE-UP TANK INLET	3	N	C	A	4	CHV	SE	C-18017-C (G-1)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
IV-05-01R #11 INDIVIDUAL VENT	2	Y	B	A	1	GLV	AO	C-18017-C (D-2)	O	C	C	FE FS-C LK PI ST-C	Q Q 2Y 2Y Q		
IV-05-02R COMMON VENT	2	N	A	A	1	GLV	AO	C-18017-C (D-1)	O	C	C	FE FS-C LJ PI ST-C	Q Q 2Y 2Y Q		
IV-05-03R COMMON VENT	2	N	A	A	1	GLV	AO	C-18017-C (D-1)	O	C	C	FE FS-C LJ PI ST-C	Q Q 2Y 2Y Q		
IV-05-04R #12 INDIVIDUAL VENT	2	N	B	A	1	GLV	AO	C-18017-C (E-2)	O	C	C	FE FS-C LK PI ST-C	Q Q 2Y 2Y Q		

Valve Table

EC - Emergency Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-05-11	2	Y	B	A	1	GLV	AO	C-18017-C (D-2)	O	C	C	FE	Q		
#11 INDIVIDUAL VENT												FS-C	Q		
												LK	2Y		
												PI	2Y		
												ST-C	Q		
IV-05-12	2	Y	B	A	1	GLV	AO	C-18017-C (E-2)	O	C	C	FE	Q		
#12 INDIVIDUAL VENT												FS-C	Q		
												LK	2Y		
												PI	2Y		
												ST-C	Q		
IV-39-05	1	N	A	A	10	GLV	AO	C-18017-C (C-6)	C	OC	O	FE	R	EC-ROJ - 02	AOV Program
OUTBOARD IV												FS-O	R	EC-ROJ - 02	
												LJ-C	30		
												PI	2Y		
												ST-C	R	EC-ROJ - 02	
												ST-O	R	EC-ROJ - 02	
IV-39-06	1	N	A	A	10	GLV	AO	C-18017-C (F-6)	C	OC	O	FE	R	EC-ROJ - 02	AOV Program
OUTBOARD IV												FS-O	R	EC-ROJ - 02	
												LJ-C	60		
												PI	2Y		
												ST-C	R	EC-ROJ - 02	
												ST-O	R	EC-ROJ - 02	
IV-39-07R	1	N	A	A	10	GTV	MO	C-18017-C (D-4)	O	OC	AI	DIAG	OMN1		
												FE	Q		
INBOARD IV												LJ-C	60		
IV-39-08R	1	N	A	A	10	GTV	MO	C-18017-C (E-4)	O	OC	AI	DIAG	OMN1		
												FE	Q		
INBOARD IV												LJ-C	60		
IV-39-09R	1	N	A	A	10	GTV	MO	C-18017-C (D-4)	O	OC	AI	DIAG	OMN1		
												FE	Q		
OUTBOARD IV												LJ-C	60		
IV-39-10R	1	N	A	A	10	GTV	MO	C-18017-C (E-4)	O	OC	AI	DIAG	OMN1		
												FE	Q		
OUTBOARD IV												LJ-C	60		

Valve Table

EC - Emergency Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-39-11R DRAIN	2	N	A	A	1	GTV	AO	C-18017-C (B-4)	O	C	C	FE FS-C LJ PI ST-C	Q Q 2Y 2Y Q		
IV-39-12R DRAIN	2	N	A	A	1	GTV	AO	C-18017-C (B-4)	O	C	C	FE FS-C LJ PI ST-C	Q Q 2Y 2Y Q		
IV-39-13R DRAIN	2	N	A	A	1	GTV	AO	C-18017-C (G-4)	O	C	C	FE FS-C LJ PI ST-C	Q Q 2Y 2Y Q		
IV-39-14R DRAIN	2	N	A	A	1	GTV	AO	C-18017-C (G-4)	O	C	C	FE FS-C LJ PI ST-C	Q Q 2Y 2Y Q		
LCV-60-17 LEVEL CONTROL	3	N	B	A	4	GLV	AO	C-18017-C (B-2)	OC	O	O	FE FS-O PI	Q Q 2Y		OMN-8 AOV Program
LCV-60-18 LEVEL CONTROL	3	N	B	A	4	GLV	AO	C-18017-C (G-2)	OC	O	O	FE FS-O PI	Q Q 2Y		OMN-8 AOV Program
PSV-28.2-02 CRD-KEEPFULL	2	N	C	A	0.5	REV	SE	C-18017-C (B-6)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-28.2-08 CRD-KEEPFULL	2	N	C	A	0.5	REV	SE	C-18017-C (G-6)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		

Valve Table

ESW - Emergency Service Water

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-72-123 RX BLDG	3	N	B	A	4	GTV	MAN	C-18022-C SH1 (A-2)	O	C	NA	FE	R		
BV-72-70 RX BLDG	3	N	B	A	4	GTV	MAN	C-18022-C SH1 (B-2)	O	C	NA	FE	R		
CKV-72-11 ESW PUMP #12 DISCHARGE	3	N	C	A	14	CHV	SE	C-18022-C SH1 (D-5)	OC	OC	NA	FE-F FE-R	CS CS	ESW-CSJ - 01 ESW-CSJ - 01	CKV Program
CKV-72-12 ESW PUMP #11 DISCHARGE	3	N	C	A	14	CHV	SE	C-18022-C SH1 (C-5)	OC	OC	NA	FE-F FE-R	CS CS	ESW-CSJ - 01 ESW-CSJ - 01	CKV Program
CKV-72-21 SW HEADER CHECK	3	N	C	A	20	CHV	SE	C-18022-C SH1 (D-2)	OC	C	NA	BDT-O FE-R	CS CS	 ESW-CSJ - 01	CKV Program
CKV-72-22 SW HEADER CHECK	3	N	C	A	20	CHV	SE	C-18022-C SH1 (D-3)	OC	C	NA	BDT-O FE-R	CS CS	 ESW-CSJ - 01	CKV Program
IV-72-479 SW TO DW OUTBOARD IV	2	N	A	P	1	GLV	MAN	C-18006-C SH3 (F-1)	LC	C	NA	LJ-C	60		
IV-72-480 SW TO DW INBOARD IV	2	N	A	P	1	GLV	MAN	C-18006-C SH3 (F-2)	LC	C	NA	LJ-C	60		

Valve Table

FP - Spent Fuel Pool Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-49-53 COND LETDOWN	3	N	B	P	8	TWV	AO	C-18008-C (H-2)	C	C	C	PI	2Y		
BV-54-12 FILTER INLET	3	N	B	A	6	BFV	AO	C-18008-C (E-5)	OC	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-54-13 FILTER INLET	3	N	B	A	6	BFV	AO	C-18008-C (E-4)	OC	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		
BV-54-16 COOLER RETURN	3	N	B	P	6	PGV	AO	C-18008-C (H-1)	O	O	O	PI	2Y		
BV-54-17 SFP SUCTION	3	N	B	P	10	PGV	AO	C-18008-C (B-4)	O	O	O	PI	2Y		
BV-54-18 PIT SUCTION	3	N	B	P	10	PGV	AO	C-18008-C (A-4)	C	C	C	PI	2Y		
BV-54-34 SLUDGE	3	N	B	P	8	PGV	AO	C-18008-C (F-4)	C	C	C	PI	2Y		
BV-54-35 SLUDGE	3	N	B	P	8	PGV	AO	C-18008-C (E-6)	C	C	C	PI	2Y		
BV-54-37 PRE-COAT	3	N	B	P	3	BFV	AO	C-18008-C (F-4)	C	C	C	PI	2Y		
BV-54-38 PRE-COAT	3	N	B	P	3	BFV	AO	C-18008-C (E-5)	C	C	C	PI	2Y		
BV-54-39 FILTER VENT	3	N	B	P	3	BFV	AO	C-18008-C (F-4)	C	C	C	PI	2Y		

Valve Table

FP - Spent Fuel Pool Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-54-40 FILTER VENT	3	N	B	P	3	BFV	AO	C-18008-C (F-5)	C	C	C	PI	2Y		
BV-85-160 RW LETDOWN	3	N	B	P	6	GLV	AO	C-18008-C (H-2)	C	C	C	PI	2Y		
CKV-54-129 SIPHON BKR	3	Y	C	A	0.75	CHV	SE	C-18008-C (B-1)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
CKV-54-131 SIPHON BKR	3	N	C	A	2	CHV	SE	C-18008-C (D-1)	OC	O	NA	DI	CMP		Condition Monitoring Program component
CKV-54-133 SIPHON BKR	3	N	C	A	2	CHV	SE	C-18008-C (D-1)	OC	O	NA	DI	CMP		Condition Monitoring Program component
CKV-54-146 SIPHON BKR	3	Y	C	A	0.75	CHV	SE	C-18008-C (D-1)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
CKV-54-45 COOLER OUTLET	3	N	C	A	6	CHV	SE	C-18008-C (H-5)	OC	O	NA	BDT-C FE-F	Q Q		CKV Program
CKV-54-46 COOLER OUTLET	3	N	C	A	6	CHV	SE	C-18008-C (H-4)	OC	O	NA	BDT-C FE-F	Q Q		CKV Program
CKV-54-71 SPF INLET	3	N	C	A	6	CHV	SE	C-18008-C (D-1)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
CKV-54-72 SPF INLET	3	N	C	A	6	CHV	SE	C-18008-C (C-1)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
FCV-54-14 COOLER INLET	3	N	B	A	6	BFV	AO(MAN)	C-18008-C (F-5)	OC	O	NA	FE	Q		
FCV-54-15 COOLER INLET	3	N	B	A	6	BFV	AO(MAN)	C-18008-C (F-4)	OC	O	NA	FE	Q		

Valve Table

FW/HPCI - Feedwater

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-31-01R OUTBOARD IV	1	N	A/C	A	18	CHV	SE	C-18005-C SH2 (B-3)	OC	C	NA	BDT-O FE-R LJ-C	CMP CMP 24		Condition Monitoring Program component
CKV-31-02R OUTBOARD IV	1	N	A/C	A	18	CHV	SE	C-18005-C SH2 (B-3)	OC	C	NA	BDT-O FE-R LJ-C	CMP CMP 24		Condition Monitoring Program component
IV-31-07 INBOARD IV	1	N	A	A	18	GTV	MO	C-18005-C SH2 (B-3)	O	C	AI	DIAG FE LJ-C	OMN1 CS 30		
IV-31-08 INBOARD IV	1	N	A	A	18	GTV	MO	C-18005-C SH2 (B-3)	O	C	AI	DIAG FE LJ-C	OMN1 CS 30		

Valve Table

IA - Instrument Air

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-94-164 AUTO BYPASS	N	Y	B	A	3	BLV	AO	C-18011-C SH2 (F-2)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		
BV-94-201 DRYER 94-169 EXHAUST	N	Y	B	A	2	BLV	AO	C-18011-C SH2 (G-3)	OC	C	C	SKID-C	Q		
BV-94-202 DRYER 94-168 EXHAUST	N	Y	B	A	2	BLV	AO	C-18011-C SH2 (F-3)	OC	C	C	SKID-C	Q		
BV-94-206 DRYER #11 BYPASS	N	Y	B	A	2	BLV	AO	C-18011-C SH2 (F-1)	C	C	O	SKID-O	Q		AOV Program
BV-94-208 DRYER 94-168 EXHAUST	N	Y	B	A	2	BLV	AO	C-18011-C SH2 (F-2)	OC	C	C	SKID-C	Q		
BV-94-209 DRYER 94-169 EXHAUST	N	Y	B	A	2	BLV	AO	C-18011-C SH2 (G-2)	OC	C	C	SKID-C	Q		
BV-94-91 RECEIVER #11 / RECEIVER #12 INTER-TIE	N	Y	B	A	4	PGV	AO	C-18011-C SH2 (E-2)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
CKV-94-181 #11 INTER-COOLER DRAIN CHECK	N	Y	C	A		CHV	SE	C-18011-C SH1 (A-6)	OC	O	NA	SKID-F	Q		
CKV-94-191 #12 INTER-COOLER DRAIN CHECK	N	Y	C	A	0.75	CHV	SE	C-18011-C SH1 (A-6)	OC	O	NA	SKID-F	Q		
CKV-94-51 #11 RECEIVER OUTLET	N	Y	C	A	3	CHV	SE	C-18011-C SH2 (E-1)	OC	O	NA	FE-F	Q		CKV Program
PSV-94-05C #11 AFTER-COOLER	N	Y	C	A	0.75	REV	SE	C-18011-C SH2 (D-2)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		

Valve Table

IA - Instrument Air

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PSV-94-06C #12 AFTER-COOLER	N	Y	C	A	0.75	REV	SE	C-18011-C SH2 (D-4)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-94-45 #11 INTER-COOLER	N	Y	C	A	0.75	REV	SE	C-18011-C SH2 (B-1)	C	OC	NA	LA LL RT VT	10Y 10Y 10Y 10Y		
PSV-94-47 #12 INTER-COOLER	N	Y	C	A	0.75	REV	SE	C-18011-C SH2 (B-3)	C	OC	NA	LA LL RT VT	10Y 10Y 10Y 10Y		
SOV-94-09 COMPRESSOR #11 COOLER INLET	3	Y	B	A	0.75	GTV	SO	C-18011-C SH2 (C-1)	OC	O	O	SKID-O	Q		
SOV-94-10 COMPRESSOR #12 COOLER INLET	3	Y	B	A	0.75	GTV	SO	C-18011-C SH2 (B-3)	OC	O	O	SKID-O	Q		

Valve Table

LP - Liquid Poison

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-42.1-02 INJECTION INBOARD IV	1	N	A/C	A	2	CHV	SE	C-18019-C (A-4)	OC	OC	NA	FE-F FE-R LJ-C	R R 24		
CKV-42.1-03 INJECTION OUTBOARD IV	1	N	A/C	A	2	CHV	SE	C-18019-C (B-4)	OC	OC	NA	FE-F FE-R LJ-C	R R 24		
CKV-42-19 PUMP #11 DISCHARGE	2	N	C	A	1.5	CHV	SE	C-18019-C (E-4)	OC	OC	NA	FE-F FE-R	Q Q		
CKV-42-20 PUMP #12 DISCHARGE	2	N	C	A	1.5	CHV	SE	C-18019-C (E-5)	OC	OC	NA	FE-F FE-R	Q Q		
EV-42-34 #12 SQUIB	2	N	D	A	1.5	EXV	EX	C-18019-C (C-5)	C	O	NA	EX	TS		
EV-42-35 #11 SQUIB	2	N	D	A	1.5	EXV	EX	C-18019-C (C-4)	C	O	NA	EX	TS		
PSV-42-36 PUMP #12	2	N	C	A	1	REV	SE	C-18019-C (E-4)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-42-37 PUMP #11	2	N	C	A	1	REV	SE	C-18019-C (E-3)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		

Valve Table

MS - Main Steam System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-37-01 RX HEAD VENT	1	N	B	A	2	GTV	MO	C-18002-C SH1 (D-2)	C	OC	AI	DIAG FE	OMN1 CS		
BV-37-02 RX HEAD VENT	1	N	B	P	2	GTV	MO	C-18002-C SH1 (D-2)	C	C	AI	PI	2Y		
BV-37-06 RX HEAD VENT	1	N	B	A	2	GTV	MO	C-18002-C SH1 (D-2)	C	OC	AI	DIAG FE	OMN1 CS		
CKV-01-76 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18002-C SH1 (A-6)	O	C	NA	BDT-O FE-R	R R	 MS-ROJ - 01	Note 11
CKV-01-77 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18002-C SH1 (A-6)	O	C	NA	BDT-O FE-R	R R	 MS-ROJ - 01	Note 11
CKV-01-78 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18002-C SH1 (A-6)	O	C	NA	BDT-O FE-R	R R	 MS-ROJ - 01	Note 11
CKV-01-79 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18002-C SH1 (A-6)	O	C	NA	BDT-O FE-R	R R	 MS-ROJ - 01	Note 11
IV-01-01 INBOARD IV	1	N	A	A	24	GLV	MO	C-18002-C SH1 (B-4)	O	C	AI	DIAG FE LJ-C	OMN1 CS 30		
IV-01-02 INBOARD IV	1	N	A	A	24	GLV	MO	C-18002-C SH1 (D-4)	O	C	AI	DIAG FE LJ-C	OMN1 CS 30		
IV-01-03 OUTBOARD IV	1	N	A	A	24	GLV	AO	C-18002-C SH1 (A-4)	O	C	C	FE FS-C LJ-C PI ST-C	CS CS 30 2Y CS	MS-CSJ - 01 MS-CSJ - 01 MS-CSJ - 01	Note 12
IV-01-04 OUTBOARD IV	1	N	A	A	24	GLV	AO	C-18002-C SH1 (E-4)	O	C	C	FE FS-C LJ-C PI ST-C	CS CS 30 2Y CS	MS-CSJ - 01 MS-CSJ - 01 MS-CSJ - 01	Note 12

Valve Table

MS - Main Steam System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PSV-01-119A RX SAFETY A	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119B RX SAFETY B	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119C RX SAFETY C	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119D RX SAFETY D	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119F RX SAFETY F	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119G RX SAFETY G	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119H RX SAFETY H	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119J RX SAFETY J	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		
PSV-01-119M RX SAFETY M	1	N	C	A	6	REV	SE	C-18002-C SH1 (C-1)	C	OC	NA	LA LL RT VT	5Y-S 5Y-S 5Y-S 5Y-S		

Valve Table

NEU - Transversing Incore Probe (TIP)

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-201.2-39 TIP N2 SUPPLY OUTBOARD IV	2	N	A/C	A	0.75	CHV	SE	C-18014-C SH2 (E-1)	OC	C	NA	BDT-O FE-R LJ-C	CMP CMP APPJ		Condition Monitoring Program component
CKV-201.2-40 TIP N2 SUPPLY INBOARD IV	2	N	A/C	A	0.75	CHV	SE	C-18014-C SH2 (E-1)	OC	C	NA	BDT-O FE-R LJ-C	CMP CMP APPJ		Condition Monitoring Program component
EV-36-151 TIP SHEAR	2	N	D	A	0.5	EXV	EX	C-19405-C	O	C	NA	EX	2Y-S		
EV-36-152 TIP SHEAR	2	N	D	A	0.5	EXV	EX	C-19405-C	O	C	NA	EX	2Y-S		
EV-36-153 TIP SHEAR	2	N	D	A	0.5	EXV	EX	C-19405-C	O	C	NA	EX	2Y-S		
EV-36-154 TIP SHEAR	2	N	D	A	0.5	EXV	EX	C-19405-C	O	C	NA	EX	2Y-S		
SOV-36-147 TIP BALL INBOARD IV	2	N	A	A	0.5	BLV	SO		C	C	C	FE FS-C LJ-C PI ST-C	Q Q APPJ 2Y Q		
SOV-36-148 TIP BALL INBOARD IV	2	N	A	A	0.5	BLV	SO		C	C	C	FE FS-C LJ-C PI ST-C	Q Q APPJ 2Y Q		
SOV-36-149 TIP BALL INBOARD IV	2	N	A	A	0.5	BLV	SO		C	C	C	FE FS-C LJ-C PI ST-C	Q Q APPJ 2Y Q		

Valve Table

NEU - Transversing Incore Probe (TIP)

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
SOV-36-150	2	N	A	A	0.5	BLV	SO		C	C	C	FE	Q		
												FS-C	Q		
TIP BALL INBOARD IV												LJ-C	APPJ		
												PI	2Y		
												ST-C	Q		

Constellation Energy (NMP Unit 1) IST Program
Valve Table
PCS - Primary Containment Vacuum Relief

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-68-01 TORUS TO DW VACUUM BKR	2	N	AC	A	30	VRV	SE	C-18006-C SH2 (D-3)	C	OC	NA	LL RT VP VR	2Y 2Y 2Y 2Y		
BV-68-02 TORUS TO DW VACUUM BKR	2	N	AC	A	30	VRV	SE	C-18006-C SH2 (E-3)	C	OC	NA	LL RT VP VR	2Y 2Y 2Y 2Y		
BV-68-03 TORUS TO DW VACUUM BKR	2	N	AC	A	30	VRV	SE	C-18006-C SH2 (E-3)	C	OC	NA	LL RT VP VR	2Y 2Y 2Y 2Y		
BV-68-04 TORUS TO DW VACUUM BKR	2	N	AC	A	30	VRV	SE	C-18006-C SH2 (E-3)	C	OC	NA	LL RT VP VR	2Y 2Y 2Y 2Y		
IV-68-05 RB TO TORUS OUTBOARD IV	2	N	A/C	A	30	VRV	SE	C-18006-C SH2 (F-2)	C	OC	NA	LJ-C LL RT VP VR	APPJ 2Y R R R		
IV-68-06 RB TO TORUS OUTBOARD IV	2	N	A/C	A	30	VRV	SE	C-18006-C SH2 (F-2)	C	OC	NA	LJ-C LL RT VP VR	APPJ 2Y R R R		
IV-68-07 RB TO TORUS OUTBOARD IV	2	N	A/C	A	30	VRV	SE	C-18006-C SH2 (F-2)	C	OC	NA	LJ-C LL RT VP VR	APPJ 2Y R R R		

Valve Table

PCS - Primary Containment Vacuum Relief

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-68-08 RB TO TORUS INBOARD IV	2	N	A	A	30	BFV	AO	C-18006-C SH2 (F-2)	C	OC	O	FE	Q		
												FS-O	Q		
												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-68-09 RB TO TORUS INBOARD IV	2	N	A	A	30	BFV	AO	C-18006-C SH2 (F-2)	C	OC	O	FE	Q		
												FS-O	Q		
												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
IV-68-10 RB TO TORUS INBOARD IV	2	N	A	A	30	BFV	AO	C-18006-C SH2 (F-2)	C	OC	O	FE	Q		
												FS-O	Q		
												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		

Valve Table

RBCLC - Reactor Building Closed Loop Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
BV-70-25 CHILLER INLET	3	N	B	A	4	PGV	AO	C-18047-C (G-1)	OC	O	O	FE FS-O ST-O	Q Q Q		
BV-70-26 CHILLER INLET	3	N	B	A	4	PGV	AO	C-18047-C (E-1)	OC	O	O	FE FS-O ST-O	Q Q Q		
BV-70-53 RBCLC to SDC ISOLATION	3	N	B	P	14	GTV	AO	C-18022-C SH2 (H-4)	C	C	C	PI	2Y		
BV-70-66 PASS SAMPLE COLLER RETURN	3	N	B	A	0.75	BLV	MAN	C-18041-C SH7 (E-6)	O	C	NA	FE	R		
BV-70-67 PASS SAMPLE COOLER SUPPLY	3	N	B	A	0.75	BLV	MAN	C-18041-C SH7 (F-6)	O	C	NA	FE	R		
BV-70-68 RBCLC TO SF HX #11	3	N	B	A	6	GLV	AO	C-18008-C (H-3)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		
BV-70-69 RBCLC TO SF HX #11	3	N	B	A	6	GLV	AO	C-18008-C (H-5)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		
CKV-70-04 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18022-C SH2 (A-6)	OC	OC	NA	FE-F FE-R	CS CS	RBCLC-CSJ - 01	CKV Program
CKV-70-05 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18022-C SH2 (B-6)	OC	OC	NA	FE-F FE-R	CS CS	RBCLC-CSJ - 01	CKV Program
CKV-70-06 PUMP DISCHARGE	3	N	C	A	12	CHV	SE	C-18022-C SH2 (C-6)	OC	OC	NA	FE-F FE-R	CS CS	RBCLC-CSJ - 01	CKV Program
CKV-70-257 EMERG. MAKE-UP	3	Y	C	A	6	CHV	SE	C-18022-C SH3 (D-2)	OC	C	NA	BDT-O FE-R	CMP CMP		Condition Monitoring Program component
CKV-70-442 NORMAL MAKE-UP	3	N	C	A	1.5	CHV	SE	C-18022-C SH3 (D-2)	OC	C	NA	BDT-O FE-R	CMP CMP		Condition Monitoring Program component

Valve Table

RBCLC - Reactor Building Closed Loop Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-70-449 LOOP SEAL CHECK	3	N	C	A	1.5	CHV	SE	C-18022-C SH3 (D-1)	C	OC		FE-F FE-R	R Q		
CKV-70-93 RRP SUPPLY	2	N	C	A	4	CHV	SE	C-18022-C SH2 (C-4)	OC	C	NA	BDT-O FE-R	R R	 RBCLC-ROJ - 01	CKV Program
CKV-70-95 AIR COOLER SUPPLY	2	N	C	A	8	CHV	SE	C-18022-C SH2 (E-4)	O	C	NA	BDT-O FE-R	R R	 RBCLC-ROJ - 01	CKV Program
IV-70-92 RRP RETURN	2	N	B	A	4	GTV	MO	C-18022-C SH2 (B-4)	O	C	AI	FE PI ST-C	CS 2Y CS	RBCLC-CSJ - 02 RBCLC-CSJ - 02	
IV-70-94 AIR COOLER RETURN	2	N	B	A	8	GTV	MO	C-18022-C SH2 (C-4)	O	C	AI	FE PI ST-C	CS 2Y CS	RBCLC-CSJ - 03 RBCLC-CSJ - 03	
PRV-70-364 DRYWELL CLR RV	2	N	C	A	0.75	REV	SE	C-18022-C SH2 (D-3)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-70-365 DRYWELL CLR RV	2	N	C	A	0.75	REV	SE	C-18022-C SH2 (D-3)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-70-366 DRYWELL CLR RV	2	N	C	A	0.75	REV	SE	C-18022-C SH2 (D-3)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-70-367 DRYWELL CLR RV	2	N	C	A	0.75	REV	SE	C-18022-C SH2 (D-2)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		

Valve Table

RBCLC - Reactor Building Closed Loop Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
PRV-70-368 DRYWELL CLR RV	2	N	C	A	0.75	REV	SE	C-18022-C SH2 (D-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PRV-70-369 DRYWELL CLR RV	2	N	C	A	0.75	REV	SE	C-18022-C SH2 (D-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-70-347 SDC HX RV	3	N	C	A	3	REV	SE	C-18018-C SH1 (D-1)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-70-348 SDC HX RV	3	N	C	A	3	REV	SE	C-18018-C SH1 (D-3)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
PSV-70-349 SDC HX RV	3	N	C	A	3	REV	SE	C-18018-C SH1 (D-5)	C	OC	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
VLV-70-47 RW RETURN	3	N	B	A	6	GTV	MAN	C-18022-C SH2 (A-4)	O	C	NA	FE	R		
VLV-70-48 RW SUPPLY	3	N	B	A	6	GTV	MAN	C-18022-C SH2 (A-4)	O	C	NA	FE	R		
VLV-70-631 OXYGEN INJECTION MANUAL ISOLATION	3	N	B	A	0.50	GTV	MAN	C-18022-C SH2 (D-6)	O	C	NA	FE	R		

RR - Reactor Recirculation

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-32-100 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-106 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-112 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-118 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-125 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-131 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-138 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-144 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-151 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-157 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-164 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-170 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-177 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11

Valve Table

RR - Reactor Recirculation

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-32-183 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-204 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-210 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-215 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-221 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-226 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-232 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-237 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-243 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-248 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-254 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-5)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-64 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-70 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11

Valve Table

RR - Reactor Recirculation

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-32-76 *Excess Flow Check Valve*	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-82 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-88 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-32-94 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18020-C (A-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-44.1-07 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (E-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11
CKV-44.1-12 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (E-6)	O	C	NA	BDT-O FE-R	R R	 RR-ROJ - 01	Note 11

RXVI - Reactor Vessel Instrumentation

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-36-120 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-125 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-130 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-135 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-140 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-145 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-160 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-165 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-170 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-175 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-48 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11
CKV-36-509 BACKFILL	N	Y	A/C	A	0.25	CHV	SE	C-18016-C SH3 (E-2)	OC	C	NA	BDT-O FE-R LK	R R R		Note 13
CKV-36-510 BACKFILL	N	Y	A/C	A	0.25	CHV	SE	C-18016-C SH3 (F-2)	OC	C	NA	BDT-O FE-R LK	R R R		Note 13

Valve Table

RXVI - Reactor Vessel Instrumentation

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-36-511 BACKFILL	N	Y	A/C	A	0.25	CHV	SE	C-18016-C SH3 (E-3)	OC	C	NA	BDT-O FE-R LK	R R R		Note 13
CKV-36-512 BACKFILL	N	Y	A/C	A	0.25	CHV	SE	C-18016-C SH3 (F-3)	OC	C	NA	BDT-O FE-R LK	R R R		Note 13
CKV-36-513 BACKFILL	N	Y	A/C	A	0.25	CHV	SE	C-18016-C SH3 (E-5)	OC	C	NA	BDT-O FE-R LK	R R R		Note 13
CKV-36-514 BACKFILL	N	Y	A/C	A	0.25	CHV	SE	C-18016-C SH3 (F-5)	OC	C	NA	BDT-O FE-R LK	R R R		Note 13
CKV-36-53 Excess Flow Check Valve	1	N	C	A	0.75	EFV	SE	C-18015-C (D-6)	O	C	NA	BDT-O FE-R	R R	 RXVI-ROJ - 01	Note 11

Valve Table

SDC - Shutdown Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
CKV-38-12 OUTBOARD IV	1	N	A/C	A	14	CHV	SE	C-18018-C SH1 (A-3)	OC	C	NA	BDT-O FE-R LW	R R APPJ		
CKV-38-165 OUTBOARD SDC WATER SEAL CHECK PIV	2	N	A/C	A	0.75	CHV	SE	C-18018-C SH2 (C-3)	OC	OC	NA	FE-F FE-R LK	Q Q TS		
CKV-38-166 OUTBOARD SDC WATER SEAL CHECK PIV	2	N	A/C	A	0.75	CHV	SE	C-18018-C SH2 (C-4)	OC	OC	NA	FE-F FE-R LK	Q Q TS		
CKV-38-167 OUTBOARD SDC WATER SEAL CHECK PIV	2	N	A/C	A	0.75	CHV	SE	C-18018-C SH2 (C-1)	OC	OC	NA	FE-F FE-R LK	Q Q TS		
CKV-38-168 OUTBOARD SDC WATER SEAL CHECK PIV	2	N	A/C	A	0.75	CHV	SE	C-18018-C SH2 (C-2)	OC	OC	NA	FE-F FE-R LK	Q Q TS		
CKV-38-169 INBOARD SDC WATER SEAL CHECK PIV	1	N	A/C	A	0.75	CHV	SE	C-18007-C SH2 (D-3)	OC	OC	NA	FE-F FE-R LK	Q Q TS		
CKV-38-170 INBOARD SDC WATER SEAL CHECK PIV	1	N	A/C	A	0.75	CHV	SE	C-18007-C SH2 (D-4)	OC	OC	NA	FE-F FE-R LK	Q Q TS		Note 16
CKV-38-171 INBOARD SDC WATER SEAL CHECK PIV	1	N	A/C	A	0.75	CHV	SE	C-18007-C SH2 (D-1)	OC	OC	NA	FE-F FE-R LK	Q Q TS		Note 16
CKV-38-172 INBOARD SDC WATER SEAL CHECK PIV	1	N	A/C	A	0.75	CHV	SE	C-18007-C SH2 (D-2)	OC	OC	NA	FE-F FE-R LK	Q Q TS		Note 16
CKV-38-216 INBOARD IV	1	N	C	A	0.75	CHV	SE	C-18018-C SH1 (H-4)	OC	OC	NA	FE-F FE-R	R R	SDC-ROJ - 01 SDC-ROJ - 01	Note 15
IV-38-01 INBOARD IV	1	N	A	A	14	GTV	MO	C-18018-C SH1 (H-3)	C	C	AI	DIAG FE LW	OMN1 CS APPJ		Notes 14 & 17
IV-38-02 OUTBOARD IV	1	N	A	A	14	GTV	MO	C-18018-C SH1 (H-3)	C	C	AI	DIAG FE LW	OMN1 CS APPJ		Notes 14 & 17

Valve Table

SDC - Shutdown Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-38-13 INBOARD IV	1	N	A	A	14	GTV	MO	C-18018-C SH1 (A-3)	C	C	AI	DIAG FE LW	OMN1 CS APPJ		Notes 14 & 17

Valve Table

SS - Sampling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
DISK-110-640 RUPTURE DISK	1	N	D	A	1	RD	SE	C-18020-C (H-1)	C	O	NA	LJ-C RD	APPJ 5Y		
IV-110-127 INBOARD IV	1	N	A	A	1	GLV	MO	C-18020-C (G-1)	C	C	AI	DIAG FE LJ-C	OMN1 Q 60		
IV-110-128 OUTBOARD IV	1	N	A	A	1	GLV	MO	C-18020-C (G-1)	C	C	AI	DIAG FE LJ-C	OMN1 Q 60		
IV-122-03 OUTBOARD IV	1	N	A	A	1	GLV	AO	C-18041-C SH7 (A-3)	C	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q		AOV Program

Constellation Energy (NMP Unit 1) IST Program

Valve Table

WDS - Waste Disposal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
IV-83.1-09	2	N	A	A	3	GTV	MO	C-18045-C SH7 (B-1)	O	C	AI	DIAG	OMN1		
												FE	Q		
DWEDT INBOARD IV												LJ-C	60		
IV-83.1-10	2	N	A	A	3	GLV	AO	C-18045-C SH7 (E-1)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
DWEDT OUTBOARD IV												LJ-C	60		
												PI	2Y		
												ST-C	Q		
IV-83.1-11	2	N	A	A	4	GTV	MO	C-18045-C SH9 (E-1)	O	C	AI	DIAG	OMN1		
												FE	Q		
DWFDT INBOARD IV												LJ-C	60		
IV-83.1-12	2	N	A	A	4	GLV	AO	C-18045-C SH9 (E-1)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
DWFDT OUTBOARD IV												LJ-C	60		
												PI	2Y		
												ST-C	Q		
PRV-83.1-32	N	Y	C	A	0.75	REV	SE	C-18045-C SH7 (D-1)	C	O	NA	LA	10Y		
												LL	10Y		
PRESSURE RELIEF VALVE FOR DRYWELL EQUIPMENT DRAIN SUMP PUMP DISCHARGE												RT	10Y		
												VT	10Y		
PRV-83.1-33	N	Y	C	A	0.75	REV	SE	C-18045-C SH9 (D-1)	C	O	NA	LA	10Y		
												LL	10Y		
PRESSURE RELIEF VALVE FOR DRYWELL FLOOR DRAIN SUMP PUMP DISCHARGE												RT	10Y		
												VT	10Y		
PRV-83.1-35	2	N	C	A	0.75	REV	SE	C-18045-C SH9 (E-1)	C	O	NA	LA	10Y-S		
												LJ	APPJ		
PRESSURE RELIEF VALVE FOR PENETRATION X-25												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		

SECTION IIB

UNIT 1 COLD SHUTDOWN AND REFUEL OUTAGE JUSTIFICATIONS

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

CRS-CSJ-01

Component ID	Class	Cat.	System	Label
CKV-40-20	2	A/C	CRS	KEEPFILL OUTBOARD IV PIV
CKV-40-23	2	A/C	CRS	KEEPFILL OUTBOARD IV PIV

FUNCTION:

Outboard Keep-Fill Pressure Isolation Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves are the outboard check valves in each set of two series check valve sets (one set for each loop). The inboard check valves are tested during the core spray pump quarterly testing. It is not practicable to exercise these outboard valves quarterly. Significant time is involved to setup test equipment to perform reverse closure testing. Exercising quarterly is costly and burdensome with no increase in safety.

ALTERNATE TESTING:

The valves will be exercised closed during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

ESW-CSJ-01

Component ID	Class	Cat.	System	Label
CKV-72-11	3	C	ESW	ESW PUMP #12 DISCHARGE
CKV-72-12	3	C	ESW	ESW PUMP #11 DISCHARGE
CKV-72-21	3	C	ESW	SW HEADER CHECK
CKV-72-22	3	C	ESW	SW HEADER CHECK

FUNCTION:

Emergency Service Water Pump Discharge Check Valves and Service Water Header Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

The service water system is required to operate during normal plant operations. The Emergency Service Water (ESW) pumps operate at a lower pressure than the normal service water header pressure. Exercising is not possible without isolating the associated service water header. System heat loads prevent removing or de-pressurizing an entire service water header during operation, since the removal could result in a plant trip. Partial-stroke exercising requires the same plant conditions as full-stroke exercising.

ALTERNATE TESTING:

The valves will be exercised open & closed during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

MS-CSJ-01

Component ID	Class	Cat.	System	Label
IV-01-03	1	A	MS	OUTBOARD IV
IV-01-04	1	A	MS	OUTBOARD IV

FUNCTION:

Main Steam Line Isolation Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Full-stroke exercising and stroke-time testing results in loss of steam flow from one main steam line to the turbine. To conduct this testing, the plant would undergo a significant transient (i.e., a greater than 50% power reduction must be achieved followed by a corresponding return to 100% power). This evolution typically would take a minimum 12 hours. Also, industry information indicates that closing these valves with high steam flow in the line may be a large contributing factor to observed seat degradation. The valves are designed for partial-stroke exercising with full steam flow during plant operation, however; part-stroke exercising these valves quarterly increases the risk of valve closure during plant power generation and is not recommended. (Ref. NUREG-1482, Rev. 1, Section 4.2.6)

ALTERNATE TESTING:

The valves will be full-stroke exercised during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RBCLC-CSJ-01

Component ID	Class	Cat.	System	Label
CKV-70-04	3	C	RBCLC	PUMP DISCHARGE
CKV-70-05	3	C	RBCLC	PUMP DISCHARGE
CKV-70-06	3	C	RBCLC	PUMP DISCHARGE

FUNCTION:

Pump Discharge Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

The system flow rate and the number of pumps running are a function of the system heat loads. In most cases, it is not possible to operate the system with a single pump and align the system to achieve Code test conditions without adversely affecting plant operation. The system flow meter is in the common header. With more than one pump running, it is not possible to identify the flow that each pump is providing. During cold shutdowns, each pump is tested individually. This provides a measurable flow rate through a single valve which is used to verify full-stroke exercising of each pump's discharge check valve.

ALTERNATE TESTING:

The valves will be full-stroke exercised open and closed during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RBCLC-CSJ-02

Component ID	Class	Cat.	System	Label
IV-70-92	2	B	RBCLC	RRP RETURN

FUNCTION:

Reactor Recirculation Pump Coolers Blocking Valve

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Testing this valve during normal operation requires interruption of the cooling water to the reactor recirculation pump coolers. Failure of the valve to reopen could cause extensive damage to the reactor recirculation pump motors and pump seals, a reactor coolant pressure boundary component. Securing a recirculation pump to permit exercising requires a significant power reduction that could result in a turbine trip and scram. Partial-stroke exercising during power operation increases the potential for a failure and the loss of the cooling water supply to the reactor recirculation pump coolers, which could require a plant shutdown.

ALTERNATE TESTING:

The valve will be full-stroke exercised closed during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RBCLC-CSJ-03

Component ID	Class	Cat.	System	Label
IV-70-94	2	B	RBCLC	AIR COOLER RETURN

FUNCTION:

Drywell Air Cooler Blocking Valve

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Testing this valve during normal operation requires interruption of the cooling water to the primary containment air coolers. A loss of these coolers could result in a scram due to high drywell pressure as a result of high drywell temperature. Partial-stroke exercising during power operation increases the potential for a failure and the loss of the cooling water supply to the drywell ail coolers, which could require a plant shutdown.

ALTERNATE TESTING:

The valve will be full-stroke exercised closed during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

ADS-ROJ-01

Component ID	Class	Cat.	System	Label
PSV-01-102A	1	B	ADS	(PSV-A) ADS-3
PSV-01-102B	1	B	ADS	(PSV-B) ADS-1
PSV-01-102C	1	B	ADS	(PSV-C) ADS-2
PSV-01-102D	1	B	ADS	(PSV-D) ADS-4
PSV-01-102E	1	B	ADS	(PSV-E) ADS-5
PSV-01-102F	1	B	ADS	(PSV-F) ADS-6

FUNCTION:

Automatic and manual depressurization of the reactor vessel and actuation prevention of the reactor vessel head safety valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Exercising of the ADS electromatic relief valve assembly during power operation causes a discharge of nuclear steam into the suppression pool (Torus). If the main valve obturator fails to re-seat (close) after testing, the plant would be placed in a loss-of-coolant transient condition, necessitating an unplanned shutdown and outage. Valve testing requires the plant pressure to be above 900 psig to ensure proper valve operation. The valves do not have a partial stroke capability. This limits the available test window to during shutdowns to cold shutdown and startup following a cold shutdown. In addition, a study (BWR Owners Group Evaluation of NUREG-0737, Item II.K.3.16, Reduction of Challenges and Failures of Relief Valves) recommends that the number of ADS valve openings be reduced as much as possible. Testing at a cold shutdown frequency would be contrary to the guidance provided in this study. Based on this study and the potential for causing a loss-of-coolant transient, exercise testing of the ADS valves assemblies will be performed during plant startup following refueling outages.

ALTERNATE TESTING:

Each ADS valve assembly will be exercised open & closed with nuclear steam above 900 psig operating pressure during plant startup following refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

CRD-ROJ-01

Component ID	Class	Cat.	System	Label
CKV-44-*(108)	2	C	CRD	SCRAM DISCHARGE (Typical of 129)
FCV-44-*(126)	1	B	CRD	SCRAM INLET (Typical of 129)
FCV-44-*(127)	1	B	CRD	SCRAM OUTLET (Typical of 129)

FUNCTION:

CKV-44-*(108) - Scram Discharge CheckFCV-44-*(126) - Scram Inlet ValveFCV-44-*(127) - Scram Outlet Valve

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Exercising these valves scrams the associated control rod. Scramming individual control rods at power may produce unacceptable peaking factors in the core. These valves cannot be partial-stroke tested. Removing air from the actuator of the FCV's causes the valves to go fully open. Testing at a frequency greater than that specified in Technical Specifications accelerates the wear on the CRD mechanisms with no commensurate improvement in safety.

ALTERNATE TESTING:

These valves will be tested in conjunction with the control rod scram insertion time testing specified in TS 3.1.1. Acceptability of the valve stroke times and exercises will be shown by the respective CRD meeting its required stroke time. This is consistent with NUREG 1482 Rev. 1, section 4.4.6.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

CRD-ROJ-02

Component ID	Class	Cat.	System	Label
CKV-44-*(106)	2	C	CRD	CHARGING WATER (Typical of 129)

FUNCTION:

Charging Water Check

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Closure verification of the charging water header check valves requires that the control rod drive pumps must be stopped to depressurize the charging water header. This test should not be performed during power operation because stopping the pumps results in a loss of cooling water to all control rod drive mechanisms, and seal damage could result. Additionally, this test cannot be performed during each cold shutdown because the control rod drive pumps supply seal water to the reactor recirculation pumps, and one of the recirculation pumps is usually kept running.

ALTERNATE TESTING:

The charging water check valves will be tested each refueling outage by performing a scram accumulator pressure decay test. This is consistent with NUREG 1482, Rev. 1, section 4.4.6.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

CRS-ROJ-01

Component ID	Class	Cat.	System	Label
CKV-40-03	1	A/C	CRS	OUBOARD IV PIV
CKV-40-13	1	A/C	CRS	OUTBOARD IV PIV

FUNCTION:

Core Spray Injection Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves have no provision for monitoring obturator position. During pump quarterly testing, the test flow rate is limited to approximately 2900 gpm by the size of the test line. Required system flow rate is 3400 gpm. From manufacturer's published information, it has been determined that these valves should be fully open at a flow rate of about 1600 gpm. During normal plant operation, reactor pressure precludes core spray injection to the reactor vessel. Additionally, the normal suction source for the core spray pumps is the Torus. The cleanliness of this water precludes its use as a water source for routine injection into the core. Temporary piping alterations are required to supply a reactor grade water source (condensate storage tank) for testing. Installation of this alteration on a routine basis or at cold shutdown is burdensome and costly, with no increase in plant safety and therefore deemed impractical.

ALTERNATE TESTING:

The valves will be full-stroke exercised open during the design accident flow injection test each refueling outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

CRS-ROJ-02

Component ID	Class	Cat.	System	Label
CKV-40-80	1	A/C	CRS	PEN X-14 Overpressure
CKV-40-83	1	A/C	CRS	PEN X-13A Overpressure

FUNCTION:

Overpressure Check Valves for Pen. X-13A and X-14

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These 0.5 inch check valves have been installed as a result of NRC Generic Letter 96-06 findings regarding thermal expansion of water filled penetrations. Forward and reverse flow testing is required. Forward flow of greater than 1 gpm for thermal expansion and reverse flow for reactor coolant inventory preservation. A leak test of 0.25 gpm @ 38.5 psig is also added to be consistent with primary isolation valve water seal testing commitments. These valves are located inside the drywell and maintained in the closed position by reactor pressure during normal plant operation. Forward and reverse flow testing is only practical with the reactor depressurized in a shutdown condition with the drywell deinerted. It is not practical to de-inert containment during power operation and most cold shutdowns. De-inerting containment solely to allow inservice testing is not required. (Ref.: NUREG 1482 Rev. 1, Section 3.1.1.3)

ALTERNATE TESTING:

The valves will be forward and reverse flow exercised during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

EC-ROJ-01

Component ID	Class	Cat.	System	Label
CKV-36-57	1	C	EC	STM FLOW
CKV-36-62	1	C	EC	STM FLOW
CKV-36-67	1	C	EC	STM FLOW
CKV-36-72	1	C	EC	STM FLOW

FUNCTION:

Excess Flow Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves are located on instrument lines which function to provide signals relating emergency cooling system conditions to station operations personnel, as well as automatic trip systems for normal and emergency operation of the station. Exercising the excess flow check valves during normal operation imposes undue risk to plant operations personnel since the fluid medium is high pressure (normally greater than 800 psig), high temperature (approximately 200 - 300 °F) and highly contaminated reactor coolant or requires system intrusion to provide a test medium source. The instruments on the lines protected by these check valves are typically required to operate during cold shutdowns as well as during normal operation. Exercising the excess flow check valve requires removing the corresponding instrument from service. This could cause spurious instrument signal fluctuations to occur, resulting in the inadvertent automatic initiation or trip of systems.

ALTERNATE TESTING:

The valves will be exercised open & closed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

EC-ROJ-02

Component ID	Class	Cat.	System	Label
IV-39-05	1	A	EC	OUTBOARD IV
IV-39-06	1	A	EC	OUTBOARD IV

FUNCTION:

Emergency Condenser Return Isolation Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

To exercise these valves during plant operation would require closing manual block valves BV-39-01 and BV-39-02 to prevent system initiation. If testing were performed without closing the manual block valves during power operation, a slug of cold water would be delivered to the reactor, resulting in a power spike. Depending on initial plant conditions, a reactor scram could occur. The manual block valves cannot be operated during power operation due to their location inside the primary containment. Primary containment is inerted with nitrogen during normal operations and access is not available. Testing during cold shutdown would drain the EC Return Legs into the Reactor Vessel causing undesirable level changes. Closing the manual block valves to prevent draining requires de-inerting containment and drywell entry. It is not practical to de-inert containment during power operation and most cold shutdowns. De-inerting containment solely to allow inservice testing is not required. (Ref.: NUREG 1482 Rev. 1, Section 3.1.1.3)

ALTERNATE TESTING:

The valves will be full-stroke exercised open and closed during each refueling outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

MS-ROJ-01

Component ID	Class	Cat.	System	Label
CKV-01-76	1	C	MS	Excess Flow Check Valve
CKV-01-77	1	C	MS	Excess Flow Check Valve
CKV-01-78	1	C	MS	Excess Flow Check Valve
CKV-01-79	1	C	MS	Excess Flow Check Valve

FUNCTION:

Excess Flow Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves are located on instrument lines that provide information to station operations personnel, as well as automatic trip systems for normal and emergency operation of the station. Exercising the excess flow check valves during normal operation imposes an undue risk to plant operations personnel since the fluid medium is high pressure (normally greater than 800 psig), high temperature (approximately 200 - 300 oF) and highly contaminated reactor coolant or requires system intrusion to provide a test medium source. The instruments on the lines protected by these check valves are typically required to operate during cold shutdowns as well as during normal operation. Exercising the excess flow check valve requires removing the corresponding instrument from service. This could cause spurious instrument signal fluctuations to occur, resulting in the inadvertent automatic initiation or trip of systems.

Valve testing requires extensive equipment setup and system reconfiguration. Exercising during cold shutdowns is costly and burdensome with no increase in safety and is not considered practical. (Ref. NUREG-1482, Rev. 1, Section 4.1.6).

ALTERNATE TESTING:

The valves will be exercised open & closed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RBCLC-ROJ-01

Component ID	Class	Cat.	System	Label
CKV-70-93	2	C	RBCLC	RRP SUPPLY
CKV-70-95	2	C	RBCLC	AIR COOLER SUPPLY

FUNCTION:

Drywell Air and Recirculation Pump Coolers Supply Check Valve

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Exercising these valves during normal plant operation requires interruption of the cooling water to the primary containment drywell air coolers and reactor recirculation pump motor coolers for an extended period of time. Loss of the drywell air coolers could result in a reactor scram due to high drywell temperatures and the resulting high drywell pressure. Loss of cooling water to the recirculation pump motor and pump seal coolers for more than a few minutes will cause damage to the recirculation pumps seals which are reactor coolant pressure boundary components. Also, during cold shutdowns one of the recirculation pumps is usually kept running. Exercising the valves requires intrusion into the system to verify reverse flow closure. Significant time is involved to set up test equipment to perform a back-leakage test which may delay plant startup from cold shutdown. Therefore, testing during normal plant operations or during cold shutdowns is deemed not practical. (NUREG-1482, Rev. 1, Section 4.1.6)

ALTERNATE TESTING:

The valves will be exercised closed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

Component ID	Class	Cat.	System	Label
CKV-32-100	1	C	RR	Excess Flow Check Valve
CKV-32-106	1	C	RR	Excess Flow Check Valve
CKV-32-112	1	C	RR	Excess Flow Check Valve
CKV-32-118	1	C	RR	Excess Flow Check Valve
CKV-32-125	1	C	RR	Excess Flow Check Valve
CKV-32-131	1	C	RR	Excess Flow Check Valve
CKV-32-138	1	C	RR	Excess Flow Check Valve
CKV-32-144	1	C	RR	Excess Flow Check Valve
CKV-32-151	1	C	RR	Excess Flow Check Valve
CKV-32-157	1	C	RR	Excess Flow Check Valve
CKV-32-164	1	C	RR	Excess Flow Check Valve
CKV-32-170	1	C	RR	Excess Flow Check Valve
CKV-32-177	1	C	RR	Excess Flow Check Valve
CKV-32-183	1	C	RR	Excess Flow Check Valve
CKV-32-204	1	C	RR	Excess Flow Check Valve
CKV-32-210	1	C	RR	Excess Flow Check Valve
CKV-32-215	1	C	RR	Excess Flow Check Valve
CKV-32-221	1	C	RR	Excess Flow Check Valve
CKV-32-226	1	C	RR	Excess Flow Check Valve
CKV-32-232	1	C	RR	Excess Flow Check Valve
CKV-32-237	1	C	RR	Excess Flow Check Valve
CKV-32-243	1	C	RR	Excess Flow Check Valve
CKV-32-248	1	C	RR	Excess Flow Check Valve
CKV-32-254	1	C	RR	Excess Flow Check Valve
CKV-32-64	1	C	RR	Excess Flow Check Valve
CKV-32-70	1	C	RR	Excess Flow Check Valve
CKV-32-76	1	C	RR	Excess Flow Check Valve
CKV-32-82	1	C	RR	Excess Flow Check Valve
CKV-32-88	1	C	RR	Excess Flow Check Valve
CKV-32-94	1	C	RR	Excess Flow Check Valve
CKV-44.1-07	1	C	RR	Excess Flow Check Valve
CKV-44.1-12	1	C	RR	Excess Flow Check Valve

FUNCTION:

Excess Flow Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves are located on instrument lines that provide information to station operations personnel, as well as automatic trip systems for normal and emergency operation of the station. Exercising the excess flow check valves during normal operation imposes an undue risk to plant operations personnel since the fluid medium is high pressure (normally greater than 800 psig), high temperature (approximately 200 - 300 oF) and highly contaminated reactor coolant or requires system intrusion to provide a test medium source. The instruments on the lines protected by these check valves are typically required to operate during cold shutdowns as well as during normal operation. Exercising the excess flow check valve requires removing the corresponding instrument from service. This could cause spurious instrument signal fluctuations to occur, resulting in the inadvertent automatic initiation or trip of systems.

Valve testing requires extensive equipment setup and system reconfiguration. Exercising during cold shutdowns is costly and burdensome with no increase in safety and is not considered practical. (Ref. NUREG-1482, Rev. 1, Section 4.1.6)

ALTERNATE TESTING:

The valves will be exercised open & closed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RXVI-ROJ-01

Component ID	Class	Cat.	System	Label
CKV-36-120	1	C	RXVI	Excess Flow Check Valve
CKV-36-125	1	C	RXVI	Excess Flow Check Valve
CKV-36-130	1	C	RXVI	Excess Flow Check Valve
CKV-36-135	1	C	RXVI	Excess Flow Check Valve
CKV-36-140	1	C	RXVI	Excess Flow Check Valve
CKV-36-145	1	C	RXVI	Excess Flow Check Valve
CKV-36-160	1	C	RXVI	Excess Flow Check Valve
CKV-36-165	1	C	RXVI	Excess Flow Check Valve
CKV-36-170	1	C	RXVI	Excess Flow Check Valve
CKV-36-175	1	C	RXVI	Excess Flow Check Valve
CKV-36-48	1	C	RXVI	Excess Flow Check Valve
CKV-36-53	1	C	RXVI	Excess Flow Check Valve

FUNCTION:

Excess Flow Check Valves

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves are located on instrument lines that provide information to station operations personnel, as well as automatic trip systems for normal and emergency operation of the station. Exercising the excess flow check valves during normal operation imposes an undue risk to plant operations personnel since the fluid medium is high pressure (normally greater than 800 psig), high temperature (approximately 200 - 300 oF) and highly contaminated reactor coolant or requires system intrusion to provide a test medium source. The instruments on the lines protected by these check valves are typically required to operate during cold shutdowns as well as during normal operation. Exercising the excess flow check valve requires removing the corresponding instrument from service. This could cause spurious instrument signal fluctuations to occur, resulting in the inadvertent automatic initiation or trip of systems.

Valve testing requires extensive equipment setup and system reconfiguration. Exercising during cold shutdowns is costly and burdensome with no increase in safety and is not considered practical. (Ref. NUREG-1482, Rev. 1, Section 4.1.6)

ALTERNATE TESTING:

The valves will be exercised open & closed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

SDC-ROJ-01

Component ID	Class	Cat.	System	Label
CKV-38-216	1	C	SDC	INBOARD IV

FUNCTION:

Shutdown Cooling Line Thermal Protection Containment Isolation Valve

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

This valve is not equipped with an obturator position indicator. Exercising of this valve must be verified from inside primary containment. Since the primary containment is inerted with nitrogen, access is not available on a quarterly or cold shutdown basis. It is not practical to de-inert containment during power operation and most cold shutdowns. De-inerting containment solely to allow inservice testing is not required. (Ref.: NUREG 1482 Rev. 1, Section 3.1.1.3)

ALTERNATE TESTING:

The valve will be exercised open & closed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

SECTION IIIA

UNIT 2 PUMP AND VALVE TABLES

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

TABLE 2 UNIT 2 PUMP AND VALVE (IST) PROGRAM P&IDs			
PID Number	System Name	System Code	Valve Table Attachment Number
Unit 2	Unit 2 Systems	Unit 2	Unit 2
20	Breathing Air	AAS	1
115	Alternate Drywell Cooling	ADH	2
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
104	Diesel Generator Lubricating Oil	EGO	10
104	Diesel Generator Jacket Cooling Water	EGS	10
43	Fire Protection Water	FPW	11
6	Feedwater System	FWS	12
88	Nitrogen System / Containment Inerting	GSN	13
61	Standby Gas Treatment System	GTS	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
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

Constellation Energy (NMP Unit 2) IST Program

Pump Matrix

SYSTEM: PUMPS - IST Program Pumps

Component	PID(Coord)	Code Class	Group	Test Parameters Disc. Press	DP	Flow	VIB	Speed	Freq	Code Dev.	Comments
2CSH*P1 HPCS INJECTION PUMP	33B (H-7)	2	B	No No	Yes Yes	Yes Yes	No Yes	No No	Q 2Y		
2CSL*P1 LPCS INJECTION PUMP	32A (B-8)	2	B	No No	Yes Yes	Yes Yes	No Yes	No No	Q 2Y		
2EGF*P1A FUEL OIL TRANSFER PUMP	104C (E-6)	3	B	No No	Yes Yes	Yes Yes	Yes No	No No	2Y Q		
2EGF*P1B FUEL OIL TRANSFER PUMP	104B (E-8)	3	B	No No	Yes Yes	Yes Yes	Yes No	No No	2Y Q		
2EGF*P1C FUEL OIL TRANSFER PUMP	104C (C-6)	3	B	No No	Yes Yes	Yes Yes	Yes No	No No	2Y Q		
2EGF*P1D FUEL OIL TRANSFER PUMP	104B (E-4)	3	B	No No	Yes Yes	Yes Yes	Yes No	No No	2Y Q		
2EGF*P2A FUEL OIL TRANSFER PUMP	104B (E-4)	3	B	No No	Yes Yes	Yes Yes	Yes No	No No	2Y Q		
2EGF*P2B FUEL OIL TRANSFER PUMP	104B (C-4)	3	B	No No	Yes Yes	Yes Yes	Yes No	No No	2Y Q		
2HVK*P1A CONTROL ROOM CHILLED WATER PUMP	53A (C-6)	3	A	No No	Yes Yes	Yes Yes	Yes Yes	No No	Q 2Y		
2HVK*P1B CONTROL ROOM CHILLED WATER PUMP	53A (C-10)	3	A	No No	Yes Yes	Yes Yes	Yes Yes	No No	Q 2Y		
2ICS*P1 RCIC INJECTION PUMP	35D (G-9)	2	B	No No	Yes Yes	Yes Yes	No Yes	Yes Yes	Q 2Y		
2RHS*P1A LPCI/RHR INJECTION PUMP	31F (D-7)	2	A	No No	Yes Yes	Yes Yes	Yes Yes	No No	Q 2Y		
2RHS*P1B LPCI/RHR INJECTION PUMP	31E (E-2)	2	A	No No	Yes Yes	Yes Yes	Yes Yes	No No	Q 2Y		
2RHS*P1C LPCI/RHR INJECTION PUMP	31G (D-6)	2	A	No No	Yes Yes	Yes Yes	Yes Yes	No No	Q 2Y		
2SFC*P1A SPENT FUEL CIRCULATING PUMP	38B (E-3)	3	A	No No	Yes Yes	Yes Yes	Yes Yes	No No	Q 2Y		

Constellation Energy (NMP Unit 2) IST Program

Pump Matrix

SYSTEM: PUMPS - IST Program Pumps

Component	PID(Coord)	Code Class	Group	Test Parameters: Disc. Press	DP	Flow	VIB	Speed	Freq	Code Dev.	Comments
2SFC*P1B	38A (E-10)	3	A	No	Yes	Yes	Yes	No	Q		
SPENT FUEL CIRCULATING PUMP				No	Yes	Yes	Yes	No	2Y		
2SLS*P1A	36A (H-5)	2	B	No	No	Yes	No	No	Q		
STANDBY LIQUID CONTROL INJECTION PUMP				Yes	No	Yes	Yes	No	2Y		
2SLS*P1B	36A (H-9)	2	B	No	No	Yes	No	No	Q		
STANDBY LIQUID CONTROL INJECTION PUMP				Yes	No	Yes	Yes	No	2Y		
2SWP*P1A	11B (C-9)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER PUMP				No	Yes	Yes	Yes	No	2Y		
2SWP*P1B	11A (H-5)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER PUMP				No	Yes	Yes	Yes	No	2Y		
2SWP*P1C	11A (H-10)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER PUMP				No	Yes	Yes	Yes	No	2Y		
2SWP*P1D	11A (D-5)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER PUMP				No	Yes	Yes	Yes	No	2Y		
2SWP*P1E	11B (H-9)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER PUMP				No	Yes	Yes	Yes	No	2Y		
2SWP*P1F	11A (D-10)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER PUMP				No	Yes	Yes	Yes	No	2Y		
2SWP*P2A	11J (J-6)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER CR CHILLER PUMP				No	Yes	Yes	Yes	No	2Y		
2SWP*P2B	11J (J-6)	3	A	No	Yes	Yes	Yes	No	Q		
SERVICE WATER CR CHILLER PUMP				No	Yes	Yes	Yes	No	2Y		

Valve Table

AAS - Breathing Air

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2AAS*HCV134 Breathing Air	2	N	A	P	2	GLV	MAN	20E (D-3)	LC	C	NA	LJ-C PI	60 2Y		
2AAS*HCV135 Breathing Air	2	N	A	P	2	GLV	MAN	20E (C-7)	LC	C	NA	LJ-C PI	60 2Y		
2AAS*HCV136 Breathing Air	2	N	A	P	2	GLV	MAN	20E (D-3)	LC	C	NA	LJ-C PI	60 2Y		
2AAS*HCV137 Breathing Air	2	N	A	P	2	GLV	MAN	20E (E-7)	LC	C	NA	LJ-C PI	60 2Y		

Valve Table

ADH - Alternate Drywell Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ADH*V21A	3	Y	C	A	10	CHV	SE	115A (J-4)	C	C	NA	BDT-O	R		
												FE-R	R	ADH-ROJ - 01	
Return From Cooling Tower; Required for Sec. CT Integrity; 6.92 in.H2O															
2ADH*V21B	3	Y	C	A	10	CHV	SE	115A (J-4)	C	C	NA	BDT-O	R		
												FE-R	R	ADH-ROJ - 01	
Return From Cooling Tower; Required for Sec. CT Integrity; 6.92 in.H2O															
2ADH*V22A	3	Y	C	A	10	CHV	SE	115A (J-4)	C	C	NA	BDT-O	R		
												FE-R	R	ADH-ROJ - 01	
Heat Exchanger to Cooling Tower; Required for Sec. CT Integrity; 6.92 in.H2O															
2ADH*V22B	3	Y	C	A	10	CHV	SE	115A (J-4)	C	C	NA	BDT-O	R		
												FE-R	R	ADH-ROJ - 01	
Heat Exchanger to Cooling Tower; Required for Sec. CT Integrity; 6.92 in.H2O															

Valve Table

CCP - Reactor Building Closed Loop Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CCP*AOV37A	3	N	B	A	1.5	PGV	AO	13E (J-2)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
RHR Pump A Seal Cooler Supply From CCP												PI	2Y		
												ST-C	Q		
2CCP*AOV37B	3	N	B	A	2	PGV	AO	13E (D-8)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
RHR Pump B & C Seal Cooler Supply From CCP												PI	2Y		
												ST-C	Q		
2CCP*AOV38A	3	N	B	A	1.5	PGV	AO	13E (J-4)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
RHR Pump A Seal Cooler Return To CCP												PI	2Y		
												ST-C	Q		
2CCP*AOV38B	3	N	B	A	2	PGV	AO	13E (D-10)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
RHR Pump B & C Seal Cooler Return To CCP												PI	2Y		
												ST-C	Q		
2CCP*MOV122	2	N	A	A	8	GTV	MO	13C (J-6)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
Drywell Space Cooler Return												LJ-C	60		
2CCP*MOV124	2	N	A	A	8	FWGTV	MO	13C (I-6)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
Drywell Space Cooler Return												LJ-C	60		
2CCP*MOV14A	3	N	B	A	12	GTV	MO	13E (G-7)	O	C	As-Is	DIAG	OMN1		
												FE	2Y		
Spent Fuel Pool Cooling HX-A Inlet Blocking Valve															
2CCP*MOV14B	3	N	B	A	12	GTV	MO	13E (H-10)	O	C	As-Is	DIAG	OMN1		
												FE	2Y		
Spent Fuel Pool Cooling HX-B Inlet Blocking Valve															
2CCP*MOV15A	2	N	A	A	4	FWGTV	MO	13D (K-6)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump A Cooling Water Return												LJ-C	60		
2CCP*MOV15B	2	N	A	A	4	FWGTV	MO	13A (I-7)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump B Cooling Water Return												LJ-C	60		

Valve Table

CCP - Reactor Building Closed Loop Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CCP*MOV16A	2	N	A	A	4	GTV	MO	13D (K-7)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump A Cooling Water Return												LJ-C	60		
2CCP*MOV16B	2	N	A	A	4	GTV	MO	13A (G-7)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump B Cooling Water Return												LJ-C	60		
2CCP*MOV17A	2	N	A	A	4	FWGTV	MO	13D (C-7)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump A Cooling Water Supply												LJ-C	60		
2CCP*MOV17B	2	N	A	A	4	FWGTV	MO	13B (E-7)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump B Cooling Water Supply												LJ-C	60		
2CCP*MOV18A	3	N	B	A	12	GTV	MO	13E (G-5)	O	C	As-Is	DIAG	OMN1		
												FE	2Y		
Spent Fuel Pool Cooling HX-A Outlet Blocking Valve															
2CCP*MOV18B	3	N	B	A	12	GTV	MO	13E (I-8)	O	C	As-Is	DIAG	OMN1		
												FE	2Y		
Spent Fuel Pool Cooling HX-B Outlet Blocking Valve															
2CCP*MOV265	2	N	A	A	8	FWGTV	MO	13C (B-6)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
Drywell Space Cooler Supply												LJ-C	60		
2CCP*MOV273	2	N	A	A	8	GTV	MO	13C (C-6)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
Drywell Space Cooler Supply												LJ-C	60		
2CCP*MOV94A	2	N	A	A	4	GTV	MO	13D (C-7)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump A Cooling Water Supply												LJ-C	60		
2CCP*MOV94B	2	N	A	A	4	GTV	MO	13B (E-8)	O	C	As-Is	DIAG	OMN1		
												FE	CS		
RCS Pump B Cooling Water Supply												LJ-C	60		
2CCP*RV1019A	2	N	A/C	A	0.75	REV	SE	13D (D-7)	C	O	N/A	LA	10Y-S		Note - 01
												LJ-C	30		
GL 96-06 Containment Penetration Relief												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		

Valve Table

CCP - Reactor Building Closed Loop Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CCP*RV1020A	2	N	A/C	A	0.75	REV	SE	13D (L-6)	C	O	N/A	LA	10Y-S		Note - 01
												LJ-C	60		
GL 96-06 Containment Penetration Relief												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2CCP*RV1021A	2	N	A/C	A	0.75	REV	SE		C	O	N/A	LA	10Y-S		Note - 01
												LJ-C	60		
GL 96-06 Containment Penetration Relief												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2CCP*RV1022A	2	N	A/C	A	0.75	REV	SE		C	O	N/A	LA	10Y-S		Note - 01
												LJ-C	60		
GL 96-06 Containment Penetration Relief												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2CCP*RV170	2	N	A/C	A	0.75	REV	SE	13B (F-7)	C	O	NA	LA	10Y-S		Note - 01
												LJ-C	30		
Containment Penetration Relief												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2CCP*RV171	2	N	A/C	A	0.75	REV	SE	13A (H-6)	C	O	NA	LA	10Y-S		Note - 01
												LJ-C	60		
Containment Penetration Relief												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2CCP*RV60A	3	N	C	A	0.75	REV	SE	13E (K-3)	C	O	NA	RVTh	10Y		
RHR Pump 2RHS*P1A Seal Cooler Thermal Relief															
2CCP*RV60B	3	N	C	A	0.75	REV	SE	13E (D-9)	C	O	NA	RVTh	10Y		
RHR Pump 2RHS*P1B Seal Cooler Thermal Relief															
2CCP*RV60C	3	N	C	A	0.75	REV	SE	13E (E-9)	C	O	NA	RVTh	10Y		
RHR Pump 2RHS*P1C Seal Cooler Thermal Relief															

Valve Table

CCP - Reactor Building Closed Loop Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CCP*RV64A	3	N	C	A	2	REV	SE	13E (H-5)	C	O	NA	LA	10Y-S		Note - 01
												LL	10Y-S		
2SFC*E1A Over-Pressure Protection												RT	10Y-S		
												VT	10Y-S		
2CCP*RV64B	3	N	C	A	2	REV	SE	13E (I-9)	C	O	NA	LA	10Y-S		Note - 01
												LL	10Y-S		
2SFC*E1B Over-Pressure Protection												RT	10Y-S		
												VT	10Y-S		
2CCP*V996	3	N	C	A	4	CHV	SE	13C (M-6)	OC	C	NA	DI	R	CCP-ROJ - 01	
Alternate Drywell Cooling															
2CCP*V997	3	N	C	A	4	CHV	SE	13C (M-6)	OC	C	NA	DI	R	CCP-ROJ - 01	
Alternate Drywell Cooling															
2CCP*V998	3	N	C	A	4	CHV	SE	13C (M-4)	OC	C	NA	DI	R	CCP-ROJ - 01	
Alternate Drywell Cooling															
2CCP*V999	3	N	C	A	4	CHV	SE	13C (M-5)	OC	C	NA	DI	R	CCP-ROJ - 01	
Alternate Drywell Cooling															

Valve Table

CMS - Containment Atmosphere Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CMS*EFV10	2	N	C	A	0.75	EFV	SE	82A (I-2)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PI173; PS173												PI	2Y		
2CMS*EFV1A	2	N	C	A	0.75	EFV	SE	82A (I-2)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PT1A; *PT17B												PI	2Y		
2CMS*EFV1B	2	N	C	A	0.75	EFV	SE	82A (E-2)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PT1B												PI	2Y		
2CMS*EFV3A	2	N	C	A	0.75	EFV	SE	82A (J-9)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PT2A												PI	2Y		
2CMS*EFV3B	2	N	C	A	0.75	EFV	SE	82A (D-9)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PT2B												PI	2Y		
2CMS*EFV5A	2	N	C	A	0.75	EFV	SE	82B (I-3)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PT7A												PI	2Y		
2CMS*EFV5B	2	N	C	A	0.75	EFV	SE	82B (C-3)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PT7B												PI	2Y		
2CMS*EFV6	2	N	C	A	0.75	EFV	SE	82B (I-2)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*PT168												PI	2Y		
2CMS*EFV8A	2	N	C	A	0.75	EFV	SE	82B (I-5)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*LT9A; 11A; 114												PI	2Y		
2CMS*EFV8B	2	N	C	A	0.75	EFV	SE	82B (C-5)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*LT9B; 11B; 105												PI	2Y		
2CMS*EFV9A	2	N	C	A	0.75	EFV	SE	82B (I-9)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*LT9A; 11A; 114												PI	2Y		
2CMS*EFV9B	2	N	C	A	0.75	EFV	SE	82B (C-9)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2CMS*LT9B; 11B; 105												PI	2Y		

Valve Table

CMS - Containment Atmosphere Monitoring

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CMS*SOV23A	2	N	B	A	0.75	GLV	SO	82A (G-6)	OC	OC	C	FE	Q		
												FS-C	Q		
Post-Accident Sample Selector												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV23B	2	N	B	A	0.75	GLV	SO	82A (F-6)	OC	OC	C	FE	Q		
												FS-C	Q		
Post-Accident Sample Selector												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV23C	2	N	B	A	0.75	GLV	SO	82A (G-5)	OC	OC	C	FE	Q		
												FS-C	Q		
Post-Accident Sample Selector												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV23D	2	N	B	A	0.75	GLV	SO	82A (F-5)	OC	OC	C	FE	Q		
												FS-C	Q		
Post-Accident Sample Selector												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV23E	2	N	B	A	0.75	GLV	SO	82A (G-4)	OC	OC	C	FE	Q		
												FS-C	Q		
Post-Accident Sample Selector												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV23F	2	N	B	A	0.75	GLV	SO	82A (F-5)	OC	OC	C	FE	Q		
												FS-C	Q		
Post-Accident Sample Selector												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV24A	2	N	A	A	0.75	GLV	SO	82A (H-5)	O	OC	C	FE	Q		
												FS-C	Q		
CMS from Drywell to H2O2 Analyzer												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		

CMS - Containment Atmosphere Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CMS*SOV24B	2	N	A	A	0.75	GLV	SO	82A (F-5)	O	OC	C	FE	Q		
												FS-C	Q		
CMS from Drywell to H2O2 Analyzer												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV24C	2	N	A	A	0.75	GLV	SO	82A (I-5)	O	OC	C	FE	Q		
												FS-C	Q		
CMS from Drywell to H2O2 Analyzer												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV24D	2	N	A	A	0.75	GLV	SO	82A (D-5)	O	OC	C	FE	Q		
												FS-C	Q		
CMS from Drywell to H2O2 Analyzer												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV26A	2	N	A	A	0.75	GLV	SO	82B (H-5)	OC	OC	C	FE	Q		
												FS-C	Q		
CMS from Suppression Chamber to H2O2 Analyzer												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV26B	2	N	A	A	0.75	GLV	SO	82B (D-5)	OC	OC	C	FE	Q		
												FS-C	Q		
CMS from Suppression Chamber to H2O2 Analyzer												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV26C	2	N	A	A	0.75	GLV	SO	82B (J-5)	OC	OC	C	FE	Q		
												FS-C	Q		
CMS from Suppression Chamber to H2O2 Analyzer												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		

Valve Table

CMS - Containment Atmosphere Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CMS*SOV26D	2	N	A	A	0.75	GLV	SO	82B (B-5)	OC	OC	C	FE	Q		
CMS from Suppression Chamber to H2O2 Analyzer												FS-C	Q		
												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV32A	2	N	A	A	0.75	GLV	SO	82A (J-8)	OC	OC	C	FE	Q		
CMS to Drywell from H2O2 Analyzer												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV32B	2	N	A	A	0.75	GLV	SO	82A (E-8)	OC	OC	C	FE	Q		
CMS to Drywell from H2O2 Analyzer												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV33A	2	N	A	A	0.75	GLV	SO	82A (H-8)	O	OC	C	FE	Q		
CMS to Drywell from H2O2 Analyzer												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV33B	2	N	A	A	0.75	GLV	SO	82A (F-8)	O	OC	C	FE	Q		
CMS to Drywell from H2O2 Analyzer												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV34A	2	N	A	A	0.75	GLV	SO	82B (H-8)	O	OC	C	FE	Q		
CMS to Suppression Chamber from H2O2 Analyzer												FS-C	Q		
												LJ-C	30		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		

Valve Table

CMS - Containment Atmosphere Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CMS*SOV34B	2	N	A	A	0.75	GLV	SO	82B (E-8)	O	OC	C	FE	Q		
												FS-C	Q		
CMS to Suppression Chamber from H2O2 Analyzer												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV35A	2	N	A	A	0.75	GLV	SO	82B (J-8)	OC	OC	C	FE	Q		
												FS-C	Q		
CMS to Suppression Chamber from H2O2 Analyzer												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV35B	2	N	A	A	0.75	GLV	SO	82B (C-8)	OC	OC	C	FE	Q		
												FS-C	Q		
CMS to Suppression Chamber from H2O2 Analyzer												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2CMS*SOV60A	2	N	A	A	0.75	GLV	SO	82A (I-3)	O	C	C	FE	Q		
												FS-C	Q		
CMS from Drywell To Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CMS*SOV60B	2	N	A	A	0.75	GLV	SO	82A (D-3)	O	C	C	FE	Q		
												FS-C	Q		
CMS from Drywell To Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CMS*SOV61A	2	N	A	A	0.75	GLV	SO	82A (H-3)	O	C	C	FE	Q		
												FS-C	Q		
CMS from Drywell To Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		

Valve Table

CMS - Containment Atmosphere Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CMS*SOV61B	2	N	A	A	0.75	GLV	SO	82A (F-3)	O	C	C	FE	Q		
												FS-C	Q		
CMS from Drywell To Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CMS*SOV62A	2	N	A	A	0.75	GLV	SO	82A (I-7)	O	C	C	FE	Q		
												FS-C	Q		
CMS to Drywell From Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CMS*SOV62B	2	N	A	A	0.75	GLV	SO	82A (E-7)	O	C	C	FE	Q		
												FS-C	Q		
CMS to Drywell From Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CMS*SOV63A	2	N	A	A	0.75	GLV	SO	82A (H-7)	O	C	C	FE	Q		
												FS-C	Q		
CMS to Drywell From Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CMS*SOV63B	2	N	A	A	0.75	GLV	SO	82A (F-7)	O	C	C	FE	Q		
												FS-C	Q		
CMS to Drywell From Containment Atmosphere Rad. Monitor												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CMS*SOV64A	2	N	B	A	0.75	GLV	SO	82A (L-5)	O	O	C	FE	Q		
												PI	2Y		
H2O2 Analyzer Inlet												ST-O	Q		
2CMS*SOV64B	2	N	B	A	0.75	GLV	SO	82A (B-5)	O	O	C	FE	Q		
												PI	2Y		
H2O2 Analyzer Inlet												ST-O	Q		
2CMS*SOV65A	2	N	B	A	0.75	GLV	SO	82A (L-8)	O	O	C	FE	Q		
												PI	2Y		
H2O2 Analyzer Outlet												ST-O	Q		

Valve Table

CMS - Containment Atmosphere Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CMS*SOV65B H2O2 Analyzer Outlet	2	N	B	A	0.75	GLV	SO	82A (B-8)	O	O	C	FE PI ST-O	Q 2Y Q		
2CMS*SOV74A DW Atmos. Post-Accident Sample Loop A	2	N	A	P	0.75	GLV	SO	82A (K-4)	C	C	C	LJ PI	APPJ 2Y		Note - 02
2CMS*SOV74B DW Atmos. Post-Accident Sample Loop B	2	N	A	P	0.75	GLV	SO	82A (C-4)	C	C	C	LJ PI	APPJ 2Y		Note - 02
2CMS*SOV75A DW Atmos. Post-Accident Sample	2	N	A	P	0.75	GLV	SO	82A (K-9)	C	C	C	LJ PI	APPJ 2Y		Note - 02
2CMS*SOV75B DW Atmos. Post-Accident Sample	2	N	A	P	0.75	GLV	SO	82A (C-9)	C	C	C	LJ PI	APPJ 2Y		Note - 02
2CMS*SOV76A DW Atmos. Post-Accident Sample	2	N	A	P	0.75	GLV	SO	82A (L-4)	C	C	C	LJ PI	APPJ 2Y		Note - 02
2CMS*SOV76B DW Atmos. Post-Accident Sample	2	N	A	P	0.75	GLV	SO	82A (B-4)	C	C	C	LJ PI	APPJ 2Y		Note - 02
2CMS*SOV77A DW Atmos. Post-Accident Sample	2	N	A	P	0.75	GLV	SO	82A (L-2)	C	C	C	LJ PI	APPJ 2Y		Note - 02
2CMS*SOV77B DW Atmos. Post-Accident Sample	2	N	A	P	0.75	GLV	SO	82A (B-9)	C	C	C	LJ PI	APPJ 2Y		Note - 02

Constellation Energy (NMP Unit 2) IST Program
Valve Table
CPS - Primary Containment Purge

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position: Normal	Position: Safety	Position: Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CPS*AOV104	2	N	A	A	14	BFV	AO	61A (F-5)	C	C	C	FE	Q		Notes - 02 & 04
												FS-C	Q		AOV Program
Drywell Purge - Inlet												LJ-C	Q		
												PI	2Y		
												ST-C	Q		
2CPS*AOV105	2	N	A	A	12	BFV	AO	61A (F-7)	C	C	C	FE	Q		Notes - 02 & 04
												FS-C	Q		AOV Program
Suppression Chamber Purge - Inlet												LJ-C	Q		
												PI	2Y		
												ST-C	Q		
2CPS*AOV106	2	N	A	A	14	BFV	AO	61A (G-5)	C	C	C	FE	Q		Notes - 02 & 04
												FS-C	Q		AOV Program
Drywell Purge - Inlet												LJ-C	Q		
												PI	2Y		
												ST-C	Q		
2CPS*AOV107	2	N	A	A	12	BFV	AO	61A (G-7)	C	C	C	FE	Q		Notes - 02 & 04
												FS-C	Q		AOV Program
Suppression Chamber Purge - Inlet												LJ-C	Q		
												PI	2Y		
												ST-C	Q		
2CPS*AOV108	2	N	A	A	14	BFV	AO	61A (I-5)	C	C	C	FE	Q		Note - 04
												FS-C	Q		AOV Program
Drywell Vent - Exhaust												LJ-C	Q		
												PI	2Y		
												ST-C	Q		
2CPS*AOV109	2	N	A	A	12	BFV	AO	61A (I-7)	C	C	C	FE	Q		Note - 04
												FS-C	Q		AOV Program
Suppression Chamber Vent - Exhaust												LJ-C	Q		
												PI	2Y		
												ST-C	Q		
2CPS*AOV110	2	N	A	A	14	BFV	AO	61A (K-5)	C	C	C	FE	Q		Note - 04
												FS-C	Q		AOV Program
Drywell Vent - Exhaust												LJ-C	Q		
												PI	2Y		
												ST-C	Q		

Valve Table

CPS - Primary Containment Purge

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CPS*AOV111	2	N	A	A	12	BFV	AO	61A (K-7)	C	C	C	FE	Q		Note - 04
												FS-C	Q		AOV Program
Suppression Chamber Vent - Exhaust												LJ-C	Q		
												PI	2Y		
												ST-C	Q		
2CPS*SOV119	2	N	A	A	2	GLV	SO	61A (E-8)	C	C	C	FE	Q		Note - 02
												FS-C	Q		
Containment N2 Makeup - Suppression Chamber												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CPS*SOV120	2	N	A	A	2	GLV	SO	61A (E-5)	C	C	C	FE	Q		Note - 02
												FS-C	Q		
Containment N2 Makeup - Drywell												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CPS*SOV121	2	N	A	A	2	GLV	SO	61A (G-8)	C	C	C	FE	Q		Note - 02
												FS-C	Q		
Containment N2 Makeup - Suppression Chamber												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CPS*SOV122	2	N	A	A	2	GLV	SO	61A (G-5)	C	C	C	FE	Q		Note - 02
												FS-C	Q		
Containment N2 Makeup - Drywell												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CPS*SOV132	2	N	A	A	1	GLV	SO	61A (F-8)	C	C	C	FE	Q		Note - 02
												FS-C	Q		
IAS to 2CPS*AOV107												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2CPS*SOV133	2	N	A	A	1	GLV	SO	61A (K-8)	C	C	C	FE	Q		Note - 02
												FS-C	Q		
IAS to 2CPS*AOV109												LJ-C	60		
												PI	2Y		
												ST-C	Q		

Valve Table

CPS - Primary Containment Purge

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CPS*V50 IAS to *AOV107	2	N	A/C	A	1.5	CHV	SE	61A (F-8)	OC	C	N/A	BDT-O FE-R LJ-C	CMP CMP APPJ		Note - 02 Condition Monitoring Program
2CPS*V51 IAS to *AOV109	2	N	A/C	A	1.5	CHV	SE	61A (J-8)	OC	C	N/A	BDT-O FE-R LJ-C	CMP CMP APPJ		Note - 02 Condition Monitoring Program

Valve Table

CSH - High Pressure Core Spray

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CSH*EFV1 Instrument Line to 2CSH*LT123; LT124	2	N	C	A	2	EFV	SE	33A (G-6)	O	C	NA	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
2CSH*EFV2 Instrument Line to 2CSH*LT123; LT124	2	N	C	A	2	EFV	SE	33A (G-7)	O	C	NA	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
2CSH*EFV3 Instrument Line to 2CSH*PDT109	2	N	C	A	0.75	EFV	SE	33A (H-3)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2CSH*MOV101 CST Pump Suction Valve	2	N	B	A	10	GTV	MO	33B (D-9)	O	OC	As-Is	DIAG FE	OMN1 Q		
2CSH*MOV105 Suppression Pool Min Flow	2	N	A	A	4	FWGTV	MO	33B (G-5)	C	OC	As-Is	DIAG FE LJ-C	OMN1 Q 60		
2CSH*MOV107 HPCS Injection Valve	1	N	A	A	12	FWGTV	MO	33A (G-2)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		PIV
2CSH*MOV110 CST Test Bypass Valve	2	N	B	A	10	GLV	MO	33B (G-3)	C	C	As-Is	DIAG FE	OMN1 2Y		
2CSH*MOV111 Test Return Valve to Suppression Pool	2	N	A	A	12	GLV	MO	33A (F-4)	C	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2CSH*MOV112 CST Test Bypass Valve	2	N	B	A	10	GLV	MO	33B (F-3)	C	C	As-Is	DIAG FE	OMN1 2Y		
2CSH*MOV118 Suppression Pool Pump Suction	2	N	B	A	18	FWGTV	MO	33A (J-9)	C	OC	As-Is	DIAG FE	OMN1 Q		
2CSH*RV113 HPCS Suction Header Relief	2	N	C	A	0.75	REV	SE	33B (F-8)	C	O	NA	BE LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S 10Y-S		Note - 01

Valve Table

CSH - High Pressure Core Spray

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CSH*RV114 HPCS Discharge Header Relief	2	N	C	A	0.75	REV	SE	33B (J-5)	C	O	NA	BE LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2CSH*RV160 HPCS Pressure Pump 2CSH*P2 Suction	3	N	C	A	0.75	REV	SE	33B (G-9)	C	O	NA	RVTh	10Y		
2CSH*V108 HPCS Injection to Reactor	1	N	A/C	A	12	SWCV	SE	33A (I-2)	C	OC	NA	FE-F FE-R LJ-C LK	R R 30 2Y	CSH-ROJ - 01 CSH-ROJ - 01	
2CSH*V16 HPCS Supp. Pool Pump Suction	2	N	C	A	20	SWCV	SE	33A (I-10)	C	OC	NA	FE-F FE-R	Q Q		CKV Program
2CSH*V17 HPCS Pressure Pump *P2 Discharge Check	2	N	C	A	3	SWCV	SE	33B (J-8)	OC	C	NA	BDT-O FE-R	2Y Q		CKV Program
2CSH*V55 HPCS Pressure Pump *P2 Discharge Check	2	N	C	A	3	SWCV	SE	33B (J-8)	OC	C	NA	BDT-O FE-R	2Y Q		CKV Program
2CSH*V59 CST Suction Check Valve	2	N	C	A	14	SWCV	SE	33A (G-4)	OC	OC	NA	FE-F FE-R	Q Q		CKV Program
2CSH*V7 HPCS Min. Flow to Supp. Pool	2	N	C	A	4	SWCV	SE	33B (E-5)	C	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
2CSH*V9 HPCS Pump *P1 Discharge Check Valve	2	N	C	A	16	SWCV	SE	33B (I-5)	C	O	NA	FE-F FE-R	Q Q		CKV Program

Valve Table

CSL - Low Pressure Core Spray

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CSL*EFV1 Instrument Line to 2CSL*PDT132 & 2RHS*PDT18A	2	N	C	A	0.75	EFV	SE	32A (H-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2CSL*FV114 Full-Flow Test to Supp. Pool	2	N	B	A	10	GLV	MO	32A (E-4)	OC	C	As-Is	FE PI ST-C	Q 2Y Q		
2CSL*MOV104 LPCS Injection Valve	1	N	A	A	12	FWGTV	MO	32A (H-3)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		PIV
2CSL*MOV107 LPCS Min. Flow to Supp. Pool (E21-FO11)	2	N	B	A	4	GTV	MO	32A (C-5)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2CSL*MOV112 LPCS Supp. Pool Suction	2	N	B	A	20	BFV	MO	32A (G-9)	O	C	As-Is	DIAG FE	OMN1 2Y		
2CSL*RV105 LPCS Discharge Header Relief	2	N	C	A	1.5	REV	SE	32A (F-2)	C	O	NA	BE LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S 10Y-S		Note - 01 Note - 05
2CSL*RV123 LPCS Suction Header Relief	2	N	C	A	0.75	REV	SE	32A (F-7)	C	O	NA	BE LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S 10Y-S		Note - 01 Note - 05
2CSL*RV134 LPCS Pressure Pump 2CSL*P2 Suction	3	N	C	A	0.75	REV	SE	32A (E-6)	C	O	NA	RVTh	10Y		
2CSL*V101 LPCS Injection	1	N	A/C	A	12	SWCV	SE	32A (I-3)	C	OC	NA	FE-F FE-R LJ-C LK	R R 30 2Y	CSL-ROJ - 01 CSL-ROJ - 01	
2CSL*V14 LPCS Pressure Pump *P2 Discharge Check	2	N	C	A	2	CHV	SE	32A (D-6)	OC	C	NA	BDT-O FE-R	2Y Q		

Valve Table

CSL - Low Pressure Core Spray

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CSL*V21	2	N	C	A	2	CHV	SE	32A (D-6)	OC	C	NA	BDT-O FE-R	2Y Q		
LPCS Pressure Pump *P2 Discharge Check															
2CSL*V4	2	N	C	A	16	SWCV	SE	32A (B-3)	C	O	NA	FE-F FE-R	Q Q		CKV Program
LPCS Pump *P1 Discharge Check															
2CSL*V9	2	N	C	A	12	SWCV	SE	32A (E-5)	OC	O	NA	FE-F FE-R	Q Q		CKV Program
Supp. Pool Full Flow Test Return Check															

Constellation Energy (NMP Unit 2) IST Program
Valve Table
DER - Drywell Equipment Drains

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2DER*EFV31 Instrument Line to 2DER-PT134; RPV Head Seal Leak Detector	2	N	C	A	0.75	EFV	SE	67A (B-6)	O	C	N/A	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
2DER*MOV119 DWED Cooler from Drywell	2	N	A	A	4	FWGTV	MO	67A (C-3)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 60		Note - 02
2DER*MOV120 DWED Cooler from Drywell	2	N	A	A	4	FWGTV	MO	67A (C-3)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 60		Note - 02
2DER*MOV130 DWEDT Vent Line	2	N	A	A	2	GLV	MO	67A (C-2)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 60		Note - 02
2DER*MOV131 DWEDT Vent Line	2	N	A	A	2	GLV	MO	67A (C-2)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 60		Note - 02
2DER*RV344 GL 96-06 Containment Penetration Relief	3	N	A/C	A	0.75	REV	SE		C	O	N/A	LA LJ-C LL RT VT	10Y-S 60 10Y-S 10Y-S 10Y-S		Note - 01

Valve Table

DFR - Drywell Floor Drains

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2DFR*MOV120 DWFD Tank Line	2	N	A	A	6	FWGTV	MO	63E (E-7)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 30		Note - 02
2DFR*MOV121 DWFD Tank Line	2	N	A	A	6	FWGTV	MO	63E (E-7)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 60		Note - 02
2DFR*MOV139 DWFDT Vent Line	2	N	A	A	3	GTV	MO	63E (E-6)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 30		Note - 02
2DFR*MOV140 DWFDT Vent Line	2	N	A	A	3	GTV	MO	63E (F-6)	O	C	As-Is	DIAG FE LJ-C	OMN1 Q 30		Note - 02
2DFR*RV228 GL 96-06 Containment Penetration Relief	3	N	A/C	A	0.75	REV	SE		C	O	N/A	LA LJ-C LL RT VT	10Y-S 60 10Y-S 10Y-S 10Y-S		Note - 01

Valve Table

EGA - Diesel Generator Starting Air

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGA*AOV323A HPCS -- 2EGS*EG2, Air Admission Valve	N	Y	N/A	A	3	GLV	AO	104A (K-6)	C	OC	O	AUG	Q		Note - 07 AOV Program
2EGA*AOV323B HPCS -- 2EGS*EG2, Air Admission Valve	N	N	N/A	A	3	GLV	AO	104A (K-5)	C	OC	O	AUG	Q		Note - 07 AOV Program
2EGA*PCV115 HPCS -- 2EGS*EG2, AIR START	N	Y	N/A	A	2	GTV	AO	104A (J-5)	C	OC	N/A	AUG	Q		Note - 07 AOV Program
2EGA*PCV116 HPCS -- 2EGS*EG2, AIR START	N	Y	N/A	A	2	GTV	AO	104A (J-6)	C	OC	N/A	AUG	Q		Note - 07 AOV Program
2EGA*PCV25A DIV I -- 2EGS*EG1, Air Admission Valve	N	Y	N/A	A	2.5	GLV	AO	104A (F-2)	C	OC	O	AUG	Q		Note - 07 AOV Program
2EGA*PCV25B DIV II -- 2EGS*EG3, Air Admission Valve	N	Y	N/A	A	2.5	GLV	AO	104A (F-8)	C	OC	O	AUG	Q		Note - 07 AOV Program
2EGA*PCV26A DIV I -- 2EGS*EG1, Air Admission Valve	N	Y	N/A	A	2.5	GLV	AO	104A (F-3)	C	OC	O	AUG	Q		Note - 07 AOV Program
2EGA*PCV26B DIV II -- 2EGS*EG3, Air Admission Valve	N	Y	N/A	A	2.5	GLV	AO	104A (F-9)	C	OC	O	AUG	Q		Note - 07 AOV Program
2EGA*RV125 Div. I 2EGS*EG1 Exhaust Line Relief	3	N	C	A	30	REV	SE	104A (G-3)	C	O	N/A	LA LL RT VT	5Y 5Y 5Y 5Y		Notes - 01 & 06
2EGA*RV126 Div. II 2EGS*EG3 Exhaust Line Relief	3	N	C	A	30	REV	SE	104A (H-8)	C	O	N/A	LA LL RT VT	5Y 5Y 5Y 5Y		Notes - 01 & 06
2EGA*RV127 HPCS 2EGS*EG2 Exhaust Line Relief	3	N	C	A	22	REV	SE	104A (L-6)	C	O	N/A	LA LL RT VT	5Y 5Y 5Y 5Y		Notes - 01 & 06

Valve Table

EGA - Diesel Generator Starting Air

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGA*SOV328A HPCS -- 2EGS*EG2, Actuates AOV323A	N	Y	N/A	A	0.375	GTV	SO	104A (J-6)	O	OC	C	AUG	Q		Note - 07
2EGA*SOV328B HPCS -- 2EGS*EG2, Actuates AOV323B	N	Y	N/A	A	0.375	GTV	SO	104A (J-5)	O	OC	C	AUG	Q		Note - 07
2EGA*SV111 HPCS -- 2EGS*EG2; Receiver 2EGS*TK3 Relief	3	N	C	A	0.75	REV	SE	104A (H-6)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2EGA*SV112 HPCS -- 2EGS*EG2; Receiver 2EGS*TK4 Relief	3	N	C	A	0.75	REV	SE	104A (H-5)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2EGA*SV3A 2EGA*TK2A Relief	3	N	C	A	1	REV	SE	104A (C-2)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2EGA*SV3B 2EGA*TK2B Relief	3	N	C	A	1	REV	SE	104A (C-8)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2EGA*SV4A 2EGA*TK1A Relief	3	N	C	A	1	REV	SE	104A (C-4)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2EGA*SV4B 2EGA*TK1B Relief	3	N	C	A	1	REV	SE	104A (C-9)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2EGA*V12A DIV I -- 2EGS*EG1 Air Start Check Valve; Upside Down	N	Y	N/A	A	2.5	SWCV	SE	104A (F-3)	OC	OC	N/A	DI PE-F	2Y-S Q		Notes - 07 & 08 CKV Program
2EGA*V12B DIV I -- 2EGS*EG1 Air Start Check Valve; Upside Down	N	Y	N/A	A	2.5	SWCV	SE	104A (F-3)	OC	OC	N/A	DI PE-F	2Y-S Q		Notes - 07 & 08 CKV Program

Valve Table

EGA - Diesel Generator Starting Air

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGA*V14A	N	Y	N/A	A	2.5	SWCV	SE	104A (F-9)	OC	OC	N/A	DI PE-F	2Y-S Q		Notes - 07 & 08 CKV Program
DIV II -- 2EGS*EG3 Air Start Check Valve; Upside Down															
2EGA*V14B	N	Y	N/A	A	2.5	SWCV	SE	104A (F-8)	OC	OC	N/A	DI PE-F	2Y-S Q		Notes - 07 & 08 CKV Program
DIV II -- 2EGS*EG3 Air Start Check Valve; Upside Down															
2EGA*V29A	3	N	C	A	1.5	PICV	SE	104A (G-6)	OC	C	N/A	BDT-O FE-R	2Y Q		CKV Program
2EGA*TK3 Inlet															
2EGA*V29B	3	N	C	A	1.5	PICV	SE	104A (G-5)	OC	C	N/A	BDT-O FE-R	2Y Q		CKV Program
2EGA*TK4 Inlet															
2EGA*V62A	3	N	C	A	1.5	PICV	SE	104A (C-5)	OC	C	N/A	BDT-O FE-R	2Y Q		CKV Program
2EGA*TK1A Inlet															
2EGA*V62B	3	N	C	A	1.5	PICV	SE	104A (C-3)	OC	C	N/A	BDT-O FE-R	2Y Q		CKV Program
2EGA*TK2A Inlet															
2EGA*V63A	3	N	C	A	1.5	PICV	SE	104A (C-10)	OC	C	N/A	BDT-O FE-R	2Y Q		CKV Program
2EGA*TK1B Inlet															
2EGA*V63B	3	N	C	A	1.5	PICV	SE	104A (C-8)	OC	C	N/A	BDT-O FE-R	2Y Q		CKV Program
2EGA*TK1A Inlet															

Valve Table

EGF - Diesel Generator Fuel Oil

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGF*SV121	3	N	C	A	1	REV	SE	104F (D-7)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
DIV I -- 2EGS*EG1, Pump 2EGF*P3 Discharge Safety Relief Valve															
2EGF*SV122	N	Y	N/A	A	0.75	REV	SE	104F (E-6)	C	O	N/A	AUG	M		Note - 07
DIV I -- 2EGS*EG1; Pump 2EGF*P5 Discharge Relief; Modulate To Control Fuel Supply Header Pressure @ 35 psi															
2EGF*SV221	3	N	C	A	1	REV	SE	104F (D-7)	C	O	N/A	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
DIV II -- 2EGS*EG3, Pump 2EGF*P4 Discharge Safety Relief Valve															
2EGF*SV222	N	Y	N/A	A	0.75	REV	SE	104F (E-6)	C	O	N/A	AUG	M		Note - 07
DIV II -- 2EGS*EG3; Pump 2EGF*P6 Discharge Relief; Modulate To Control Fuel Supply Header Pressure @ 35 psi															
2EGF*V103	N	Y	N/A	A		CHV	SE	104F (D-5)	OC	C	N/A	AUG	M		Note - 07
DIV I -- 2EGS*EG1; 2EGF*P5 Bypass Check Valve															
2EGF*V104	3	N	C	A	0	CHV	SE	104F (E-4)	OC	O	N/A	AUG	M		Note - 07
DIV I -- 2EGS*EG1; Fuel Supply Header Check															
2EGF*V12	3	N	C	A	1	PICV	SE	104C (D-4)	OC	OC	N/A	FE-F FE-R	Q Q		CKV Program
Div. I Diesel, 2EGS*EG1; Fuel Oil Transfer Pump 2EGF*P1C Discharge Check															
2EGF*V120	N	Y	N/A	A		CHV	SE	104F (E-4)	OC	O	N/A	AUG	M		Note - 07
DIV I -- 2EGS*EG1; 2EGF*P3 Bypass Check															
2EGF*V13	3	N	C	A	1	PICV	SE	104C (F-5)	OC	OC	N/A	FE-F FE-R	Q Q		CKV Program
Fuel Oil Transfer Pump 2EGF*P1A Discharge Check															
2EGF*V203	N	Y	N/A	A		CHV	SE	104F (D-5)	OC	C	N/A	AUG	M		Note - 07
DIV II -- 2EGS*EG3; 2EGF*P6 Bypass Check Valve															
2EGF*V204	3	N	C	A	0	CHV	SE	104F (E-4)	OC	OC	N/A	AUG	M		Note - 07
DIV II -- 2EGS*EG3; Fuel Supply Header Check															

Valve Table

EGF - Diesel Generator Fuel Oil

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGF*V220 DIV II -- 2EGS*EG3; 2EGF*P4 Bypass Check Valve	N	Y	N/A	A		CHV	SE	104F (D-7)	OC	O	N/A	AUG	M		Note - 07
2EGF*V304 HPCS -- 2EGS*EG2; Kepner Kep-O-Seal	N	Y	N/A	A		CHV	SE	104F (J-2)	OC	OC	N/A	AUG	M		Note - 07
2EGF*V308 HPCS -- 2EGS*EG2; Kepner Kep-O-Seal	N	Y	N/A	A		CHV	SE	104F (J-2)	OC	OC	N/A	AUG	M		Note - 07
2EGF*V309 HPCS -- 2EGS*EG2; ENGINE-DRIVEN FUEL BOOSTER PUMP *P10 PRESSURE CONTROL TO INJECTORS	N	Y	N/A	A		CHV	SE	104F (J-3)	OC	OC	N/A	AUG	M		Note - 07
2EGF*V310 HPCS -- 2EGS*EG2; Fuel Oil Return to Day Tank Check Valve	N	Y	N/A	A		CHV	SE	104F (L-3)	OC	OC	N/A	AUG	M		Note - 07
2EGF*V32 Fuel oil Transfer Pump 2EGF*P1D Discharge Check	3	N	C	A	1	PICV	SE	104B (D-6)	OC	OC	N/A	FE-F FE-R	Q Q		CKV Program
2EGF*V33 Fuel Oil Transfer Pump 2EGF*P1B Discharge Check	3	N	C	A	1	PICV	SE	104B (F-7)	OC	OC	N/A	FE-F FE-R	Q Q		CKV Program
2EGF*V52 Fuel Oil Transfer Pump 2EGF*P2B Discharge Check	3	N	C	A	1	PICV	SE	104B (D-2)	OC	OC	N/A	FE-F FE-R	Q Q		CKV Program
2EGF*V53 Fuel Oil Transfer Pump 2EGF*P2A Discharge Check	3	N	C	A	1	PICV	SE	104B (F-2)	OC	OC	N/A	FE-F FE-R	Q Q		CKV Program

Valve Table

EGO - Diesel Generator Lubricating Oil

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGO*RV161 DIV I - 2EGO*P1A Discharge Relief	3	Y	N/A	A	4	REV	SE	104E (D-9)	C	O	N/A	AUG	M		Note - 07
2EGO*RV186 DIV I - Strainer Outlet Line Relief	3	Y	N/A	A	6	REV	SE	104E (C-8)	C	O	N/A	AUG	M		Note - 07
2EGO*RV192 DIV I - 2EGO*P5A Discharge Relief	3	Y	N/A	A	6	REV	SE	104E (E-8)	C	O	N/A	AUG	M		Note - 07
2EGO*RV261 DIV II -- 2EGS*EG3; Pump *P1B Discharge Relief	3	Y	N/A	A	4	REV	SE	104E (D-9)	C	O	N/A	AUG	M		Note - 07
2EGO*RV286 DIV II -- 2EGS*EG3; Strainer Outlet Relief	3	Y	N/A	A	6	REV	SE	104E (C-8)	C	O	N/A	AUG	M		Note - 07
2EGO*RV292 DIV II -- 2EGS*EG3; Pump 2EGO*P5B Discharge Relief	3	Y	N/A	A	6	REV	SE	104E (E-8)	C	O	N/A	AUG	M		Note - 07
2EGO*TCV181 DIV I - Lube Oil Temperature Control	3	Y	N/A	A	6	TCV	AO	104E (G-8)	OC	OC	N/A	AUG	M		Note - 07 AOV Program
2EGO*TCV281 DIV II - Lube Oil Temperature Control	3	Y	N/A	A	6	TCV	AO	104E (G-8)	OC	OC	N/A	AUG	M		
2EGO*V166 DIV I - Lube Oil Heater Discharge Check	3	Y	N/A	A	3	CHV	SE	104E (E-9)	OC	OC	N/A	AUG	M		
2EGO*V197 DIV I - 2EGO*P5A Inlet Check	3	Y	N/A	A	4	CHV	SE	104E (C-8)	OC	OC	N/A	AUG	M		
2EGO*V266 DIV II -- 2EGS*EG3; Lube Oil Heater Discharge Check	3	Y	N/A	A	3	CHV	SE	104E (E-9)	OC	OC	N/A	AUG	M		
2EGO*V297 DIV II -- 2EGS*EG3; 2EGO*P5B Inlet Check	3	Y	N/A	A	4	CHV	SE	104E (C-8)	OC	OC	N/A	AUG	M		
2EGO*V366 HPCS -- 2EGS*EG2; DC Turbo Soak Back Pump 2EGO*P3 Discharge Valve	N	Y	N/A	P	.5	SWCV	SE	104E (A-4)	C	OC	N/A	AUG	M		

EGO - Diesel Generator Lubricating Oil

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGO*V367	N	Y	N/A	A	.5	SWCV	SE	104E (A-4)	O	OC	N/A	AUG	M		
HPCS -- 2EGS*EG2; Turbo Soak Back Pump 2EGO*P2 Discharge Valve															
2EGO*V368	N	N	N/A	A	0.5	CHV	SE	104E (B-4)	C	OC	N/A	AUG	M		
HPCS -- 2EGS*EG2; DC Lube Oil Pump 2EGO*P4 Discharge Check															
2EGO*V369	N	Y	N/A	A	1	CHV	SE	104E (C-4)	O	OC	N/A	AUG	M		
HPCS -- 2EGS*EG2; AC Lube Oil Pump 2EGO*P1 Discharge Check															
2EGO*V370	N	Y	N/A	A	1	CHV	SE	104E (C-4)	C	O	N/A	AUG	M		
HPCS -- 2EGS*EG2; *P1, *P4: 30 psi Relief For *EG2 Lube Oil															
2EGO*V371	N	Y	N/A	A	1	CHV	SE	104E (C-3)	C	OC	N/A	AUG	M		
HPCS -- 2EGS*EG2; *P2, *P3: 75 psi Relief For *EG2 Lube Oil															
2EGO*V374	N	N	N/A	A	0.5	SWCV	SE	104E (E-3)	C	OC	N/A	AUG	M		
HPCS -- 2EGS*EG2, Lube Oil Cooler Check Valve															

EGS - Diesel Generator Jacket Cooling Water

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Norm	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2EGS*TCV149	3	Y	N/A	A	6	TCV	SE	104D (F-4)	OC	OC	N/A	AUG	M		Note - 07
DIV I - Thermostatic Start-Up - Jacket Cooling Water Bypass															
2EGS*TCV150	3	Y	N/A	A	4	TCV	SE		OC	OC	N/A	AUG	M		Note - 07
DIV I - Thermostatic 3-Way Running - Jacket Cooling Water															
2EGS*TCV249	3	Y	N/A	A	6	TCV	SE		OC	OC	N/A	AUG	M		
DIV II -- 2EGS*EG3; Thermostatic Start-Up Valve; Jacket Cooling Water Bypass															
2EGS*TCV250	3	Y	N/A	A	4	TCV	SE		OC	OC	N/A	AUG	M		
DIV II -- 2EGS*EG3; Thermostatic 3-Way Running Valve; Jacket Cooling Water															
2EGS*TCV300		N	N/A	A	1.5	TCV	SE	104D (I-8)	OC	OC	N/A	AUG	M		
Div. III -- 2EGS*EG2; Thermostatic 3-Way Valve; Jacket Cooling Water															
2EGS*V143	3	Y	N/A	A	3	CHV	SE	104D (E-5)	OC	OC	N/A	AUG	M		
DIV I - Jacket Water Heater Discharge - Engine Driven Pump															
2EGS*V148	3	Y	N/A	A	6	CHV	SE	104D (E-4)	OC	OC	N/A	AUG	M		
DIV I - 2EGS*P2A Engine Driven Pump Check - Jacket Cooling Water															
2EGS*V243	3	Y	N/A	A	3	CHV	SE	104D (E-5)	OC	OC	N/A	AUG	M		
DIV II -- 2EGS*EG3; Jacket Water Heat Exchanger Discharge Check From Motor-Driven Pump 2EGS*P1B															
2EGS*V248	3	Y	N/A	A	6	CHV	SE	104D (E-4)	OC	OC	N/A	AUG	M		
DIV II -- 2EGS*EG3; Jacket Water Discharge Check On Engine-Driven Pump 2EGS*P2B															

Valve Table

FPW - Fire Protection Water

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2FPW*SOV218 RCS Pump A Water Spray	2	N	A	P	2	GLV	SO	43G (E-8)	C	C	C	LJ-C	60		Note - 09
2FPW*SOV219 RCS Pump A Water Spray	2	N	A	P	2	GLV	SO	43G (E-7)	C	C	C	LJ-C	60		Note - 09
2FPW*SOV220 RCS Pump B Water Spray	2	N	A	P	2	GLV	SO	43G (D-8)	C	C	C	LJ-C	60		Note - 09
2FPW*SOV221 RCS Pump B Water Spray	2	N	A	P	2	GLV	SO	43G (D-7)	C	C	C	LJ-C	60		Note - 09

Valve Table

FWS - Feedwater

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2FWS*MOV21A Feedwater Blocking Valve; Outboard CIV	1	N	A	A	24	GTV	MO	6B (E-2)	O	C	As-Is	DIAG FE LJ-C	OMN1 CS 30		
2FWS*MOV21B Feedwater Blocking Valve; Outboard CIV	1	N	A	A	24	GTV	MO	6B (E-6)	O	C	As-Is	DIAG FE LJ-C	OMN1 CS 30		
2FWS*V12A Feedwater Check Valve; Inboard CIV	1	N	A/C	A	24	SWCV	SE	6B (H-2)	O	C	NA	BDT-O FE-R LJ-C	CMP CMP 24		Note - 02 Condition Monitoring Program
2FWS*V12B Feedwater Check Valve; Inboard CIV	1	N	A/C	A	24	SWCV	SE	6B (H-6)	O	C	NA	BDT-O FE-R LJ-C	CMP CMP 24		Note - 02 Condition Monitoring Program
2FWS*V23A Feedwater Check; Outboard CIV	1	N	A/C	A	24	SWCV	SE	6B (G-2)	O	C	NA	BDT-O FE-R LJ-C	CMP CMP 24		Note - 02 Condition Monitoring Program
2FWS*V23B Feedwater Check; Outboard CIV	1	N	A/C	A	24	SWCV	SE	6B (G-6)	O	C	NA	BDT-O FE-R LJ-C	CMP CMP 24		Note - 02 Condition Monitoring Program

Valve Table

GTS - Standby Gas Treatment

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2GSN*SOV166	2	N	A	A	1	GLV	SO	105B (J-7)	O	C	C	FE	Q		Note - 02
												FS-C	Q		
TIP Purge												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2GSN*V170	2	N	A/C	A	0.5	CHV	SE	105B (K-7)	OC	C	N/A	BDT-O	2Y		Note - 02
												FE-R	R		Condition Monitoring Program
TIP Purge												LJ-C	R		
2GSN*V70A	3	N	C	A	1	CHV	SE	105B (K-2)	OC	OC	N/A	FE-F	CS	GSN-CSJ - 01	Note - 10
												FE-R	CS	GSN-CSJ - 01	
Receiver 2IAS*TK4 Inlet Check												LK	2Y		
2GSN*V70B	3	N	C	A	1	CHV	SE	105B (K-4)	OC	OC	N/A	FE-F	CS	GSN-CSJ - 01	Note - 10
												FE-R	CS	GSN-CSJ - 01	
Receiver 2IAS*TK5 Inlet Check												LK	2Y		
2GSN*V73A	3	N	B	A	1	BLV	MAN	105B (I-2)	C	C	N/A	FE	CS		
2GSN*V73B	3	N	B	A	1	BLV	MAN	105B (I-4)	C	C	N/A	FE	CS		
2GSN*V74A	3	N	B	A	1	GLV	MAN	105B (I-2)	C	OC	N/A	FE	CS		
Emergency Nitrogen Makeup															
2GSN*V74B	3	N	B	A	1	GLV	MAN	105B (I-4)	C	OC	N/A	FE	CS		
Emergency Nitrogen Makeup															
2GSN*V75A	3	N	C	A	1	CHV	SE	105B (I-3)	C	O	N/A	BDT-C	CS		
Emergency Nitrogen Makeup												FE-F	CS	GSN-CSJ - 01	
2GSN*V75B	3	N	C	A	1	CHV	SE	105B (I-4)	C	O	N/A	BDT-C	CS		
Emergency Nitrogen Makeup												FE-F	CS	GSN-CSJ - 01	
2GTS*PSE77A	3	N	D	A	1	RD	SE	61C (F-4)	C	O	NA	RD	5Y		Note - 11
2GTS*PSE77B	3	N	D	A	1	RD	SE	61C (F-8)	C	O	NA	RD	5Y		Note - 11

Valve Table

GTS - Standby Gas Treatment

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2GTS*PSE90A	3	N	D	A	2	RD	SE	61C (K-4)	C	O	N/A	RD	5Y		Note - 11
2GTS*PSE90B	3	N	D	A	2	RD	SE	61C (K-7)	C	O	N/A	RD	5Y		Note - 11
2GTS*RV78A	3	N	C	A	0.75	REV	SE	61C (F-4)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2GTS*RV78B	3	N	C	A	0.75	REV	SE	61C (F-7)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2GTS*V68A	3	N	A/C	A	1	CHV	SE	61C (E-5)	OC	C	NA	BDT-O FE-R LK	Q Q 2Y		Note - 12
2GTS*V68B	3	N	A/C	A	1	CHV	SE	61C (E-7)	OC	C	NA	BDT-O FE-R LK	Q Q 2Y		Note - 12
2GTS*V70A	3	N	B	A	1	GLV	MAN	61C (B-4)	C	O	NA	FE	Q		
2GTS*V70B	3	N	B	A	1	GLV	MAN	61C (B-8)	C	O	NA	FE	Q		
2GTS*V74A	3	N	C	A	1	CHV	SE	61C (D-4)	OC	O	NA	BDT-C FE-F	Q Q		
2GTS*V74B	3	N	C	A	1	CHV	SE	61C (D-4)	OC	O	NA	BDT-C FE-F	Q Q		
2GTS*V91A GTS Emergency Bottle Fill	3	N	B	A	1	GLV	MAN	61C (B-4)	C	O	NA	FE	Q		
2GTS*V91B GTS Emergency Bottle Fill	3	N	B	A	1	GLV	MAN	61C (B-8)	C	O	NA	FE	Q		

Valve Table

GTS - Standby Gas Treatment

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2GTS-RV73A		Y	C	A	0.75	REV	SE	61C (K-3)	C	O	N/A	LA	10Y-S		Note - 01
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2GTS-RV73B		Y	C	A	0.75	REV	SE	61C (K-7)	C	O	N/A	LA	10Y-S		Note - 01
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		

Valve Table

HCS - Hydrogen Recombiner

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2HCS*MOV1A Recombiner 2HCS*RBNR1A Discharge to Suppression Chamber	2	N	A	A	3	FWGTV	MO	62A (D-8)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2HCS*MOV1B Recombiner 2HCS*RBNR1B Discharge to Suppression Chamber	2	N	A	A	3	FWGTV	MO	62A (I-8)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2HCS*MOV25A Recombiner 2HCS*RBNR1A Gas Inlet	2	N	B	A	3	GLV	MO	62B (J-5)	C	O	As-Is	DIAG FE	OMN1 2Y		
2HCS*MOV25B Recombiner 2HCS*RBNR1B Gas Inlet	2	N	B	A	3	GLV	MO	62B (C-10)	C	O	As-Is	DIAG FE	OMN1 2Y		
2HCS*MOV26A Recombiner 2HCS*RBNR1A Cooling Water Inlet	2	N	B	A	0.75	GLV	MO	62B (I-3)	C	O	As-Is	DIAG FE	OMN1 2Y		
2HCS*MOV26B Recombiner 2HCS*RBNR1B Cooling Water Inlet	2	N	B	A	0.75	GLV	MO	62B (C-7)	C	O	As-Is	DIAG FE	OMN1 2Y		
2HCS*MOV2A Recombiner 2HCS*RBNR1A Inlet From Suppression Chamber	2	N	A	A	3	GLV	MO	62A (D-6)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2HCS*MOV2B Recombiner 2HCS*RBNR1B Inlet From Suppression Chamber	2	N	A	A	3	GLV	MO	62A (I-6)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2HCS*MOV3A Recombiner 2HCS*RBNR1A Inlet From Drywell	2	N	A	A	3	FWGTV	MO	62A (D-4)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2HCS*MOV3B Recombiner 2HCS*RBNR1B Inlet From Drywell	2	N	A	A	3	FWGTV	MO	62A (I-4)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2HCS*MOV4A Recombiner 2HCS*RBNR1A Discharge to Suppression Chamber	2	N	A	A	3	GTV	MO	62A (F-8)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2HCS*MOV4B Recombiner 2HCS*RBNR1B Discharge to Suppression Chamber	2	N	A	A	3	GTV	MO	62A (H-8)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		

Valve Table

HCS - Hydrogen Recombiner

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2HCS*MOV5A	2	N	A	A	3	GLV	MO	62A (F-6)	C	OC	As-Is	DIAG	OMN1		
												FE	2Y		
Recombiner 2HCS*RBNR1A Inlet From Suppression Chamber												LJ-C	60		
2HCS*MOV5B	2	N	A	A	3	GLV	MO	62A (H-6)	C	OC	As-Is	DIAG	OMN1		
												FE	2Y		
Recombiner 2HCS*RBNR1B Inlet From Suppression Chamber												LJ-C	60		
2HCS*MOV6A	2	N	A	A	3	GTV	MO	62A (F-4)	C	OC	As-Is	DIAG	OMN1		
												FE	2Y		
Recombiner 2HCS*RBNR1A Inlet From Drywell												LJ-C	60		
2HCS*MOV6B	2	N	A	A	3	GTV	MO	62A (G-4)	C	OC	As-Is	DIAG	OMN1		
												FE	2Y		
Recombiner 2HCS*RBNR1B Inlet From Drywell												LJ-C	60		
2HCS*SOV10A	2	N	B	A	1	GLV	SO	62A (A-3)	C	O	O	FE	Q		
												FS-O	Q		
Recombiner 2HCS*RBNR1A Cooling Water Inlet												PI	2Y		
												ST-O	Q		
2HCS*SOV10B	2	N	B	A	1	GLV	SO	62A (L-3)	C	O	O	FE	Q		
												FS-O	Q		
Recombiner 2HCS*RBNR1B Cooling Water Inlet												PI	2Y		
												ST-O	Q		
2HCS*SOV11A	2	N	B	A	1	GLV	SO	62A (A-8)	O	C	C	FE	Q		
												FS-C	Q		
Recombiner 2HCS*RBNR1A Cooling Water Drain												PI	2Y		
												ST-C	Q		
2HCS*SOV11B	2	N	B	A	1	GLV	SO	62A (L-8)	O	C	C	FE	Q		
												FS-C	Q		
Recombiner 2HCS*RBNR1B Cooling Water Drain												PI	2Y		
												ST-C	Q		

HVK - Control Building Chilled Water

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2HVK*RV1	N	Y	C	A	0.75	REV	SE	53A (I-5)	C	O	NA	BE	10Y-S		Note - 01
												LA	10Y-S		
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2HVK*RV14A	3	N	C	A	0.75	REV	SE	53A (D-4)	C	O	NA	RVTh	10Y		
Control Bldg HVK Chiller, HVK*CHL1A; HVK Side Thermal Relief															
2HVK*RV14B	3	N	C	A	0.75	REV	SE	53A (D-8)	C	O	NA	RVTh	10Y		
Control Bldg HVK Chiller, HVK*CHL1B; HVK Side Thermal Relief															
2HVK*RV2	N	Y	C	A	0.75	REV	SE	53A (I-10)	C	O	NA	BE	10Y-S		Note - 01
												LA	10Y-S		
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2HVK*RV35A	3	N	C	A	0.75	REV	SE	53A (D-3)	C	O	NA	RVTh	10Y		
Relay Room, HVC*ACU2A; HVK Side Thermal Relief															
2HVK*RV35B	3	N	C	A	0.75	REV	SE	53A (D-8)	C	O	NA	RVTh	10Y		
Relay Room, HVC*ACU2B; HVK Side Thermal Relief															
2HVK*RV37A	3	N	C	A	0.75	REV	SE	53A (G-5)	C	O	NA	RVTh	10Y		
Remote S/D Room, HVC*ACU3A; Thermal Relief															
2HVK*RV37B	3	N	C	A	0.75	REV	SE	53A (G-10)	C	O	NA	RVTh	10Y		
Remote S/D Room, HVC*ACU3B; Thermal Relief															
2HVK*RV43A	3	N	C	A	0.75	REV	SE	53A (G-4)	C	O	NA	RVTh	10Y		
Control Room, HVC*ACU1A; Thermal Relief															
2HVK*RV43B	3	N	C	A	0.75	REV	SE	53A (G-8)	C	O	NA	RVTh	10Y		
Control Room, HVC*ACU1B; Thermal Relief															
2HVK*SOV36A	3	N	B	A	3	GLV	SO	53A (F-3)	O	C	C	FE	Q		
2HVC-ACU4A Class Break												FS-C	Q		
												PI	2Y		
												ST-C	Q		

Valve Table

HVK - Control Building Chilled Water

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2HVK*SOV36B 2HVC-ACU4B Class Break	3	N	B	A	3	GLV	SO	53A (F-8)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2HVK*TV21A Control Room Unit Cooler Temperature Control Valve	3	N	B	A	4	GLV	AO	53A (H-3)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		Note - 13 AOV Program
2HVK*TV21B Control Room Unit Cooler Temperature Control Valve	3	N	B	A	4	GLV	AO	53A (H-8)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		Note - 13 AOV Program
2HVK*TV22A Relay Room Unit Cooler Temperature Control Valve	3	N	B	A	4	GLV	AO	53A (E-2)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		Note - 13 AOV Program
2HVK*TV22B Relay Room Unit Cooler Temperature Control Valve	3	N	B	A	4	GLV	AO	53A (E-7)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		Note - 13 AOV Program
2HVK*V105 2HVK*P1B Discharge Check	3	N	C	A	6	CHV	SE	53A (B-10)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
2HVK*V106 2HVK*P1A Discharge Check	3	N	C	A	6	CHV	SE	53A (B-5)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
2HVK*V158 2HVC-ACU4A Class Break	3	N	C	A	3	CHV	SE	53A (F-2)	OC	C	NA	BDT-O FE-R	Q Q		
2HVK*V163 2HVC-ACU4B Class Break	3	N	C	A	3	CHV	SE	53A (F-7)	OC	C	NA	BDT-O FE-R	Q Q		
2HVK*V327 WTS Class Break	3	N	C	A	1	CHV	SE	53A (I-10)	OC	C	NA	BDT-O FE-R	2Y Q		

Valve Table

HVK - Control Building Chilled Water

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2HVK*V95 WTS Class Break	3	N	C	A	1	CHV	SE	53A (I-5)	OC	C	NA	BDT-O FE-R	2Y Q		

IAS - Instrument Air

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2IAS*EFV200	2	N	C	A	0.75	EFV	SE	19E (D-5)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
2IAS*TK33 (MSS*PSV127) Instrument Line to 2IAS*PT231												PI	2Y		
2IAS*EFV201	2	N	C	A	0.75	EFV	SE	19E (H-10)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
2IAS*TK32 (MSS*PSV121) Instrument Line to 2IAS*PT230												PI	2Y		
2IAS*EFV202	2	N	C	A	0.75	EFV	SE	19E (G-5)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
2IAS*TK34 (MSS*PSV126) Instrument Line to 2IAS*PT232												PI	2Y		
2IAS*EFV203	2	N	C	A	0.75	EFV	SE	19F (I-8)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
2IAS*TK37 (MSS*PSV130) Instrument Line to 2IAS*PT235												PI	2Y		
2IAS*EFV204	2	N	C	A	0.75	EFV	SE	19F (K-4)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
2IAS*TK36 (MSS*PSV134) Instrument Line to 2IAS*PT234												PI	2Y		
2IAS*EFV205	2	N	C	A	0.75	EFV	SE	19F (B-4)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
2IAS*TK35 (MSS*PSV137) Instrument Line to 2IAS*PT233												PI	2Y		
2IAS*EFV206	2	N	C	A	0.75	EFV	SE	19F (K-9)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
2IAS*TK38 (MSS*PSV129) Instrument Line to 2IAS*PT236												PI	2Y		
2IAS*PSE141	3	N	D	A	1	RD	SE	19L (G-8)	C	O	NA	RD	5Y		Note - 14
2IAS*TK41 (MSS*AOV6A)															
2IAS*PSE142	3	N	D	A	1	RD	SE	19L (G-10)	C	O	NA	RD	5Y		Note - 14
2IAS*TK42 (MSS*AOV6B)															
2IAS*PSE143	3	N	D	A	1	RD	SE	19L (G-3)	C	O	NA	RD	5Y		Note - 14
2IAS*TK43 (MSS*AOV6C)															
2IAS*PSE144	3	N	D	A	1	RD	SE	19L (G-6)	C	O	NA	RD	5Y		Note - 14
2IAS*TK44 (MSS*AOV6D)															
2IAS*PSE145	3	N	D	A	1	RD	SE	19M (F-8)	C	O	NA	RD	5Y		Note - 14
2IAS*TK45 (MSS*AOV7A)															

Valve Table

IAS - Instrument Air

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2IAS*PSE146	3	N	D	A	1	RD	SE	19M (F-10)	C	O	NA	RD	5Y		Note - 14
2IAS*TK46 (MSS*AOV7B)															
2IAS*PSE147	3	N	D	A	1	RD	SE	19M (F-3)	C	O	NA	RD	5Y		Note - 14
2IAS*TK47 (MSS*AOV7C)															
2IAS*PSE148	3	N	D	A	1	RD	SE	19M (F-5)	C	O	NA	RD	5Y		Note - 14
2IAS*TK48 (MSS*AOV7D)															
2IAS*PSE19A	3	N	D	A	1	RD	SE	19D (I-3)	C	O	NA	RD	5Y		Note - 14
2IAS*TK4 (GSN / IAS Receiver)															
2IAS*PSE19B	3	N	D	A	1	RD	SE	19D (I-7)	C	O	NA	RD	5Y		Note - 14
2IAS*TK5 (GSN / IAS Receiver)															
2IAS*SOV164	2	N	A	A	1.5	GLV	SO	19D (C-10)	O	OC	C	FE	Q		Note - 02
												FS-C	Q		
IAS Nitrogen To ADS Header A; Outboard Isolation												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2IAS*SOV165	2	N	A	A	1.5	GLV	SO	19F (C-10)	O	OC	C	FE	Q		Note - 02
												FS-C	Q		
IAS Nitrogen To ADS Header B; Outboard Isolation												LJ-C	60		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2IAS*SOV166	2	N	A	A	1.5	GLV	SO	19D (C-8)	O	C	C	FE	Q		Note - 02
												FS-C	Q		
IAS to 3 SRVs and Inboard MSIVs (NSR); Outboard Isolation												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2IAS*SOV167	2	N	A	A	1.5	GLV	SO	19G (C-7)	C	C	C	FE	Q		Note - 02
												FS-C	Q		
IAS To Test Actuators for ISC and RHS												LJ-C	60		
												PI	2Y		
												ST-C	Q		

Valve Table

IAS - Instrument Air

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2IAS*SOV168	2	N	A	A	1.5	GLV	SO	19G (C-5)	C	C	C	FE	Q		Note - 02
IAS To Test Actuators for CPS and TCVs												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2IAS*SOV180	2	N	A	A	1.5	GLV	SO	19G (D-5)	C	C	C	FE	Q		Note - 02
IAS To Test Actuators for CPS and TCVs												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2IAS*SOV184	2	N	A	A	1.5	GLV	SO	19D (E-8)	O	C	C	FE	Q		Note - 02
IAS to 3 SRVs and Inboard MSIVs (NSR); Inboard Isolation												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2IAS*SOV185	2	N	A	A	1.5	GLV	SO	19G (E-8)	C	C	C	FE	Q		Note - 02
IAS To Test Actuators for ISC and RHS												FS-C	Q		
												LJ-C	30		
												PI	2Y		
												ST-C	Q		
2IAS*SOVX181	3	N	B	A	1.5	GLV	SO	19D (J-3)	OC	O	C	FE	Q		
2IAS*TK4 Outlet Control												FS-C	Q		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2IAS*SOVX186	3	N	B	A	1.5	GLV	SO	19D (J-7)	OC	O	C	FE	Q		
2IAS*TK5 Outlet Control												FS-C	Q		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2IAS*SOVY181	3	N	B	A	0.75	GLV	SO	19D (J-4)	OC	O	C	FE	Q		
2IAS*TK4 Outlet Control Bypass												FS-C	Q		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		

IAS - Instrument Air

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2IAS*SOVY186	3	N	B	A	0.75	GLV	SO	19D (J-8)	OC	O	C	FE	Q		
2IAS*TK5 Outlet Control Bypass												FS-C	Q		
												PI	2Y		
												ST-C	Q		
												ST-O	Q		
2IAS*SV19A	3	N	C	A	0.75	REV	SE	19D (I-3)	C	O	NA	LA	10Y-S		Note - 01
2IAS*TK4 Outlet (400 psig)												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2IAS*SV19B	3	N	C	A	0.75	REV	SE	19D (I-7)	C	O	NA	LA	10Y-S		Note - 01
2IAS*TK5 Outlet (400 psig)												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2IAS*SV20A	3	N	C	A	0.75	REV	SE	19D (K-3)	C	O	NA	LA	10Y-S		Note - 01
2IAS*TK4 Outlet (225 psig)												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2IAS*SV20B	3	N	C	A	0.75	REV	SE	19D (K-7)	C	O	NA	LA	10Y-S		Note - 01
2IAS*TK5 Outlet (225 psig)												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2IAS*V1601	3	N	A/C	A	1.5	CHV	SE	19L (D-6)	OC	C	NA	BDT-O	2Y		
2IAS*TK41 Inlet (MSS*AOV6A)												FE-R	R	IAS-ROJ - 01	
												LK	2Y		
2IAS*V1602	3	N	A/C	A	1.5	CHV	SE	19L (D-9)	OC	C	NA	BDT-O	2Y		
2IAS*TK42 Inlet (MSS*AOV6B)												FE-R	R	IAS-ROJ - 01	
												LK	2Y		
2IAS*V1603	3	N	A/C	A	1.5	CHV	SE	19L (D-2)	OC	C	NA	BDT-O	2Y		
2IAS*TK43 Inlet (MSS*AOV6C)												FE-R	R	IAS-ROJ - 01	
												LK	2Y		
2IAS*V1604	3	N	A/C	A	1.5	CHV	SE	19L (D-4)	OC	C	NA	BDT-O	2Y		
2IAS*TK44 Inlet (MSS*AOV6D)												FE-R	R	IAS-ROJ - 01	
												LK	2Y		
2IAS*V1605	3	N	A/C	A	1.5	CHV	SE	19M (H-7)	OC	C	NA	BDT-O	2Y		
2IAS*TK45 Inlet (MSS*AOV7A)												FE-R	CS	IAS-CSJ - 01	
												LK	2Y		

IAS - Instrument Air

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2IAS*V1606	3	N	A/C	A	1.5	CHV	SE	19M (H-9)	OC	C	NA	BDT-O FE-R LK	2Y CS 2Y	 IAS-CSJ - 01	
2IAS*TK46 Inlet (MSS*AOV7B)															
2IAS*V1607	3	N	A/C	A	1.5	CHV	SE	19M (H-2)	OC	C	NA	BDT-O FE-R LK	2Y CS 2Y	 IAS-CSJ - 01	
2IAS*TK47 Inlet (MSS*AOV7C)															
2IAS*V1608	3	N	A/C	A	1.5	CHV	SE	19M (H-4)	OC	C	NA	BDT-O FE-R LK	2Y CS 2Y	 IAS-CSJ - 01	
2IAS*TK48 Inlet (MSS*AOV7D)															
2IAS*V421	3	N	A/C	A	1.25	CHV	SE	19E (C-4)	OC	OC	NA	FE-F FE-R LK	CMP CMP 2Y		Condition Monitoring Program component
2IAS*TK33 Inlet (MSS*PSV127; ADS)															
2IAS*V431	3	N	A/C	A	1.25	CHV	SE	19E (F-4)	OC	OC	NA	FE-F FE-R LK	CMP CMP 2Y		Condition Monitoring Program component
2IAS*TK34 Inlet (MSS*PSV126; ADS)															
2IAS*V448	2	N	A/C	A	1.5	CHV	SE	19D (E-10)	OC	OC	NA	FE-F FE-R LJ-C	Q R R		Note - 02
IAS Nitrogen To ADS Header A; Inboard Isolation															
2IAS*V449	2	N	A/C	A	1.5	CHV	SE	19F (D-10)	OC	OC	NA	FE-F FE-R LJ-C	Q R R		Note - 02
IAS Nitrogen To ADS Header B; Inboard Isolation															
2IAS*V471	3	N	A/C	A	1.25	CHV	SE	19E (G-10)	OC	OC	NA	FE-F FE-R LK	CMP CMP 2Y		Condition Monitoring Program component
2IAS*TK32 Inlet (MSS*PSV121; ADS)															
2IAS*V526	3	N	A/C	A	1.25	CHV	SE	19F (C-4)	OC	OC	NA	FE-F FE-R LK	CMP CMP 2Y		Condition Monitoring Program component
2IAS*TK35 Inlet (MSS*PSV137; ADS)															
2IAS*V546	3	N	A/C	A	1.25	CHV	SE	19F (J-4)	OC	OC	NA	FE-F FE-R LK	CMP CMP 2Y		Condition Monitoring Program component
2IAS*TK36 Inlet (MSS*PSV134; ADS)															
2IAS*V571	3	N	A/C	A	1.25	CHV	SE	19F (G-8)	OC	OC	NA	FE-F FE-R LK	CMP CMP 2Y		Condition Monitoring Program component
2IAS*TK37 Inlet (MSS*PSV130; ADS)															
2IAS*V581	3	N	A/C	A	1.25	CHV	SE	19F (J-8)	OC	OC	NA	FE-F FE-R LK	CMP CMP 2Y		Condition Monitoring Program component
2IAS*TK38 Inlet (MSS*PSV129; ADS)															

ICS - Reactor Core Isolation Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ICS*AOV109	2	N	B	A	2	GLV	AO	35B (F-8)	OC	C	C	FE	Q		AOV Program
												FS-C	Q		
Turbine Exhaust Drain Pot Isolation												PI	2Y		
												ST-C	Q		
2ICS*AOV110	2	N	B	A	2	GLV	AO	35B (E-8)	OC	C	C	FE	Q		AOV Program
												FS-C	Q		
Turbine Exhaust Drain Pot Isolation												PI	2Y		
												ST-C	Q		
2ICS*AOV130	2	N	B	A	2	GLV	AO	35C (D-10)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
Steam Supply Drain Pot Isolation												PI	2Y		
												ST-C	Q		
2ICS*AOV131	2	N	B	A	2	GLV	AO	35C (D-10)	O	C	C	FE	Q		AOV Program
												FS-C	Q		
Steam Supply Drain Pot Isolation												PI	2Y		
												ST-C	Q		
2ICS*EFV1	2	N	C	A	0.75	EFV	SE	35A (H-4)	O	C	NA	BDT-C	2Y		
												BDT-O	2Y		
Instrument Line to 2ICS*PDT167; *PDS167; *PT167X												FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
2ICS*EFV2	2	N	C	A	0.75	EFV	SE	35A (H-4)	O	C	NA	BDT-C	2Y		
												BDT-O	2Y		
Instrument Line to 2ICS*PDT167; *PT167Y												FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
2ICS*EFV3	2	N	C	A	0.75	EFV	SE	35A (H-5)	O	C	NA	BDT-C	2Y		
												BDT-O	2Y		
Instrument Line to 2ICS*PDT168; *PT168X												FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
2ICS*EFV4	2	N	C	A	0.75	EFV	SE	35A (H-5)	O	C	NA	BDT-C	2Y		
												BDT-O	2Y		
Instrument Line to 2ICS*PDT168; *PT168Y												FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
2ICS*EFV5	2	N	C	A	0.75	EFV	SE	35C (H-5)	O	C	NA	BDT-C	2Y		
												FE	10Y-S	GV-RR - 08	
Instrument Line to 2ICS*PT142, *PT143; RCIC Keep-Full Mod, RFO-07												PI	10Y-S		

Valve Table

ICS - Reactor Core Isolation Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ICS*FV108 RCIC Flow Test to CST	2	N	B	P	4	GLV	MO	35D (D-2)	C	C	As-Is	PI	2Y		
2ICS*HYV151 RCIC Turbine Governor Valve	N	Y	N/A	A	4	GTV	HO	35B (I-8)	O	N/A	NA	AUG	Q		Note - 17
2ICS*MOV116 Lube Oil Cooler Cooling Water Inlet	2	N	B	A	2	GLV	MO	35C (D-4)	C	O	As-Is	DIAG FE	OMN1 Q		
2ICS*MOV120 Turbine Steam Supply Valve (F045)	2	N	B	A	4	GLV	MO	35C (C-9)	C	O	As-Is	DIAG FE	OMN1 Q		Note - 15
2ICS*MOV121 RCIC Turbine Steam Supply (F063); Outboard Isolation	1	N	A	A	10	FWGTV	MO	35A (C-4)	O	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2ICS*MOV122 Turbine Exhaust to Supp. Pool (F068); Outboard Isolation	2	N	A	A	12	FWGTV	MO	35A (G-7)	O	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2ICS*MOV124 RCIC Flow Test to CST (F022)	2	N	B	A	4	GTV	MO	35D (C-3)	C	C	As-Is	DIAG FE	OMN1 2Y		
2ICS*MOV126 RCIC Injection Valve (F013); Outboard Isolation	1	N	A	A	6	FWGTV	MO	35C (G-3)	C	OC	As-Is	DIAG FE LJ-C	OMN1 CS 60		
2ICS*MOV128 RCIC Turbine Steam Supply (F064); Inboard Isolation	1	N	A	A	10	GTV	MO	35A (D-4)	O	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2ICS*MOV129 Pump Suction From CST	2	N	B	A	6	GTV	MO	35D (I-5)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2ICS*MOV136 Pump Suction From Supp. Pool (F031)	2	N	B	A	6	FWGTV	MO	35A (I-10)	C	OC	As-Is	DIAG FE	OMN1 2Y		
2ICS*MOV143 Min. Flow to Supp. Pool (F019); Outboard Isolation	2	N	A	A	2	GLV	MO	35A (F-7)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		

Valve Table

ICS - Reactor Core Isolation Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ICS*MOV148 RCIC Turbine Exhaust Vac. Brkr Isolation Valve	2	N	A	A	1.5	GLV	MO	35A (I-7)	O	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2ICS*MOV150 RCIC Trip/Throttle Valve	N	Y	N/A	A	4	GTV	MO	35B (I-8)	O	N/A	NA	AUG	Q		Note - 17
2ICS*MOV164 RCIC Turbine Exhaust Vac. Brkr Isolation Valve	2	N	A	A	1.5	GLV	MO	35A (H-6)	O	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2ICS*MOV170 RCIC Steam Line Warm-up Bypass (F076); Inboard Isolation	2	N	A	A	1	GLV	MO	35A (D-5)	C	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2ICS*PCV115 Lube Oil Cooler Temperature Control	2	N	B	A	2	GLV	AO	35C (D-4)	OC	O	O	FE FS-O ST-O	Q Q Q		AOV Program
2ICS*PSE117 Turbine Exhaust Rupture Disk (D001)	2	N	D	A	10	RD	SE	35B (F-5)	C	O	NA	RD	5Y		Note - 18
2ICS*PSE118 Turbine Exhaust Rupture Disk (D002)	2	N	D	A	10	RD	SE	35B (F-5)	C	O	NA	RD	5Y		Note - 18
2ICS*RV112 Cooling Water to Lube Oil Cooler (F018)	2	N	C	A	0.75	REV	SE	35C (C-3)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2ICS*RV114 RCIC Pump *P1 Suction (F017)	2	N	C	A	0.75	REV	SE	35D (D-5)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2ICS*V156 RCIC Injection (F066); Outboard Isolation	1	N	A/C	A	6	SWCV	SE	35C (G-3)	C	OC	NA	FE-F FE-R LJ-C LK PI	CS R APPJ 2Y 2Y	ICS-CSJ - 01 ICS-ROJ - 01	Notes - 03 & 15 CKV Program

Valve Table

ICS - Reactor Core Isolation Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ICS*V157 RCIC Injection (F065); Inboard Isolation	1	N	A/C	A	6	SWCV	SE	35C (J-3)	C	OC	NA	FE-F FE-R LJ-C LK PI	R R APPJ 2Y 2Y	ICS-ROJ - 01 ICS-ROJ - 01	Notes - 03 & 15 CKV Program
2ICS*V220 RCIC Pressure Pump Suction From Supp. Pool	2	N	C	A	4	SWCV	SE	35A (H-10)	OC	C	NA	DI	CMP		Condition Monitoring Program component
2ICS*V249 RCIC Pump Suction From CST	2	N	C	A	6	SWCV	SE	35D (I-5)	OC	OC	NA	FE-F FE-R	Q Q		Note - 15
2ICS*V27 CST Suction Line Check Valve	2	N	C	A	6	SWCV	SE	35D (F-5)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
2ICS*V28 RCIC Pump Suction From Supp. Pool	2	N	C	A	6	SWCV	SE	35A (H-10)	OC	OC	NA	DI	CMP		Condition Monitoring Program component
2ICS*V288 RCIC Keep-Full Manual Isolation Valve	1	N	A	A	0.75	GLV	MAN	35C (F-5)	OC	C	NA	FE LJ-C	CS APPJ		
2ICS*V29 RCIC Turbine Exhaust Check to Supp. Pool	2	N	C	A	12	SWCV	SE	35A (F-7)	OC	O	NA	DI PE-F	CMP Q		Note - 15 Condition Monitoring Program
2ICS*V38 Min. Flow to Supp. Pool	2	N	C	A	2	CHV	SE	35A (E-7)	OC	O	NA	BDT-C FE-F	CMP CMP		Note - 15 Condition Monitoring Program
2ICS*V39 Turbine Exhaust Vacuum Breaker (F082)	2	N	C	A	1.5	VRV	SE	35A (I-6)	C	OC	NA	FE-F FE-R	Q Q		Note - 16
2ICS*V40 Turbine Exhaust Vacuum Breaker (F084)	2	N	C	A	1.5	VRV	SE	35A (I-6)	C	OC	NA	FE-F FE-R	Q Q		Note - 16

ISC - Reactor Vessel Instrumentation

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ISC*EFV1	2	N	C	A	0.75	EFV	SE	28A (I-2)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line To 2ISC*PDT110; LT105															
2ISC*EFV10	2	N	C	A	0.75	EFV	SE	28B (I-8)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line To 2ISC*LT8C; LT8D; LT9B; LT9D; LT11B; LT112; PDI31B															
2ISC*EFV11	2	N	C	A	0.75	EFV	SE	28C (I-2)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC*FT47K; *FT48B															
2ISC*EFV12	2	N	C	A	0.75	EFV	SE	28C (I-4)	O	C	NA	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
Instrument Line to 2ISC*PT15B; 17B; 17D															
2ISC*EFV13	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC*FT47H															
2ISC*EFV14	2	N	C	A	0.75	EFV	SE	28C (I-8)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC*PDI103; 2ISC-FT47s in RCS Loop A															
2ISC*EFV15	2	N	C	A	0.75	EFV	SE	28B (D-3)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC*LT10C; LT10A; LT11C															
2ISC*EFV16	2	N	C	A	0.75	EFV	SE	28B (D-5)	O	C	NA	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
Instrument Line to 2ISC*PT15A; 16A; 16C															
2ISC*EFV17	2	N	C	A	0.75	EFV	SE	28B (D-8)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC*PDI31A; LT11D; LT101; LT9A; LT9C; LT8A; LT8B															
2ISC*EFV18	2	N	C	A	0.75	EFV	SE	28C (D-2)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC-FT47J; FT48A															
2ISC*EFV19	2	N	C	A	0.75	EFV	SE	28C (D-4)	O	C	NA	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
Instrument Line to 2ISC*PT15D; 17A; 17C															
2ISC*EFV2	2	N	C	A	0.75	EFV	SE	28A (I-4)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC*PT113; PT115; PT4B;PI3B; PT2C; PT2D; PT6B															

ISC - Reactor Vessel Instrumentation

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ISC*EFV20	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE	10Y-S	GV-RR - 08	Note - 21
												PI	10Y-S		
Instrument Line to 2ISC-FT47E															
2ISC*EFV21	2	N	C	A	0.75	EFV	SE	28C (D-8)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC-PDT114; 2CSH*PDT109; 2RDS-PDT114; PDT117															
2ISC*EFV22	2	N	C	A	0.75	EFV	SE	28C (D-9)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC-PDT114; FT47B; 2WCS-FT134; 2ISC-FT47s, RCS Loop B															
2ISC*EFV23	2	N	C	A	0.75	EFV	SE	28C (D-6)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC-FT48C															
2ISC*EFV24	2	N	C	A	0.75	EFV	SE	28C (I-6)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC-FT48D															
2ISC*EFV25	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE	10Y-S	GV-RR - 08	Note - 21
												PI	10Y-S		
Instrument Line to 2ISC-FT47L															
2ISC*EFV26	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE	10Y-S	GV-RR - 08	Note - 21
												PI	10Y-S		
Instrument Line to 2ISC-FT47C															
2ISC*EFV27	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE	10Y-S	GV-RR - 08	Note - 21
												PI	10Y-S		
Instrument Line to 2ISC-FT47A															
2ISC*EFV28	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE	10Y-S	GV-RR - 08	Note - 21
												PI	10Y-S		
Instrument Line to 2ISC-FT47R															
2ISC*EFV29	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE	10Y-S	GV-RR - 08	Note - 21
												PI	10Y-S		
Instrument Line to 2ISC-FT47G															
2ISC*EFV3	2	N	C	A	0.75	EFV	SE	28A (I-5)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC*LT7C; PDT14C; PT4C; PT122															
2ISC*EFV30	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE	10Y-S	GV-RR - 08	Note - 21
												PI	10Y-S		
Instrument Line to 2ISC-FT47N															
2ISC*EFV31	2	N	C	A	0.75	EFV	SE	28C (D-5)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC-FT48A															

Valve Table

ISC - Reactor Vessel Instrumentation

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safty	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ISC*EFV32	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47T															
2ISC*EFV33	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47V; 2ISC-FT48C															
2ISC*EFV34	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47B															
2ISC*EFV35	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47D															
2ISC*EFV36	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47F															
2ISC*EFV37	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47S															
2ISC*EFV38	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47M															
2ISC*EFV39	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47P															
2ISC*EFV4	2	N	C	A	0.75	EFV	SE	28A (I-7)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC*LT7C; PDT14C; LT12B; LT7B; PDT14B; LT105; PDT110															
2ISC*EFV40	2	N	C	A	0.75	EFV	SE	28C (I-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC-FT48B															
2ISC*EFV41	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47U															
2ISC*EFV42	2	N	C	A	0.75	EFV	SE	28C (CHR1)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	Note - 21
Instrument Line to 2ISC-FT47W; 2ISC-FT48D															
2ISC*EFV5	2	N	C	A	0.75	EFV	SE	28A (D-4)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
Instrument Line to 2ISC*PT102; PT5A; PT2B; PT2A; PI3A; PT4D; PT5D; PT6A															

Valve Table

ISC - Reactor Vessel Instrumentation

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ISC*EFV6	2	N	C	A	0.75	EFV	SE	28A (D-5)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC*PT4A; PT109; PT108; PDT14A; LT7A; LT115															
2ISC*EFV7	2	N	C	A	0.75	EFV	SE	28A (D-6)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC*LT7D; LT12A; PDT14A; LT7A; LT115															
2ISC*EFV8	2	N	C	A	0.75	EFV	SE	28B (I-3)	O	C	NA	FE	10Y-S	GV-RR - 08	
												PI	10Y-S		
Instrument Line to 2ISC*LT11A; LT10B; LT10D															
2ISC*EFV9	2	N	C	A	0.75	EFV	SE	28B (I-5)	O	C	NA	BDT-O	2Y		
												FE-R	R	GV-ROJ - 01	
Instrument Line to 2ISC*PT15C; 16B; 16D												PI	2Y		
2ISC*RV33A	2	N	C	A	24	VRV	SE	28A (B-9)	C	OC	NA	LK	2Y		Notes - 19 & 20
												LL	2Y		
Drywell-To-Suppression Chamber Vacuum Breaker												RT	2Y		
												VP	2Y		
												VR	2Y		
2ISC*RV33B	2	N	C	A	24	VRV	SE	28A (B-9)	C	OC	NA	LK	2Y		Notes - 19 & 20
												LL	2Y		
Drywell-To-Suppression Chamber Vacuum Breaker												RT	2Y		
												VP	2Y		
												VR	2Y		
2ISC*RV34A	2	N	C	A	24	VRV	SE	28A (C-9)	C	OC	NA	LK	2Y		Notes - 19 & 20
												LL	2Y		
Drywell-To-Suppression Chamber Vacuum Breaker												RT	2Y		
												VP	2Y		
												VR	2Y		
2ISC*RV34B	2	N	C	A	24	VRV	SE	28A (C-9)	C	OC	NA	LK	2Y		Notes - 19 & 20
												LL	2Y		
Drywell-To-Suppression Chamber Vacuum Breaker												RT	2Y		
												VP	2Y		
												VR	2Y		
2ISC*RV35A	2	N	C	A	24	VRV	SE	28A (D-9)	C	OC	NA	LK	2Y		Notes - 19 & 20
												LL	2Y		
Drywell-To-Suppression Chamber Vacuum Breaker												RT	2Y		
												VP	2Y		
												VR	2Y		

ISC - Reactor Vessel Instrumentation

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ISC*RV35B Drywell-To-Suppression Chamber Vacuum Breaker	2	N	C	A	24	VRV	SE	28A (D-9)	C	OC	NA	LK LL RT VP VR	2Y 2Y 2Y 2Y 2Y		Notes - 19 & 20
2ISC*RV36A Drywell-To-Suppression Chamber Vacuum Breaker	2	N	C	A	24	VRV	SE	28A (E-9)	C	OC	NA	LK LL RT VP VR	2Y 2Y 2Y 2Y 2Y		Notes - 19 & 20
2ISC*RV36B Drywell-To-Suppression Chamber Vacuum Breaker	2	N	C	A	24	VRV	SE	28A (E-9)	C	OC	NA	LK LL RT VP VR	2Y 2Y 2Y 2Y 2Y		Notes - 19 & 20
2ISC*SOV119 Jet Pump PASS Isolation	2	N	B	P	0.5	GLV	SO	28C (C-6)	C	C	C	PI	2Y		
2ISC*SOV120 Jet Pump PASS Isolation	2	N	B	P	0.5	GLV	SO	28C (C-6)	C	C	C	PI	2Y		
2ISC*SOV123 Jet Pump PASS Isolation	2	N	B	P	0.5	GLV	SO	28C (B-6)	C	C	C	PI	2Y		
2ISC*SOV124 Jet Pump PASS Isolation	2	N	B	P	0.5	GLV	SO	28C (K-6)	C	C	C	PI	2Y		
2ISC*V200A Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-9)	OC	C	NA	FE-R LK	R R		Note - 22
2ISC*V200B Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-10)	OC	C	NA	FE-R LK	R R		Note - 22
2ISC*V200C Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-11)	OC	C	NA	FE-R LK	R R		Note - 22

ISC - Reactor Vessel Instrumentation

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2ISC*V200D Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-9)	OC	C	NA	FE-R LK	R R		Note - 22
2ISC*V204A Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-9)	OC	C	NA	FE-R LK	R R		Note - 22
2ISC*V204B Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-10)	OC	C	NA	FE-R LK	R R		Note - 22
2ISC*V204C Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-11)	OC	C	NA	FE-R LK	R R		Note - 22
2ISC*V204D Reference Leg Keep-Fill	N	Y	N/A	A	0.375	CHV	SE	28A (K-9)	OC	C	NA	FE-R LK	R R		Note - 22

Valve Table

LMS - Containment Leakage Monitoring

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2LMS*SOV152	2	N	A	A	0.75	GLV	SO	81A (D-4)	C	C	C	FE	Q		
												FS-C	Q		
ILRT Drywell Pressure; Inboard Isolation												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2LMS*SOV153	2	N	A	A	0.75	GLV	SO	81A (F-4)	C	C	C	FE	Q		
												FS-C	Q		
ILRT Drywell Pressure; Outboard Isolation												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2LMS*SOV156	2	N	A	A	0.75	GLV	SO	81A (D-9)	C	C	C	FE	Q		
												FS-C	Q		
ILRT Supp. Chamber Pressure; Inboard Isolation												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2LMS*SOV157	2	N	A	A	0.75	GLV	SO	81A (F-9)	C	C	C	FE	Q		
												FS-C	Q		
ILRT Supp. Chamber Pressure; Outboard Isolation												LJ-C	60		
												PI	2Y		
												ST-C	Q		

Valve Table

MSS - Main Steam System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2MSS*AOV6A	1	N	A	A	26	GLV	AO	1E (C-7)	O	C	C	FE	CS	MSS-CSJ - 01	Note - 02
												FS-C	CS	MSS-CSJ - 01	AOV Program
Main Steam Isolation Valve; Inboard Isolation												LJ	APPJ		
												PI	2Y		
												ST-C	CS	MSS-CSJ - 01	
2MSS*AOV6B	1	N	A	A	26	GLV	AO	1E (C-9)	O	C	C	FE	CS	MSS-CSJ - 01	Note - 02
												FS-C	CS	MSS-CSJ - 01	AOV Program
Main Steam Isolation Valve; Inboard Isolation												LJ	APPJ		
												PI	2Y		
												ST-C	CS	MSS-CSJ - 01	
2MSS*AOV6C	1	N	A	A	26	GLV	AO	1E (C-3)	O	C	C	FE	CS	MSS-CSJ - 01	Note - 23
												FS-C	CS	MSS-CSJ - 01	AOV Program
Main Steam Isolation Valve; Inboard Isolation												LJ	APPJ		
												PI	2Y		
												ST-C	CS	MSS-CSJ - 01	
2MSS*AOV6D	1	N	A	A	26	GLV	AO	1E (C-5)	O	C	C	FE	CS	MSS-CSJ - 01	Note - 02
												FS-C	CS	MSS-CSJ - 01	AOV Program
Main Steam Isolation Valve; Inboard Isolation												LJ	APPJ		
												PI	2Y		
												ST-C	CS	MSS-CSJ - 01	
2MSS*AOV7A	1	N	A	A	26	GLV	AO	1F (B-5)	O	C	C	FE	CS	MSS-CSJ - 01	Note - 23
												FS-C	CS	MSS-CSJ - 01	AOV Program
Main Steam Isolation Valve; Outboard Isolation												LJ	APPJ		
												PI	2Y		
												ST-C	CS	MSS-CSJ - 01	
2MSS*AOV7B	1	N	A	A	26	GLV	AO	1F (B-7)	O	C	C	FE	CS	MSS-CSJ - 01	Note - 02
												FS-C	CS	MSS-CSJ - 01	AOV Program
Main Steam Isolation Valve; Outboard Isolation												LJ	APPJ		
												PI	2Y		
												ST-C	CS	MSS-CSJ - 01	
2MSS*AOV7C	1	N	A	A	26	GLV	AO	1F (B-2)	O	C	C	FE	CS	MSS-CSJ - 01	Note - 02
												FS-C	CS	MSS-CSJ - 01	AOV Program
Main Steam Isolation Valve; Outboard Isolation												LJ	APPJ		
												PI	2Y		
												ST-C	CS	MSS-CSJ - 01	

Valve Table

MSS - Main Steam System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2MSS*AOV7D Main Steam Isolation Valve; Outboard Isolation	1	N	A	A	26	GLV	AO	1F (B-4)	O	C	C	FE FS-C LJ PI ST-C	CS CS APPJ 2Y CS	MSS-CSJ - 01 MSS-CSJ - 01 MSS-CSJ - 01	Note - 02 AOV Program
2MSS*EFV1A Instrument Line to 2MSS*FT14A; FT15A	2	N	C	A	0.75	EFV	SE	1J (H-7)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV1B Instrument Line to 2MSS*FT14B; FT15B	2	N	C	A	0.75	EFV	SE	1J (H-9)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV1C Instrument Line to 2MSS*FT14C; FT15C	2	N	C	A	0.75	EFV	SE	1J (H-2)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV1D Instrument Line to 2MSS*FT14D; FT15D	2	N	C	A	0.75	EFV	SE	1J (H-4)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV2A Instrument Line to 2MSS*FT11A; FT12A; FT13A	2	N	C	A	0.75	EFV	SE	1J (H-7)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV2B Instrument Line to 2MSS*FT11B; FT12B; FT13B	2	N	C	A	0.75	EFV	SE	1J (H-10)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV2C Instrument Line to 2MSS*FT11C; FT12C; FT13C	2	N	C	A	0.75	EFV	SE	1J (H-2)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV2D Instrument Line to 2MSS*FT11D; FT12D; FT13D	2	N	C	A	0.75	EFV	SE	1J (H-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV3A Instrument Line to 2MSS*FT11A; FT12A; FT13A	2	N	C	A	0.75	EFV	SE	1J (H-7)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV3B Instrument Line to 2MSS*FT11B; FT12B; FT13B	2	N	C	A	0.75	EFV	SE	1J (H-10)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV3C Instrument Line to 2MSS*FT11C; FT12C; FT13C	2	N	C	A	0.75	EFV	SE	1J (H-3)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	

Valve Table

MSS - Main Steam System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2MSS*EFV3D Instrument Line to 2MSS*FT11D; FT12D; FT13D	2	N	C	A	0.75	EFV	SE	1J (H-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV4A Instrument Line to 2MSS*FT14A; FT15A	2	N	C	A	0.75	EFV	SE	1J (H-8)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV4B Instrument Line to 2MSS*FT14B; FT15B	2	N	C	A	0.75	EFV	SE	1J (H-10)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV4C Instrument Line to 2MSS*FT14C; FT15C	2	N	C	A	0.75	EFV	SE	1J (H-3)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*EFV4D Instrument Line to 2MSS*FT14D; FT15D	2	N	C	A	0.75	EFV	SE	1J (H-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2MSS*MOV111 Main Steam Line Drain; Inboard Isolation	1	N	A	A	6	GLV	MO	1E (G-2)	C	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		Note - 02
2MSS*MOV112 Main Steam Line Drain; Outboard Isolation	1	N	A	A	6	GLV	MO	1E (H-2)	C	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		Note - 02
2MSS*MOV118 Reactor Vessel Head Vent Inboard Blocking Valve	1	N	B	P	2	GLV	MO	1E (G-2)	C	C	As-Is	PI	2Y		
2MSS*MOV119 Reactor Vessel Head Vent Outboard Blocking Valve	1	N	B	P	2	GLV	MO	1E (H-2)	C	C	As-Is	PI	2Y		
2MSS*MOV208 Main Steam Line Drain; Outboard Isolation	1	N	A	A	2	GLV	MO	1F (F-9)	C	C	As-Is	DIAG FE LJ-C	OMN1 2Y 60		Note - 02
2MSS*PSV120 MAIN STEAM SRV	1	N	C	A	8	REV	SE	1A (D-4)	C	O	NA	AO LA LL RT SO VT	6Y 6Y 6Y 6Y 6Y 6Y	MSS-VR - 03 MSS-VR - 03 MSS-VR - 03 MSS-VR - 03 MSS-VR - 03 MSS-VR - 03	Note - 23 AOV Program

Valve Table

MSS - Main Steam System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2MSS*PSV121	1	N	C	A	8	REV	SE	1A (E-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV (ADS)												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV122	1	N	C	A	8	REV	SE	1A (G-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV123	1	N	C	A	8	REV	SE	1A (H-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV124	1	N	C	A	8	REV	SE	1B (D-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV125	1	N	C	A	8	REV	SE	1B (E-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV126	1	N	C	A	8	REV	SE	1B (G-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV (ADS)												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	

Valve Table

MSS - Main Steam System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2MSS*PSV127	1	N	C	A	8	REV	SE	1B (H-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV (ADS)												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV128	1	N	C	A	8	REV	SE	1B (I-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV129	1	N	C	A	8	REV	SE	1C (D-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV (ADS)												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV130	1	N	C	A	8	REV	SE	1C (E-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV (ADS)												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV131	1	N	C	A	8	REV	SE	1C (G-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV132	1	N	C	A	8	REV	SE	1C (H-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
												LA	6Y	MSS-VR - 03	AOV Program
MAIN STEAM SRV												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	

Valve Table

MSS - Main Steam System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2MSS*PSV133	1	N	C	A	8	REV	SE	1C (J-4)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
MAIN STEAM SRV												LA	6Y	MSS-VR - 03	AOV Program
												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV134	1	N	C	A	8	REV	SE	1D (D-5)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
MAIN STEAM SRV (ADS)												LA	6Y	MSS-VR - 03	AOV Program
												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV135	1	N	C	A	8	REV	SE	1D (F-5)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
MAIN STEAM SRV												LA	6Y	MSS-VR - 03	AOV Program
												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV136	1	N	C	A	8	REV	SE	1D (H-5)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
MAIN STEAM SRV												LA	6Y	MSS-VR - 03	AOV Program
												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV137	1	N	C	A	8	REV	SE	1D (J-5)	C	O	NA	AO	6Y	MSS-VR - 03	Note - 23
MAIN STEAM SRV (ADS)												LA	6Y	MSS-VR - 03	AOV Program
												LL	6Y	MSS-VR - 03	
												RT	6Y	MSS-VR - 03	
												SO	6Y	MSS-VR - 03	
												VT	6Y	MSS-VR - 03	
2MSS*PSV160973	1	N	C	A	8	REV	SE		C	O	N/A				
2MSS*PSV160974	1	N	C	A	8	REV	SE		C	O	N/A				

Valve Table

n/a - Bases Reference Only

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2CSH*HCV120 RPV Maintenance Isolation	1	N	B	P	10	GTV	MAN	33A (J-2)	O	O	NA	PI	2Y		
2CSL*HCV117 Reactor Vessel Hand Control Valve	1	N	B	P	12	GTV	MAN	32A (J-3)	O	O	NA	PI	2Y		
2FWS*HCV54A Feedwater Maintenance Valve	1	N	B	P	24	GLV	MAN	6B (I-2)	O	O	NA	PI	2Y		
2FWS*HCV54B Feedwater Maintenance Valve	1	N	B	P	24	GLV	MAN	6B (I-5)	O	O	NA	PI	2Y		
2GTS*AOV28A CROSS-BLEED VALVE	N	N		A	8	BFV	AO				As-Is	ST-CA ST-OA	Q Q		AOV Program
2GTS*AOV2A TRICENTRIC VALVE	N	N		A	20	BFV	AO				As-Is	ST-CA ST-OA	Q Q		AOV Program
2GTS*AOV3A TRICENTRIC VALVE; FAN DISCHARGE	N	N		A	20	BFV	AO				As-Is	ST-CA ST-OA	Q Q		AOV Program
2GTS*PV5A RX BLDG IN/OUT DIFFERENTIAL PRESSURE	N	N		A	14	BFV	AO				NA	ST-CA ST-OA	Q Q		AOV Program
2GTS*PV5B RX BLDG IN/OUT DIFFERENTIAL PRESSURE	N	N		A	14	BFV	AO				NA	ST-CA ST-OA	Q Q		AOV Program
2RHS*HCV131 Manual Blocking and Boundary Valve	1	N	B	P	20	GTV	MAN	31A (H-11)	LO	O	NA	PI	2Y		
2RHS*HCV53A Manual Blocking and Boundary Valve	1	N	B	P	12	GTV	MAN	31A (G-5)	LO	O	NA	PI	2Y		
2RHS*HCV53B Manual Blocking and Boundary Valve	1	N	B	P	12	GTV	MAN	31A (I-6)	LO	O	NA	PI	2Y		
2RHS*HCV53C Manual Blocking and Boundary Valve	1	N	B	P	12	GTV	MAN	31A (I-4)	LO	O	NA	PI	2Y		

Valve Table

n/a - Bases Reference Only

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*HCV54A Manual Blocking and Boundary Valve	1	N	B	P	12	GTV	MAN	31A (G-9)	LO	O	NA	PI	2Y		
2RHS*HCV54B Manual Blocking and Boundary Valve	1	N	B	P	12	GTV	MAN	31A (I-9)	LO	O	NA	PI	2Y		
2SLS*HCV114 SLS Injection Line Isolation	1	N	B	P	2	GLV	MAN	36A (K-1)	LO	O	NA	PI	2Y		
2SLS*HCV116 SLS Test Throttle Valve	2	N	B	P	0.75	GLV	MAN	36A (I-3)	LC	C	NA	PI	2Y		

Valve Table

NMS - Neutron Monitoring System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2NMS*SOV1A TIP Ball Valve; Outboard Isolation	2	N	A	A	0.375	BLV	SO	EM38A (F-7)	C	C	C	FE	Q		
												FS-C	Q		
												LJ-C	2Y		
												PI	2Y		
												PI	2Y		
												ST-C	Q		
2NMS*SOV1B TIP Ball Valve; Outboard Isolation	2	N	A	A	0.375	BLV	SO	EM38A (F-7)	C	C	C	FE	Q		
												FS-C	Q		
												LJ-C	2Y		
												PI	2Y		
												PI	2Y		
												ST-C	Q		
2NMS*SOV1C TIP Ball Valve; Outboard Isolation	2	N	A	A	0.375	BLV	SO	EM38A (G-6)	C	C	C	FE	Q		
												FS-C	Q		
												LJ-C	2Y		
												PI	2Y		
												PI	2Y		
												ST-C	Q		
2NMS*SOV1D TIP Ball Valve; Outboard Isolation	2	N	A	A	0.375	BLV	SO	EM38A (G-6)	C	C	C	FE	Q		
												FS-C	Q		
												LJ-C	2Y		
												PI	2Y		
												PI	2Y		
												ST-C	Q		
2NMS*SOV1E TIP Ball Valve; Outboard Isolation	2	N	A	A	0.375	BLV	SO	EM38A (H-5)	C	C	C	FE	Q		
												FS-C	Q		
												LJ-C	2Y		
												PI	2Y		
												PI	2Y		
												ST-C	Q		
2NMS*VEX1A TIP Explosive Shear Valve	2	N	D	A	0.375	EXV	EX	EM38A (F-7)	O	C	NA	EX	20% / 2Y		Note - 24
2NMS*VEX1B TIP Explosive Shear Valve	2	N	D	A	0.375	EXV	EX	EM38A (F-7)	O	C	NA	EX	20% / 2Y		Note - 24

Valve Table

NMS - Neutron Monitoring System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2NMS*VEX1C TIP Explosive Shear Valve	2	N	D	A	0.375	EXV	EX	EM38A (G-6)	O	C	NA	EX	20% / 2Y		Note - 24
2NMS*VEX1D TIP Explosive Shear Valve	2	N	D	A	0.375	EXV	EX	EM38A (G-6)	O	C	NA	EX	20% / 2Y		Note - 24
2NMS*VEX1E TIP Explosive Shear Valve	2	N	D	A	0.375	EXV	EX	EM38A (H-5)	O	C	NA	EX	20% / 2Y		Note - 24

RCS - Reactor Coolant System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RCS*EFV44A Instrument Line to 2RCS*PT84A	2	N	C	A	0.75	EFV	SE	29B (D-2)	O	C	NA	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
2RCS*EFV44B Instrument Line to 2RCS*PT84B	2	N	C	A	0.75	EFV	SE	29C (D-2)	O	C	NA	BDT-O FE-R PI	2Y R 2Y	 GV-ROJ - 01	
2RCS*EFV45A Instrument Line to 2RCS*FT7A; FT9A	2	N	C	A	0.75	EFV	SE	29B (D-3)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV45B Instrument Line to 2RCS*FT7B; FT9B	2	N	C	A	0.75	EFV	SE	29C (D-3)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV46A Instrument Line to 2RCS*FT7A; FT9A	2	N	C	A	0.75	EFV	SE	29B (D-4)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV46B Instrument Line to 2RCS*FT7B; FT9B	2	N	C	A	0.75	EFV	SE	29C (D-4)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV47A Instrument Line to 2RCS*FT6A; FT8A	2	N	C	A	0.75	EFV	SE	29B (D-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV47B Instrument Line to 2RCS*FT6B; FT8B	2	N	C	A	0.75	EFV	SE	29C (D-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV48A Instrument Line to 2RCS*FT6A; FT8A	2	N	C	A	0.75	EFV	SE	29B (D-6)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV48B Instrument Line to 2RCS*FT6B; FT8B	2	N	C	A	0.75	EFV	SE	29C (D-6)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV52A Instrument Line to 2RCS*PDT15A	2	N	C	A	0.75	EFV	SE	29B (I-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV52B Instrument Line to 2RCS*PDT15B	2	N	C	A	0.75	EFV	SE	29C (I-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RCS*EFV53A Instrument Line to 2RCS*PDT15A	2	N	C	A	0.75	EFV	SE	29B (H-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	

Valve Table

RCS - Reactor Coolant System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RCS*EFV53B	2	N	C	A	0.75	EFV	SE	29C (H-5)	O	C	NA	FE	10Y-S	GV-RR - 08	
Instrument Line to 2RCS*PDT15B												PI	10Y-S		
2RCS*EFV62A	2	N	C	A	0.75	EFV	SE	29B (J-9)	O	C	NA	FE	10Y-S	GV-RR - 08	
Instrument Line to 2RCS*PI44A												PI	10Y-S		
2RCS*EFV62B	2	N	C	A	0.75	EFV	SE	29C (J-9)	O	C	NA	FE	10Y-S	GV-RR - 08	
Instrument Line to 2RCS*PI44B												PI	10Y-S		
2RCS*EFV63A	2	N	C	A	0.75	EFV	SE	29B (J-9)	O	C	NA	FE	10Y-S	GV-RR - 08	
Instrument Line to 2RCS*PI42A												PI	10Y-S		
2RCS*EFV63B	2	N	C	A	0.75	EFV	SE	29C (J-9)	O	C	NA	FE	10Y-S	GV-RR - 08	
Instrument Line to 2RCS*PI42B												PI	10Y-S		
2RCS*SOV104	2	N	A	A	0.75	GLV	SO	29B (H-3)	O	C	C	FE	Q		
RCS Sample Line; Inboard Isolation												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2RCS*SOV105	2	N	A	A	0.75	GLV	SO	29B (H-3)	O	C	C	FE	Q		
RCS Sample Line; Outboard Isolation												FS-C	Q		
												LJ-C	60		
												PI	2Y		
												ST-C	Q		
2RCS*SOV65A	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve A												FS-C	CS	RCS-CSJ - 01	
												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV65B	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve B												FS-C	CS	RCS-CSJ - 01	
												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV66A	2	N	B	A	1	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve A												FS-C	CS	RCS-CSJ - 01	
												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	

RCS - Reactor Coolant System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RCS*SOV66B	2	N	B	A	1	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve B												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV67A	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve A												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV67B	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve B												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV68A	2	N	B	A	0.75	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU from RCS Flow Control Valve A												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV68B	2	N	B	A	0.75	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU from RCS Flow Control Valve B												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV79A	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve A												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV79B	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve B												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV80A	2	N	B	A	1	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve A												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV80B	2	N	B	A	1	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve B												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	

Valve Table

RCS - Reactor Coolant System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RCS*SOV81A	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve A												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV81B	2	N	B	A	2	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU to RCS Flow Control Valve B												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV82A	2	N	B	A	0.75	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU from RCS Flow Control Valve A												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*SOV82B	2	N	B	A	0.75	GLV	SO		O	C	C	FE	CS	RCS-CSJ - 01	
												FS-C	CS	RCS-CSJ - 01	
HPU from RCS Flow Control Valve B												PI	2Y		
												ST-C	CS	RCS-CSJ - 01	
2RCS*V59A	2	N	A/C	A	0.75	CHV	SE	29B (H-10)	OC	C	NA	BDT-O	CMP		Condition Monitoring Program component
												FE-R	CMP		
RDS to RCS Pump A Seal; Outboard Isolation												LJ-C	APPJ		
2RCS*V59B	2	N	A/C	A	0.75	CHV	SE	29C (G-10)	OC	C	NA	BDT-O	CMP		Condition Monitoring Program component
												FE-R	CMP		
RDS to RCS Pump B Seal; Outboard Isolation												LJ-C	APPJ		
2RCS*V60A	2	N	A/C	A	0.75	CHV	SE	29B (F-10)	OC	C	NA	BDT-O	CMP		Condition Monitoring Program component
												FE-R	CMP		
RDS to RCS Pump A Seal; Inboard Isolation												LJ-C	APPJ		
2RCS*V60B	2	N	A/C	A	0.75	CHV	SE	29C (F-10)	OC	C	NA	BDT-O	CMP		Condition Monitoring Program component
												FE-R	CMP		
RDS to RCS Pump B Seal; Inboard Isolation												LJ-C	APPJ		
2RCS*V90A	2	N	A/C	A	0.75	CHV	SE	29B (G-10)	OC	C	NA	BDT-O	CMP		Condition Monitoring Program component
												FE-R	CMP		
RDS to RCS Pump A Seal; Outboard Isolation												LJ-C	APPJ		
2RCS*V90B	2	N	A/C	A	0.75	CHV	SE	29C (G-10)	OC	C	NA	BDT-O	CMP		Condition Monitoring Program component
												FE-R	CMP		
RDS to RCS Pump B Seal; Outboard Isolation												LJ-C	APPJ		

Valve Table

RDS - Control Rod Drive Hydraulics

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RDS*AOV123 Scram Discharge Volume Inboard Drain	2	N	A	A	2	GLV	AO	30C (C-10)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 30 2Y Q		AOV Program
2RDS*AOV124 Scram Discharge Volume Inboard Vent	2	N	A	A	1	GLV	AO	30C (F-5)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 30 2Y Q		AOV Program
2RDS*AOV126 Scram Inlet Valve (Typical of 185)	N	Y	N/A	A	0.5	GLV	AO	30B (D-8)	C	O	O	AUG	TS		Note - 25
2RDS*AOV127 Scram Outlet Valve (Typical of 185)	N	Y	N/A	A	0.75	GLV	AO	30B (B-9)	C	O	O	AUG	TS		Note - 25
2RDS*AOV130 Scram Discharge Volume Outboard Drain	2	N	A	A	2	GLV	AO	30C (B-10)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q		AOV Program
2RDS*AOV132 Scram Discharge Volume Outboard Vent	2	N	A	A	1	GLV	AO	30C (F-5)	O	C	C	FE FS-C LJ-C PI ST-C	Q Q 60 2Y Q		AOV Program
2RDS*SOV137 Backup Scram Air Pilot (Backup Scram Valve)	N	Y	N/A	A	0.5	GTV	SO	30C (H-2)	O	C	O	AUG	R		Note - 26
2RDS*SOV138 Backup Scram Air Pilot (Backup Scram Valve)	N	Y	N/A	A	0.5	GTV	SO	30C (H-2)	O	C	O	AUG	R		Note - 26
2RDS*SOV139 Scram Pilot Valve; Actuates AOV126 and AOV127 (Typical of 185)	N	Y	N/A	A	0.5	GLV	SO	30B (A-8)	O	C	C	AUG	TS		Note - 25
2RDS*SOV154 SDV Instrument Air Isolation Valve; SOVX154, SOVY154	N	Y	N/A	A	0.5	GLV	SO	30C (C-4)	C	O	O	AUG	Q		Note - 27

Valve Table

RDS - Control Rod Drive Hydraulics

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RDS*SOV155 SDV Instrument Air Isolation Valve; SOVX155, SOVY155	N	Y	N/A	A	0.5	GLV	SO	30C (C-2)	C	O	O	AUG	Q		Note - 27
2RDS*SOV156 Alternate Rod Insertion	N	Y	N/A	A	0.5	GTV	SO	30C (J-7)	C	O	C	FE FS-C	R R		Note - 28
2RDS*SOV157 Alternate Rod Insertion	N	Y	N/A	A	0.5	GLV	SO	30C (J-8)	C	O	C	FE FS-C	R R		Note - 28
2RDS*SOV158 Alternate Rod Insertion	N	Y	N/A	A	0.5	GLV	SO	30C (K-8)	C	O	C	FE FS-C	R R		Note - 28
2RDS*SOV159 Alternate Rod Insertion	N	Y	N/A	A	0.5	GLV	SO	30C (K-7)	C	O	C	FE FS-C	R R		Note - 28
2RDS*SOV160 Alternate Rod Insertion	N	Y	N/A	A	0.5	GLV	SO	30C (A-5)	C	O	C	FE FS-C	R R		Note - 28
2RDS*SOV161 Alternate Rod Insertion	N	Y	N/A	A	0.5	GLV	SO	30C (A-3)	C	O	C	FE FS-C	R R		Note - 28
2RDS*SOV162 Alternate Rod Insertion	N	Y	N/A	A	0.5	GLV	SO	30C (E-2)	C	O	C	FE FS-C	R R		Note - 28
2RDS*SOV163 Alternate Rod Insertion	N	Y	N/A	A	0.5	GLV	SO	30C (G-2)	C	O	C	FE FS-C	R R		Note - 28
2RDS*V114 Scram Discharge Riser Check	N	Y	N/A	A	0.5	BLCV	SE	30B (B-9)	OC	OC	NA	AUG	TS		Note - 25
2RDS*V115 HCU Accumulator Charging Water Check (Typical of 185)	N	Y	N/A	A	0.5	BLCV	SE	30B (D-7)	OC	C	NA	AUG	R		Note - 29
2RDS*V137 Drive Water Check (Typical of 185)	N	Y	N/A	A	0.5	BLCV	SE	30B (B-7)	OC	C	NA	AUG	TS		Note - 25
2RDS*V138 Cooling Water Check (Typical of 185)	N	Y	N/A	A	0.5	BLCV	SE	30B (C-7)	O	C	NA	AUG	TS		Note - 25

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*AOV126 RHS / SWP Cross-Tie Drain Valve	3	N	B	A	0.75	BLV	AO	31E (C-9)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*AOV150 SWP Intertie to RHS	2	N	C	A	16	TSWCV	SE	31E (B-8)	C	OC	NA	FE-F FE-R	Q Q		CKV Program
2RHS*EFV5 Instrument Line to 2RHS*PDT18B	2	N	C	A	0.75	EFV	SE	31B (B-8)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RHS*EFV6 Instrument Line to 2RHS*PDT18B	2	N	C	A	0.75	EFV	SE	31B (B-7)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RHS*EFV7 Instrument Line to 2RHS*PDT18A	2	N	C	A	0.75	EFV	SE	31A (C-6)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2RHS*FV38A RHR 'A' Test Return to Supp. Pool	2	N	B	A	14	GLV	MO	31C (B-6)	C	OC	As-Is	DIAG FE	OMN1 Q		
2RHS*FV38B RHR 'B' Test Return to Supp. Pool	2	N	B	A	14	GLV	MO	31B (J-9)	C	OC	As-Is	DIAG FE	OMN1 Q		
2RHS*FV38C RHR 'C' Test Return to Supp. Pool	2	N	B	A	14	GLV	MO	31B (H-7)	C	C	As-Is	DIAG FE	OMN1 2Y		
2RHS*LV17A RHR 'A' Heat Exchanger Level Control Valve	2	N	B	A	4	GTV	AO	31D (G-5)	C	C	C	FE FS-C ST-C	Q Q Q		AOV Program
2RHS*LV17B RHR 'B' Heat Exchanger Level Control Valve	2	N	B	A	4	GTV	AO	31D (D-6)	C	C	C	FE FS-C ST-C	Q Q Q		AOV Program
2RHS*MOV104 RHR Head Spray; Outboard Isolation; PIV	1	N	A	A	6	GLV	MO	31B (D-2)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		Note - 03 PIV

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*MOV112 Shutdown Cooling Supply; PIV	1	N	A	A	20	FWGTV	MO	31A (H-11)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		PIV
2RHS*MOV113 Shutdown Cooling Supply; PIV	1	N	A	A	20	FWGTV	MO	31A (E-10)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS 30 2Y		PIV
2RHS*MOV115 RHR / Service Water Cross Tie	2	N	B	A	16	GTV	MO	31E (C-8)	C	OC	As-Is	DIAG FE	OMN1 Q		
2RHS*MOV116 RHR / Service Water Cross Tie	3	N	B	A	16	GTV	MO	31E (B-9)	C	OC	As-Is	DIAG FE	OMN1 Q		
2RHS*MOV12A RHR Heat Exchanger Outlet	2	N	B	A	18	BFV	MO	31D (I-6)	O	O	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV12B RHR Heat Exchanger Outlet	2	N	B	A	18	BFV	MO	31E (D-7)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV142 RHR Discharge to Liquid Rad Waste	2	N	A	A	3	GLV	MO	31F (I-3)	C	C	As-Is	DIAG FE LK	OMN1 2Y 2Y		
2RHS*MOV149 RHR Discharge to Liquid Rad Waste	2	N	A	A	3	GTV	MO	31F (I-3)	C	C	As-Is	DIAG FE LK	OMN1 2Y 2Y		
2RHS*MOV15A Containment Spray to Drywell; Outboard Isolation	2	N	A	A	16	FWGTV	MO	31A (B-2)	C	OC	As-Is	DIAG FE LJ-C	OMN1 Q APPJ		
2RHS*MOV15B Containment Spray to Drywell; Outboard Isolation	2	N	A	A	16	FWGTV	MO	31B (F-4)	C	OC	As-Is	DIAG FE LJ-C	OMN1 Q APPJ		
2RHS*MOV1A RHR Pump Suppression Pool Suction; Outboard Isolation	2	N	B	A	24	BFV	MO	31C (F-9)	O	OC	As-Is	DIAG FE	OMN1 2Y		

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*MOV1B RHR Pump Suppression Pool Suction; Outboard Isolation	2	N	B	A	24	BFV	MO	31F (F-2)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV1C RHR Pump Suppression Pool Suction; Outboard Isolation	2	N	B	A	24	BFV	MO	31G (D-10)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV22A Steam Condensing Mode Steam Line Isolation; PIV	2	N	A	A	8	GLV	MO	31D (G-9)	C	C	As-Is	DIAG FE LK	OMN1 CS 2Y		PIV
2RHS*MOV22B Steam Condensing Mode Steam Line Isolation; PIV	2	N	A	A	8	GLV	MO	31G (K-2)	C	C	As-Is	DIAG FE LK	OMN1 CS 2Y		PIV
2RHS*MOV23A Steam Condensing Mode Steam Line Isolation; PIV; *PV21A Bypass	2	N	A	A	8	GLV	MO	31D (D-9)	C	C	As-Is	DIAG FE LK	OMN1 CS 2Y		PIV
2RHS*MOV23B Steam Condensing Mode Steam Line Isolation; PIV; *PV21B Bypass	2	N	A	A	8	GLV	MO	31G (J-4)	C	C	As-Is	DIAG FE LK	OMN1 CS 2Y		PIV
2RHS*MOV24A LPCI Injection; PIV	1	N	A	A	12	FWGTV	MO	31A (D-5)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		PIV
2RHS*MOV24B LPCI Injection; PIV	1	N	A	A	12	FWGTV	MO	31B (D-7)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		PIV
2RHS*MOV24C LPCI Injection; PIV	1	N	A	A	12	FWGTV	MO	31B (C-5)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		PIV
2RHS*MOV25A RHR 'A' CT Spray to Drywell; Inboard Isolation	2	N	A	A	16	FWGTV	MO	31A (E-2)	C	OC	As-Is	DIAG FE LJ-C	OMN1 Q 60		
2RHS*MOV25B RHR 'B' CT Spray to Drywell; Inboard Isolation	2	N	A	A	16	FWGTV	MO	31B (B-3)	C	OC	As-Is	DIAG FE LJ-C	OMN1 Q 60		

Valve Table

RHS - Residual Heat Removal

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*MOV26A RHR Heat Exchanger 'A' Vent to Suppression Pool; Outboard Isolation	2	N	B	A	1	GLV	MO	31D (D-3)	C	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV26B RHR Heat Exchanger 'B' Vent to Suppression Pool; Outboard Isolation	2	N	B	A	1	GLV	MO	31E (H-5)	C	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV27A RHR Heat Exchanger 'A' Vent to Suppression Pool; Inboard Isolation	2	N	B	A	1	GLV	MO	31D (D-2)	C	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV27B RHR Heat Exchanger 'B' Vent to Suppression Pool; Inboard Isolation	2	N	B	A	1	GLV	MO	31E (H-4)	C	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV2A SDC Suction to RHR Pump 'A'	2	N	B	A	18	BFV	MO	31F (H-9)	C	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV2B SDC Suction to RHR Pump 'B'	2	N	B	A	18	BFV	MO	31F (G-3)	C	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV30A RHR 'A' Test Return to Suppression Pool; Outboard Isolation	2	N	A	A	18	BFV	MO	31C (D-6)	O	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2RHS*MOV30B RHR 'B' Test Return to Suppression Pool; Outboard Isolation	2	N	A	A	18	BFV	MO	31C (J-7)	O	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2RHS*MOV32A Steam Condensing Mode: RHR Heat Exchanger A to RCIC	2	N	B	A	4	GTV	MO	31D (J-4)	C	C	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV32B Steam Condensing Mode: RHR Heat Exchanger B to RCIC	2	N	B	A	4	GTV	MO	31D (H-2)	C	C	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV33A RHR 'A' Supp. Pool Spray; Outboard Isolation	2	N	A	A	4	GLV	MO	31C (C-2)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		
2RHS*MOV33B RHR 'B' Supp. Pool Spray; Outboard Isolation	2	N	A	A	4	GLV	MO	31C (I-3)	C	OC	As-Is	DIAG FE LJ-C	OMN1 2Y 60		

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*MOV37A Steam Condensing Mode: RHR Heat Exchanger A to Supp. Pool	2	N	B	A	4	GLV	MO	31D (H-5)	C	C	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV37B Steam Condensing Mode: RHR Heat Exchanger B to Supp. Pool	2	N	B	A	4	GLV	MO	31D (G-2)	C	C	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV40A RHR HX 'A' Shutdown Cooling Return; Outboard Isolation; PIV	1	N	A	A	12	GLV	MO	31A (D-9)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		Note - 03 PIV
2RHS*MOV40B RHR HX 'B' Shutdown Cooling Return; Outboard Isolation; PIV	1	N	A	A	12	GLV	MO	31B (C-10)	C	OC	As-Is	DIAG FE LJ-C LK	OMN1 CS APPJ 2Y		Note - 03 PIV
2RHS*MOV4A RHR Pump 1A Min. Flow Valve	2	N	B	A	6	GTV	MO	31F (E-5)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV4B RHR Pump 1B Min. Flow Valve	2	N	B	A	6	GTV	MO	31E (D-4)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV4C RHR Pump 1C Min. Flow Valve	2	N	B	A	6	GTV	MO	31B (I-9)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV67A RHR A Shutdown Cooling Inboard Check Valve V39A Bypass; PIV	1	N	A	A	2	GLV	MO	31A (F-10)	C	C	As-Is	DIAG FE LJ-C LK	OMN1 CS 60 2Y		Note - 03 PIV
2RHS*MOV67B RHR B Shutdown Cooling Inboard Check Valve V39B Bypass; PIV	1	N	A	A	2	GLV	MO	31A (K-10)	C	C	As-Is	DIAG FE LJ-C LK	OMN1 CS 60 2Y		Note - 03 PIV
2RHS*MOV80A Steam Condensing Mode Steam Line Isolation; 2RHS*MOV22A Bypass; PIV	2	N	A	A	1	GLV	MO	31D (H-9)	C	C	As-Is	DIAG FE LK	OMN1 CS 2Y		PIV
2RHS*MOV80B Steam Condensing Mode Steam Line Isolation; 2RHS*MOV22B Bypass; PIV	2	N	A	A	1	GLV	MO	31G (K-3)	C	C	As-Is	DIAG FE LK	OMN1 CS 2Y		PIV

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*MOV8A RHR HX 'A' Bypass	2	N	B	A	18	BFV	MO	31F (B-3)	O	OC	As-Is	DIAG FE	OMN1 Q		
2RHS*MOV8B RHR HX 'B' Bypass	2	N	B	A	18	BFV	MO	31E (B-5)	O	OC	As-Is	DIAG FE	OMN1 Q		
2RHS*MOV9A RHR Heat Exchanger A Inlet Flow Control	2	N	B	A	18	BFV	MO	31F (M-2)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*MOV9B RHR Heat Exchanger B Inlet Flow Control	2	N	B	A	18	BFV	MO	31E (C-5)	O	OC	As-Is	DIAG FE	OMN1 2Y		
2RHS*PV21A RHR 'A' Heat Exchanger Steam Pressure Control Valve	2	N	B	A	8	GTV	AO	31D (E-9)	C	C	C	FE FS-C ST-C	Q Q Q		AOV Program
2RHS*PV21B RHR 'B' Heat Exchanger Steam Pressure Control Valve	2	N	B	A	8	GTV	AO	31G (J-3)	C	C	C	FE FS-C ST-C	Q Q Q		AOV Program
2RHS*RV108 RHS RV Discharge to Suppression Pool	2	N	C	A	3	REV	SE	31D (J-2)	C	O	NA	BE LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S 10Y-S		Note - 01 Note - 30
2RHS*RV110 SDC to RHS Pump Suction	2	N	C	A	0.75	REV	SE	31F (I-8)	C	O	NA	BE LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S 10Y-S		Note - 01 Note - 30
2RHS*RV117 2RHS*P2 Discharge Thermal Relief	3	N	C	A	0.75	REV	SE	31G (E-3)	C	O	NA	RVTh	10Y		
2RHS*RV139 RHR Header Flush to LWS	2	N	C	A	0.75	REV	SE	31F (G-10)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*RV152	2	N	A/C	A	0.75	REV	SE	31A (G-10)	C	O	NA	LA	10Y-S		Note - 01
SDC from RCS; Thermal overpressure protection for 2-RHS-020-159-1; Inboard Isolation												LJ-C	APPJ		Note - 31
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*RV20A	2	N	C	A	0.75	REV	SE	31C (A-5)	C	O	NA	BE	10Y-S		Note - 01
RHS RV Discharge to Suppression Pool												LA	10Y-S		Note - 30
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*RV20B	2	N	C	A	0.75	REV	SE	31B (F-10)	C	O	NA	BE	10Y-S		Note - 01
RHS RV Discharge to Suppression Pool												LA	10Y-S		Note - 30
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*RV20C	2	N	C	A	0.75	REV	SE	31B (H-6)	C	O	NA	BE	10Y-S		Note - 01
RHS RV Discharge to Suppression Pool												LA	10Y-S		Note - 30
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*RV42A	3	N	C	A	0.75	REV	SE	31D (E-7)	C	O	NA	RVTh	10Y		
RHS*E1A Tube Side Thermal Relief															
2RHS*RV42B	3	N	C	A	0.75	REV	SE	31E (I-7)	C	O	NA	RVTh	10Y		
RHS*E1B Tube Side Thermal Relief															
2RHS*RV56A	3	N	C	A	0.75	REV	SE	31D (F-4)	C	O	NA	RVTh	10Y		
RHS*E1A Shell Side Thermal Relief															
2RHS*RV56B	3	N	C	A	0.75	REV	SE	31E (F-4)	C	O	NA	RVTh	10Y		
RHS*E1B Shell Side Thermal Relief															
2RHS*RV57A	2	N	A/C	A	0.75	REV	SE	31A (C-2)	C	O	NA	LA	10Y-S		Note - 01
Bonnet Relief for Pressure-Locking Mod; installed on 2RHS*MOV15A.												LJ	APPJ		Note - 32
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*RV57B	2	N	A/C	A	0.75	REV	SE	31B (F-4)	C	O	NA	LA	10Y-S		Note - 01
												LJ	APPJ		Note - 32
Bonnet Relief for Pressure-Locking Mod; installed on 2RHS*MOV15B.												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*RV61A	2	N	C	A	0.75	REV	SE	31D (E-7)	C	O	NA	LA	10Y-S		Note - 01
												LL	10Y-S		
RHS RV Discharge to Suppression Pool												RT	10Y-S		
												VT	10Y-S		
2RHS*RV61B	2	N	C	A	0.75	REV	SE	31F (H-2)	C	O	NA	LA	10Y-S		Note - 01
												LL	10Y-S		
RHS RV Discharge to Suppression Pool												RT	10Y-S		
												VT	10Y-S		
2RHS*RV61C	2	N	C	A	0.75	REV	SE	31G (C-3)	C	O	NA	LA	10Y-S		Note - 01
												LL	10Y-S		
RHS RV Discharge to Suppression Pool												RT	10Y-S		
												VT	10Y-S		
2RHS*RVV35A	2	N	C	A	10	VRV	SE	31C (D-4)	C	OC	NA	LL	2Y		Note - 01
												RT	2Y		Note - 30
RHS Vacuum Breaker												VR	2Y		
2RHS*RVV35B	2	N	C	A	10	VRV	SE	31C (I-5)	C	OC	NA	LL	2Y		Note - 01
												RT	2Y		Note - 30
RHS Vacuum Breaker												VR	2Y		
2RHS*RVV36A	2	N	C	A	10	VRV	SE	31C (D-4)	C	OC	NA	LL	2Y		Note - 01
												RT	2Y		Note - 30
RHS Vacuum Breaker												VR	2Y		
2RHS*RVV36B	2	N	C	A	10	VRV	SE	31C (J-5)	C	OC	NA	LL	2Y		Note - 01
												RT	2Y		Note - 30
RHS Vacuum Breaker												VR	2Y		
2RHS*SOV120	2	N	B	P	0.75	GLV	SO	31C (C-7)	C	C	C	PI	2Y		
PASS To RHS; Sample Return to Supp. Pool															
2RHS*SOV35A	2	N	B	A	0.75	GLV	SO	31D (G-7)	C	C	C	FE	Q		
												FS-C	Q		
RHR A Reactor Sample												PI	2Y		
												ST-C	Q		

RHS - Residual Heat Removal

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*SOV35B RHR B Reactor Sample	2	N	B	A	0.75	GLV	SO	31E (D-8)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV36A RHR A Reactor Sample	2	N	B	A	0.75	GLV	SO	31D (G-6)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV36B RHR B Reactor Sample	2	N	B	A	0.75	GLV	SO	31E (D-7)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV70A Steam Line Drain	2	N	B	A	1	GLV	SO	31D (E-10)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV70B Steam Line Drain	2	N	B	A	1	GLV	SO	31E (J-5)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV71A Steam Line Drain	2	N	B	A	1	GLV	SO	31D (E-10)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV71B Steam Line Drain	2	N	B	A	1	GLV	SO	31E (J-6)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV72A Steam Line Drain	2	N	B	A	1	GLV	SO	31D (G-9)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		
2RHS*SOV72B Steam Line Drain	2	N	B	A	1	GLV	SO	31G (J-5)	C	C	C	FE FS-C PI ST-C	Q Q 2Y Q		

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*SOV73A	2	N	B	A	1	GLV	SO	31D (G-9)	C	C	C	FE	Q		
Steam Line Drain												FS-C	Q		
												PI	2Y		
												ST-C	Q		
2RHS*SOV73B	2	N	B	A	1	GLV	SO	31G (J-5)	C	C	C	FE	Q		
Steam Line Drain												FS-C	Q		
												PI	2Y		
												ST-C	Q		
2RHS*SV34A	2	N	C	A	4	REV	SE	31D (B-2)	C	O	NA	BE	10Y-S		Note - 01
RHS Heat Exchanger Steam Supply Safety Valve												LA	10Y-S		Note - 30
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*SV34B	2	N	C	A	4	REV	SE	31E (I-4)	C	O	NA	BE	10Y-S		Note - 01
RHS Heat Exchanger Steam Supply Safety Valve												LA	10Y-S		Note - 30
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*SV62A	2	N	C	A	6	REV	SE	31D (A-2)	C	O	NA	BE	10Y-S		Note - 01
RHS Heat Exchanger Steam Supply Safety Valve												LA	10Y-S		Note - 30
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*SV62B	2	N	C	A	6	REV	SE	31E (J-3)	C	O	NA	BE	10Y-S		Note - 01
RHS Heat Exchanger Steam Supply Safety Valve												LA	10Y-S		Note - 30
												LL	10Y-S		
												RT	10Y-S		
												VT	10Y-S		
2RHS*V1	2	N	C	A	18	SWCV	SE	31F (C-5)	C	OC	NA	FE-F	Q		CKV Program
2RHS*P1A Discharge Check Valve												FE-R	Q		
2RHS*V143	1	N	C	A	6	SWCV	SE	31B (C-2)	C	O	NA	BDT-C	CS		CKV Program
RHR Head Spray												FE-F	CS	RHS-CSJ - 01	

Valve Table

RHS - Residual Heat Removal

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*V16A	1	N	A/C	A	12	SWCV	SE	31A (F-5)	C	OC	NA	FE-F	R	RHS-ROJ - 01	
												FE-R	R	RHS-ROJ - 01	
LPCI Injection Inboard Check												LJ-C	30		
												LK	2Y		
2RHS*V16B	1	N	A/C	A	12	SWCV	SE	31A (J-6)	C	OC	NA	FE-F	R	RHS-ROJ - 01	
												FE-R	R	RHS-ROJ - 01	
LPCI Injection Inboard Check												LJ-C	30		
												LK	2Y		
2RHS*V16C	1	N	A/C	A	12	SWCV	SE	31A (J-4)	C	OC	NA	FE-F	R	RHS-ROJ - 01	
												FE-R	R	RHS-ROJ - 01	
LPCI Injection Inboard Check												LJ-C	30		
												LK	2Y		
2RHS*V17	2	N	C	A	2	SCV	SE	31G (D-3)	OC	C	NA	BDT-O	2Y		Note - 33
												FE-R	Q		
Pressure Pump Header Discharge Check															
2RHS*V18	2	N	C	A	2	CHV	SE	31G (D-9)	OC	C	NA	BDT-O	2Y		Note - 33
												FE-R	Q		
Pressure Pump Header Discharge Check															
2RHS*V192	2	N	A	P	0.75	GLV	MAN	31E (J-2)	LC	C	NA	LJ-C	60		
RCIC/RHS Vacuum Breaker; Outboard Isolation															
2RHS*V2	2	N	C	A	18	SWCV	SE	31E (C-4)	C	O	NA	FE-F	Q		CKV Program
												FE-R	Q		
2RHS*P1B Discharge Check Valve															
2RHS*V3	2	N	C	A	18	SWCV	SE	31G (B-3)	C	O	NA	FE-F	Q		CKV Program
												FE-R	Q		
2RHS*P1C Discharge Check Valve															
2RHS*V39A	1	N	A/C	A	12	SWCV	SE	31A (F-9)	C	OC	NA	FE-F	R	RHS-ROJ - 02	Note - 03
												FE-R	R	RHS-ROJ - 02	PIV
Shutdown Cooling Return to Reactor; Inboard Check												LJ-C	24		
												LK	2Y		
2RHS*V39B	1	N	A/C	A	12	SWCV	SE	31A (K-9)	C	OC	NA	FE-F	R	RHS-ROJ - 02	Note - 03
												FE-R	R	RHS-ROJ - 02	PIV
Shutdown Cooling Return to Reactor; Outboard Check												LJ-C	24		
												LK	2Y		
2RHS*V47	2	N	C	A	2	SCV	SE	31F (C-4)	OC	C	NA	BDT-O	2Y		Note - 33
												FE-R	Q		
Pressure Pump Header Discharge Check															

Valve Table

RHS - Residual Heat Removal

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2RHS*V48 Pressure Pump Header Discharge Check	2	N	C	A	2	CHV	SE	31F (D-4)	OC	C	NA	BDT-O FE-R	2Y Q		Note - 33
2RHS*V60 Pressure Pump Header Discharge Check	2	N	C	A	2	CHV	SE	31G (E-2)	OC	C	NA	BDT-O FE-R	2Y Q		Note - 33
2RHS*V61 Pressure Pump Header Discharge Check	2	N	C	A	2	SCV	SE	31G (E-1)	OC	C	NA	BDT-O FE-R	2Y Q		Note - 33

Valve Table

SAS - Service Air System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SAS*HCV160 Service Air To Drywell; Outboard Isolation	2	N	A	P	2	GLV	MAN	19J (H-6)	LC	C	NA	LJ-C PI	60 2Y		
2SAS*HCV161 Service Air To Drywell; Outboard Isolation	2	N	A	P	2	GLV	MAN	19J (H-4)	LC	C	NA	LJ-C PI	60 2Y		
2SAS*HCV162 Service Air To Drywell; Inboard Isolation	2	N	A	P	2	GLV	MAN	19J (I-6)	LC	C	NA	LJ-C PI	60 2Y		
2SAS*HCV163 Service Air To Drywell; Inboard Isolation	2	N	A	P	2	GLV	MAN	19J (I-4)	LC	C	NA	LJ-C PI	60 2Y		

Valve Table

SFC - Spent Fuel Pool Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SFC*AOV153 Filter Header Inlet Isolation	3	N	B	A	8	BFV	AO	38A (I-10)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program
2SFC*AOV154 Filter Header Inlet Isolation	3	N	B	A	8	BFV	AO	38A (J-10)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program
2SFC*AOV19A Filter To Heat Exchanger A Outlet Header Valve	3	N	B	A	8	BFV	AO	38C (D-7)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program
2SFC*AOV19B Filter To Heat Exchanger B Outlet Header Valve	3	N	B	A	8	BFV	AO	38C (D-6)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program
2SFC*AOV33A Skimmer Surge Tank *TK1A Fill Valve	3	N	B	P	8	BFV	AO	38B (J-9)	C	C	C	PI	2Y		AOV Program
2SFC*AOV33B Skimmer Surge Tank *TK1B Fill Valve	3	N	B	P	8	BFV	AO	38A (I-2)	C	C	C	PI	2Y		AOV Program
2SFC*HV114 Fuel Transfer Canal Gate A Drain	3	N	B	P	2.5	BFV	AO	38C (E-10)	O	NA	C	PI	2Y		AOV Program
2SFC*HV115 Cask Area Fill	3	N	B	P	4	BFV	AO	38A (E-3)	C	C	C	PI	2Y		AOV Program
2SFC*HV116 Cask Holding Transfer Pump Suction	3	N	B	P	4	BFV	AO	38A (D-4)	C	C	C	PI	2Y		AOV Program
2SFC*HV121 Cask Holding Transfer Pump Discharge	3	N	B	P	4	BFV	AO	38A (B-4)	C	C	C	PI	2Y		AOV Program
2SFC*HV148 Cask Gate Drain	3	N	B	P	2.5	BFV	AO	38C (E-10)	O	N/A	C	PI	2Y		AOV Program

Valve Table

SFC - Spent Fuel Pool Cooling

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SFC*HV149 Gate Drain Header Isolation	3	N	B	P	2.5	BFV	AO	38C (D-10)	O	N/A	C	PI	2Y		AOV Program
2SFC*HV17A Filter FLT1A Bypass	3	N	B	A	8	BFV	AO	38B (J-3)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SFC*HV17B Filter FLT1B Bypass	3	N	B	A	8	BFV	AO	38A (J-10)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SFC*HV18A SFC Pump 1A Discharge Inter-Connection Valve	3	N	B	A	8	BFV	AO	38B (J-4)	O	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		AOV Program
2SFC*HV18B SFC Pump 1B Discharge Inter-Connection Valve	3	N	B	A	8	BFV	AO	38A (H-10)	O	OC	C	FE FS-C PI ST-C ST-O	Q Q 2Y Q Q		AOV Program
2SFC*HV35A Skimmer Surge Tank TK1A Inlet	3	N	B	P	10	BFV	AO	38B (E-8)	O	O	O	PI	2Y		AOV Program
2SFC*HV35B Skimmer Surge Tank TK1B Inlet	3	N	B	P	10	BFV	AO	38A (F-2)	O	O	O	PI	2Y		AOV Program
2SFC*HV37A SFC Heat Exchanger Outlet Cross-Connect	3	N	B	A	8	BFV	AO	38C (B-3)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program
2SFC*HV37B SFC Heat Exchanger Outlet Cross-Connect	3	N	B	A	8	BFV	AO	38C (C-3)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program

Valve Table

SFC - Spent Fuel Pool Cooling

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SFC*HV54A Skimmer Surge Tank TK1A Outlet	3	N	B	P	10	BFV	AO	38B (H-10)	O	O	O	PI	2Y		AOV Program
2SFC*HV54B Skimmer Surge Tank TK1B Outlet	3	N	B	P	10	BFV	AO	38A (H-4)	O	O	O	PI	2Y		AOV Program
2SFC*HV6A SFC Pump Suction Cross-Connect	3	N	B	A	10	BFV	AO	38B (J-10)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program
2SFC*HV6B SFC Pump Suction Cross-Connect	3	N	B	A	10	BFV	AO	38A (J-5)	O	C	C	FE FS-C PI ST-C	Q Q 2Y Q		AOV Program
2SFC*V11 Heat Exchanger *E1A to Pool Sparger	3	N	C	A	8	CHV	SE	38B (C-10)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
2SFC*V203 Inner Refuel Seal Leak Detection Line; Outboard Isolation	2	N	A	P	1.5	GLV	MAN	38C (F-7)	LC	C	NA	LJ-C	60		
2SFC*V204 Inner Refuel Seal Leak Detection Line; Inboard Isolation	2	N	A	P	1.5	GLV	MAN	38C (F-8)	LC	C	NA	LJ-C	60		
2SFC*V20A Spent Fuel Cooling Pump P1A Discharge Check	3	N	C	A	8	CHV	SE	38B (G-3)	OC	OC	NA	FE-F FE-R	Q Q		
2SFC*V20B Spent Fuel Cooling Pump P1ABDischarge Check	3	N	C	A	8	CHV	SE	38A (F-10)	OC	OC	NA	FE-F FE-R	Q Q		
2SFC*V9 Heat Exchanger *E1B to Pool Sparger	3	N	C	A	8	CHV	SE	38A (D-1)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component

Valve Table

SLS - Standby Liquid Injection

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SLS*HCV111 SLS Test Tank Isolation	2	N	B	P	3	GTV	MAN	36A (F-2)	LC	C	NA	PI	2Y		
2SLS*MOV1A SLC Pump 1A Suction	2	N	B	A	3	GLV	MO	36A (E-5)	C	O	As-Is	DIAG FE	OMN1 Q		
2SLS*MOV1B SLC Pump 1B Suction	2	N	B	A	3	GLV	MO	36A (E-9)	C	O	As-Is	DIAG FE	OMN1 Q		
2SLS*MOV5A SLC Pump 1A Injection Valve; Outboard Isolation	1	N	A/C	A	2	SCV	MO	36A (K-3)	C	OC	NA	DIAG FE FE-F LJ-C	OMN1 2Y R 60	 SLS-ROJ - 01 	Note - 34
2SLS*MOV5B SLC Pump 1B Injection Valve; Outboard Isolation	1	N	A/C	A	2	SCV	MO	36A (J-3)	C	OC	NA	DIAG FE FE-F LJ-C	OMN1 2Y R 60	 SLS-ROJ - 01 	Note - 34
2SLS*RV2A 2SLS*P1A Pump Discharge Relief Valve	2	N	C	A	0.75	REV	SE	36A (H-4)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
2SLS*RV2B 2SLS*P1B Pump Discharge Relief Valve	2	N	C	A	0.75	REV	SE	36A (H-7)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		
2SLS*V10 SLCS Injection Valve; Inboard Isolation	1	N	A/C	A	2	CHV	SE	36A (J-1)	OC	OC	NA	FE-F FE-R LJ-C	CMP CMP 60		Condition Monitoring Program component
2SLS*V12 Pump Discharge Check	2	N	C	A	1.5	CHV	SE	36A (H-5)	OC	OC	NA	FE-F FE-R	CMP CMP		Condition Monitoring Program component
2SLS*V14 Pump Discharge Check	2	N	C	A	1.5	CHV	SE	36A (H-8)	OC	OC	NA	FE-F FE-R	CMP CMP		Condition Monitoring Program component
2SLS*VEX3A Explosive-Actuated Injection Valve	2	N	D	A	1.5	EXV	EX	36A (J-5)	C	O	NA	EX	20% / 2Y		

Valve Table

SLS - Standby Liquid Injection

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SLS*VEX3B Explosive-Actuated Injection Valve	2	N	D	A	1.5	EXV	EX	36A (J-8)	C	O	NA	EX	20% / 2Y		

Valve Table

SVV - Main Steam Line SRV Vacuum Breakers

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SVV*RVV101 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1A (D-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV102 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1C (D-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV103 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1D (D-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV104 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1B (D-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV105 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1C (F-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV106 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1D (F-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV107 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1A (F-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV108 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1B (E-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV109 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1C (G-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV110 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1D (H-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV111 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1A (G-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV112 Main Steam SRV Vacuum Breaker	3	N	C	A	10	VRV	SE	1B (G-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		

Constellation Energy (NMP Unit 2) IST Program
Valve Table
SVV - Main Steam Line SRV Vacuum Breakers

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SVV*RVV113	3	N	C	A	10	VRV	SE	1C (I-5)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV114	3	N	C	A	10	VRV	SE	1D (J-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV115	3	N	C	A	10	VRV	SE	1A (I-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV116	3	N	C	A	10	VRV	SE	1B (H-5)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV117	3	N	C	A	10	VRV	SE	1C (J-5)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV118	3	N	C	A	10	VRV	SE	1B (J-5)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV201	3	N	C	A	10	VRV	SE	1A (D-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV202	3	N	C	A	10	VRV	SE	1C (D-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV203	3	N	C	A	10	VRV	SE	1D (D-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV204	3	N	C	A	10	VRV	SE	1B (D-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV205	3	N	C	A	10	VRV	SE	1C (F-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV206	3	N	C	A	10	VRV	SE	1D (F-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		

Valve Table

SVV - Main Steam Line SRV Vacuum Breakers

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SVV*RVV207	3	N	C	A	10	VRV	SE	1A (F-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV208	3	N	C	A	10	VRV	SE	1B (E-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV209	3	N	C	A	10	VRV	SE	1C (G-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV210	3	N	C	A	10	VRV	SE	1D (H-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV211	3	N	C	A	10	VRV	SE	1A (G-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV212	3	N	C	A	10	VRV	SE	1B (G-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV213	3	N	C	A	10	VRV	SE	1C (I-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV214	3	N	C	A	10	VRV	SE	1D (J-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV215	3	N	C	A	10	VRV	SE	1A (I-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV216	3	N	C	A	10	VRV	SE	1B (H-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV217	3	N	C	A	10	VRV	SE	1C (J-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		
2SVV*RVV218	3	N	C	A	10	VRV	SE	1B (J-6)	C	OC	NA	LL	2Y		
												RT	2Y		
Main Steam SRV Vacuum Breaker												VR	2Y		

Valve Table

SVV - Main Steam Line SRV Vacuum Breakers

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SVV*RVV301 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1A (D-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV302 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1C (D-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV303 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1D (E-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV304 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1B (D-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV305 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1C (F-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV306 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1D (G-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV307 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1A (F-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV308 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1B (E-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV309 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1C (G-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV310 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1D (I-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV311 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1A (G-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV312 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1B (G-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		

Valve Table

SVV - Main Steam Line SRV Vacuum Breakers

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SVV*RVV313 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1C (I-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV314 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1D (K-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV315 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1A (I-6)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV316 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1B (I-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV317 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1C (J-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		
2SVV*RVV318 Main Steam SRV Vacuum Breaker	3	N	C	A	2.5	VRV	SE	1B (J-5)	C	OC	NA	LL RT VR	2Y 2Y 2Y		

Valve Table

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*AOV154A Unit Cooler 2HVC*UC101A	3	N	B	A	1.5	PGV	AO	11F (H-9)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV154B Unit Cooler 2HVC*UC101B	3	N	B	A	1	PGV	AO	11F (D-8)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV20A SWP To RHR Pump 2RHS*P1A Seal Cooler	3	N	B	A	1.5	GTV	AO	11C (F-4)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV20B SWP To RHR Pumps 2RHS*P1B, C Seal Cooler	3	N	B	A	2	GTV	AO	11P (G-7)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV22A SWP From RHR Pump 2RHS*P1A Seal Cooler	3	N	B	A	1.5	GTV	AO	11C (H-3)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV22B SWP From RHR Pumps 2RHS*P1B, C Seal Cooler	3	N	B	A	2	GTV	AO	11P (J-10)	C	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV571 Unit Cooler 2HVC*UC105	3	N	B	A	1.5	PGV	AO	11F (E-4)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV572 Unit Cooler 2HVC*UC104	3	N	B	A	2.5	PGV	AO	11P (A-5)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program
2SWP*AOV573 Unit Cooler 2HVC*UC106	3	N	B	A	2	PGV	AO	11F (J-9)	OC	O	O	FE FS-O PI ST-O	Q Q 2Y Q		AOV Program

Valve Table

SWP - Service Water System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*AOV574	3	N	B	A	2	PGV	AO	11F (F-9)	OC	O	O	FE	Q		AOV Program
												FS-O	Q		
Unit Cooler 2HVC*UC107												PI	2Y		
												ST-O	Q		
2SWP*AOV581	3	N	B	A	1.5	PGV	AO	11F (B-9)	OC	O	O	FE	Q		AOV Program
												FS-O	Q		
Unit Cooler 2HVC*UC102												PI	2Y		
												ST-O	Q		
2SWP*AOV78A	3	N	B	A	2	PGV	AO	11Q (E-9)	OC	O	O	FE	Q		AOV Program
												FS-O	Q		
Unit Cooler 2HVC*UC108A												PI	2Y		
												ST-O	Q		
2SWP*AOV78B	3	N	B	A	2	PGV	AO	11Q (J-9)	OC	O	O	FE	Q		AOV Program
												FS-O	Q		
Unit Cooler 2HVC*UC108B												PI	2Y		
												ST-O	Q		
2SWP*AOV97A	3	N	B	A	6	PGV	AO	11E (D-6)	C	O	O	FE	Q		AOV Program
												FS-O	Q		
Unit Cooler 2HVC*UC413A												PI	2Y		
												ST-O	Q		
2SWP*AOV97B	3	N	B	A	6	PGV	AO	11F (I-5)	C	O	O	FE	Q		AOV Program
												FS-O	Q		
Unit Cooler 2HVC*UC413B												PI	2Y		
												ST-O	Q		
2SWP*FV47A	3	N	B	A	30	BFV	HO	11H (G-7)	O	C	C	FE	Q		
												FS-C	Q		
SWP Header A to CWS Isolation												ST-C	Q		
2SWP*FV47B	3	N	B	A	30	BFV	HO	11H (E-7)	O	C	C	FE	Q		
												FS-C	Q		
SWP Header B to CWS Isolation												ST-C	Q		
2SWP*FV54A	3	N	B	A	30	BFV	HO	11H (G-8)	O	C	C	FE	Q		
												FS-C	Q		
Flow Control Valve For SWP Header A												ST-C	Q		
2SWP*FV54B	3	N	B	A	30	BFV	HO	11H (D-9)	O	C	C	FE	Q		
												FS-C	Q		
Flow Control Valve For SWP Header ¿B¿												ST-C	Q		

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*MOV15A Unit Cooler 2HVR*UC403A	3	N	B	P	2.5	GTV	MO	11P (G-2)	O	O	As-Is	PI	2Y		
2SWP*MOV15B Unit Cooler 2HVR*UC403B	3	N	B	P	2	GTV	MO	11G (B-7)	O	O	As-Is	PI	2Y		
2SWP*MOV17A SWP to SFC Heat Exchanger 1A	3	N	B	A	12	GTV	MO	11P (J-3)	C	O	As-Is	DIAG FE	OMN1 R		
2SWP*MOV17B SWP to SFC Heat Exchanger 1B	3	N	B	A	12	GTV	MO	11G (J-8)	C	O	As-Is	DIAG FE	OMN1 R		
2SWP*MOV18A SWP from SFC Heat Exchanger 1A	3	N	B	A	12	GTV	MO	11P (J-4)	C	O	As-Is	DIAG FE	OMN1 R		
2SWP*MOV18B SWP from SFC Heat Exchanger 1B	3	N	B	A	12	GTV	MO	11G (I-9)	C	O	As-Is	DIAG FE	OMN1 R		
2SWP*MOV19A SWP to CCP Heat Exchangers 1A, 1B, 1C	3	N	B	A	20	BFV	MO	11D (B-3)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV19B SWP to CCP Heat Exchangers 1A, 1B, 1C	3	N	B	A	20	BFV	MO	11D (C-3)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV1A SWP Pump Strainer Flush	3	N	B	A	4	BLV	MO	11B (E-5)	OC	OC	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV1B SWP Pump Strainer Flush	3	N	B	A	4	BLV	MO	11A (J-2)	OC	OC	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV1C SWP Pump Strainer Flush	3	N	B	A	4	BLV	MO	11A (J-7)	OC	OC	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV1D SWP Pump Strainer Flush	3	N	B	A	4	BLV	MO	11A (F-2)	OC	OC	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV1E SWP Pump Strainer Flush	3	N	B	A	4	BLV	MO	11B (K-5)	OC	OC	As-Is	DIAG FE	OMN1 2Y		

Valve Table

SWP - Service Water System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*MOV1F SWP Pump Strainer Flush	3	N	B	A	4	BLV	MO	11A (F-7)	OC	OC	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV21A SFC Makeup Isolation	3	N	B	A	3	GTV	MO	11E (H-3)	C	O	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV21B SFC Makeup Isolation	3	N	B	A	3	GTV	MO	11F (H-2)	C	O	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV30A North Intake Bay Shaft Isolation	3	N	B	A	72	ROGTV	MO	11H (D-4)	O	C	As-Is	FE PI ST-C	Q 2Y Q		
2SWP*MOV30B South Intake Bay Shaft Isolation	3	N	B	A	72	ROGTV	MO	11H (D-4)	O	C	As-Is	FE PI ST-C	Q 2Y Q		
2SWP*MOV33A RHR Heat Exchanger 1A Outlet Isolation.	3	N	B	A	18	BFV	MO	11C (K-6)	C	O	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV33B RHR Heat Exchanger 1B Outlet Isolation.	3	N	B	A	18	BFV	MO	11P (E-10)	C	O	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV3A Turbine Bldg. Non-Essential Loads Isolation	3	N	B	A	30	BFV	MO	11B (K-3)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV3B Turbine Bldg. Non-Essential Loads Isolation	3	N	B	A	30	BFV	MO	11B (K-3)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV50A Header Cross-Connect Isolation	3	N	B	A	36	BFV	MO	11A (H-6)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV50B Header Cross-Connect Isolation	3	N	B	A	36	BFV	MO	11A (G-6)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV599 SWP to CWS Isolation	3	N	B	A	30	BFV	MO	11H (B-8)	OC	C	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV66A SWP From Diesel Generator Cooler, EG1	3	N	B	A	8	GTV	MO	11L (B-6)	C	O	As-Is	DIAG FE	OMN1 Q		

Valve Table

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*MOV66B SWP From Diesel Generator Cooler, EG3	3	N	B	A	8	GTV	MO	11L (E-6)	C	O	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV67A SWP Inlet to Chiller HVK*CHL1A	3	N	B	A	4	GTV	MO	11J (I-2)	OC	O	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV67B SWP Inlet to Chiller HVK*CHL1B	3	N	B	A	4	GTV	MO	11J (D-2)	OC	O	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV74A Pump Discharge Valve	3	N	B	A	18	BFV	MO	11B (E-3)	OC	OC	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV74B Pump Discharge Valve	3	N	B	A	18	BFV	MO	11A (J-2)	OC	OC	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV74C Pump Discharge Valve	3	N	B	A	18	BFV	MO	11A (J-7)	OC	OC	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV74D Pump Discharge Valve	3	N	B	A	18	BFV	MO	11A (E-2)	OC	OC	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV74E Pump Discharge Valve	3	N	B	A	18	BFV	MO	11B (J-4)	OC	OC	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV74F Pump Discharge Valve	3	N	B	A	18	BFV	MO	11A (E-7)	OC	OC	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV77A Traveling Screen Bypass	3	N	B	A	54	ROGTV	MO	11H (D-3)	C	O	As-Is	FE PI ST-O	Q 2Y Q		
2SWP*MOV77B Traveling Screen Bypass	3	N	B	A	54	ROGTV	MO	11H (D-3)	C	O	As-Is	FE PI ST-O	Q 2Y Q		
2SWP*MOV90A RHR Heat Exchanger 1A Inlet	3	N	B	A	18	BFV	MO	11C (K-4)	C	O	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV90B RHR Heat Exchanger 1B Inlet	3	N	B	A	18	BFV	MO	11P (E-8)	C	O	As-Is	DIAG FE	OMN1 Q		

Valve Table

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*MOV93A SWP to CWS Isolation	3	N	B	A	24	BFV	MO	11H (J-10)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV93B SWP to CWS Isolation	3	N	B	A	24	BFV	MO	11J (H-10)	O	C	As-Is	DIAG FE	OMN1 CS		
2SWP*MOV94A SWP from HPCS Diesel Cooler Outlet	3	N	B	A	8	GTV	MO	11L (I-8)	C	O	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV94B SWP from HPCS Diesel Cooler Outlet	3	N	B	A	8	GTV	MO	11L (H-7)	C	O	As-Is	DIAG FE	OMN1 Q		
2SWP*MOV95A Div. I -- SWP to HPCS Diesel Cooler Inlet	3	N	B	A	8	GTV	MO	11L (C-2)	O	C	As-Is	DIAG FE	OMN1 2Y		
2SWP*MOV95B Div. II SWP to HPCS Diesel Cooler Inlet	3	N	B	A	8	GTV	MO	11L (F-3)	O	C	As-Is	DIAG FE	OMN1 2Y		
2SWP*RV10A 2HVR*UC402A Thermal Relief	3	N	C	A	0.75	REV	SE	11C (F-6)	C	O	NA	RVTh	10Y		
2SWP*RV10B 2HVR*UC402B Thermal Relief	3	N	C	A	0.75	REV	SE	11C (F-5)	C	O	NA	RVTh	10Y		
2SWP*RV11A Switchgear Room; 2HVR*UC409A Thermal Relief	3	N	C	A	0.75	REV	SE	11F (C-3)	C	O	NA	RVTh	10Y		
2SWP*RV11B Switchgear Room; 2HVR*UC409B Thermal Relief	3	N	C	A	0.75	REV	SE	11F (B-3)	C	O	NA	RVTh	10Y		
2SWP*RV155A RCIC Pump Room; 2HVR*UC412A Thermal Relief	3	N	C	A	0.75	REV	SE	11P (F-3)	C	O	NA	RVTh	10Y		
2SWP*RV155B RCIC Pump Room; 2HVR*UC412B Thermal Relief	3	N	C	A	0.75	REV	SE	11G (K-8)	C	O	NA	RVTh	10Y		
2SWP*RV202A 2HVP*UC1A Thermal Relief	3	N	C	A	0.75	REV	SE	11L (B-4)	C	O	NA	RVTh	10Y		

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*RV202B 2HVP*UC1B Thermal Relief	3	N	C	A	0.75	REV	SE	11L (E-4)	C	O	NA	RVTh	10Y		
2SWP*RV203 2HVP*UC2 Thermal Relief	3	N	C	A	0.75	REV	SE	11L (I-4)	C	O	NA	RVTh	10Y		
2SWP*RV27A Division I Diesel Cooler Relief	3	N	C	A	0.75	REV	SE	11L (C-5)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2SWP*RV27B Division II Diesel Cooler Relief	3	N	C	A	0	REV	SE	11L (F-5)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2SWP*RV34A Heat Exchanger 2RHS*E1A Relief	3	N	C	A	4	REV	SE	11C (L-5)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2SWP*RV34B Heat Exchanger 2RHS*EBA Relief	3	N	C	A	4	REV	SE	11P (E-8)	C	O	NA	LA LL RT VT	10Y-S 10Y-S 10Y-S 10Y-S		Note - 01
2SWP*RV515 CSH Switchgear Room; 2HVC*UC102 Thermal Relief	3	Y	C	A	0.75	REV	SE	11F (B-7)	C	O	NA	RVTh	10Y		
2SWP*RV518 HPCS Generator Cooler, 2EGS*EG2 Thermal Relief	3	Y	C	A	0.75	REV	SE	11L (J-5)	C	O	NA	RVTh	10Y		
2SWP*RV53A 2HCV*UC108A Thermal Relief	3	Y	C	A	0.75	REV	SE	11Q (B-7)	C	O	NA	RVTh	10Y		
2SWP*RV53B 2HCV*UC108B Thermal Relief	3	N	C	A	0.75	REV	SE	11Q (H-7)	C	O	NA	RVTh	10Y		
2SWP*RV556 RHS Heat Exchanger Room; 2HVR*UC405 Thermal Relief	3	Y	C	A	0.75	REV	SE	11L (E-9)	C	O	NA	RVTh	10Y		

SWP - Service Water System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*RV558	3	Y	C	A	0.75	REV	SE	11P (G-8)	C	O	NA	RVTh	10Y		
RHS Heat Exchanger Room; 2HVR*UC406 Thermal Relief															
2SWP*RV564	3	Y	C	A	0.75	REV	SE	11P (B-3)	C	O	NA	RVTh	10Y		
Electrical Tunnel; 2HVC*UC104 Thermal Relief															
2SWP*RV566	3	Y	C	A	0.75	REV	SE	11F (E-3)	C	O	NA	RVTh	10Y		
Electrical Tunnel; 2HVC*UC105 Thermal Relief															
2SWP*RV575	3	Y	C	A	0.75	REV	SE	11F (J-7)	C	O	NA	RVTh	10Y		
2HVC*UC106 Thermal Relief															
2SWP*RV576	3	Y	C	A	0.75	REV	SE	11F (F-7)	C	O	NA	RVTh	10Y		
2HVC*UC107 Thermal Relief															
2SWP*RV58A	3	Y	C	A	0.75	REV	SE	11J (H-6)	C	O	NA	RVTh	10Y		
Control & Relay Room Chiller; 2HVK*CHL1A Thermal Relief															
2SWP*RV58B	3	N	C	A	0.75	REV	SE	11J (D-6)	C	O	NA	RVTh	10Y		
Control & Relay Room Chiller; 2HVK*CHL1B Thermal Relief															
2SWP*RV68A	3	Y	C	A	0.75	REV	SE	11E (K-3)	C	O	NA	RVTh	10Y		
2HVR*UC414A Thermal Relief															
2SWP*RV68B	3	N	C	A	0.75	REV	SE	11G (I-4)	C	O	NA	RVTh	10Y		
2HVR*UC414B Thermal Relief															
2SWP*RV72A	3	Y	C	A	0.75	REV	SE	11M (J-8)	C	O	NA	RVTh	10Y		
2HVR*UC415A Thermal Relief															
2SWP*RV72B	3	N	C	A	0.75	REV	SE	11F (I-2)	C	O	NA	RVTh	10Y		
2HVR*UC415B Thermal Relief															
2SWP*RV80A	3	Y	C	A	0.75	REV	SE	11L (B-9)	C	O	NA	RVTh	10Y		
RHS Pump Room; 2HVR*UC401A Thermal Relief															
2SWP*RV80B	3	N	C	A	0.75	REV	SE	11G (C-4)	C	O	NA	RVTh	10Y		
RHS Pump Room; 2HVR*UC401B Thermal Relief															

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*RV80C RHS Pump Room; 2HVR*UC401C Thermal Relief	3	N	C	A	0.75	REV	SE	11P (G-9)	C	O	NA	RVTh	10Y		
2SWP*RV80D RHS Pump Room; 2HVR*UC401D Thermal Relief	3	N	C	A	0.75	REV	SE	11L (C-9)	C	O	NA	RVTh	10Y		
2SWP*RV80E RHS Pump Room; 2HVR*UC401E Thermal Relief	3	N	C	A	0.75	REV	SE	11G (D-4)	C	O	NA	RVTh	10Y		
2SWP*RV80F RHS Pump Room; 2HVR*UC401F Thermal Relief	3	N	C	A	0.75	REV	SE	11B (H-9)	C	O	NA	RVTh	10Y		
2SWP*RV81A CSH Pump Room; 2HVR*UC403A Thermal Relief	3	Y	C	A	0.75	REV	SE	11P (H-3)	C	O	NA	RVTh	10Y		
2SWP*RV81B CSH Pump Room; 2HVR*UC403B Thermal Relief	3	N	C	A	0.75	REV	SE	11G (D-8)	C	O	NA	RVTh	10Y		
2SWP*RV82A 2HVR*UC404A Thermal Relief	3	Y	C	A	0.75	REV	SE	11P (E-3)	C	O	NA	RVTh	10Y		
2SWP*RV82B 2HVR*UC404B Thermal Relief	3	N	C	A	0.75	REV	SE	11P (C-3)	C	O	NA	RVTh	10Y		
2SWP*RV82C 2HVR*UC404C Thermal Relief	3	N	C	A	0.75	REV	SE	11P (B-10)	C	O	NA	RVTh	10Y		
2SWP*RV82D 2HVR*UC404D Thermal Relief	3	N	C	A	0.75	REV	SE	11G (G-8)	C	O	NA	RVTh	10Y		
2SWP*RV83A 2HVR*UC407A Thermal Relief	3	Y	C	A	0.75	REV	SE	11P (L-6)	C	O	NA	RVTh	10Y		
2SWP*RV83B 2HVR*UC407B Thermal Relief	3	N	C	A	0.75	REV	SE	11P (M-6)	C	O	NA	RVTh	10Y		
2SWP*RV83C 2HVR*UC407C Thermal Relief	3	N	C	A	0.75	REV	SE	11P (J-6)	C	O	NA	RVTh	10Y		

Valve Table

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*RV83D 2HVR*UC407D Thermal Relief	3	N	C	A	0.75	REV	SE	11F (A-3)	C	O	NA	RVTh	10Y		
2SWP*RV83E 2HVR*UC407E Thermal Relief	3	N	C	A	0.75	REV	SE	11G (E-4)	C	O	NA	RVTh	10Y		
2SWP*RV84A 2HVR*UC410A Thermal Relief	3	Y	C	A	0.75	REV	SE	11M (L-8)	C	O	NA	RVTh	10Y		
2SWP*RV84B 2HVR*UC410B Thermal Relief	3	N	C	A	0.75	REV	SE	11P (C-3)	C	O	NA	RVTh	10Y		
2SWP*RV84C 2HVR*UC410C Thermal Relief	3	N	C	A	0.75	REV	SE	11G (G-4)	C	O	NA	RVTh	10Y		
2SWP*RV85A 2HVR*UC411A Thermal Relief	3	Y	C	A	0.75	REV	SE	11E (I-3)	C	O	NA	RVTh	10Y		
2SWP*RV85B 2HVR*UC411B Thermal Relief	3	N	C	A	0.75	REV	SE	11F (D-3)	C	O	NA	RVTh	10Y		
2SWP*RV85C 2HVR*UC411C Thermal Relief	3	N	C	A	0.75	REV	SE	11G (J-4)	C	O	NA	RVTh	10Y		
2SWP*RV87A Standby Switchgear Room; 2HVR*UC101A Thermal Relief	3	Y	C	A	0.75	REV	SE	11F (I-7)	C	O	NA	RVTh	10Y		
2SWP*RV87B Standby Switchgear Room; 2HVR*UC101B Thermal Relief	3	N	C	A	0.75	REV	SE	11F (D-7)	C	O	NA	RVTh	10Y		
2SWP*RV89A Chiller Room; 2HVC*UC103A Thermal Relief	3	Y	C	A	0.75	REV	SE	11J (G-3)	C	O	NA	RVTh	10Y		
2SWP*RV89B Chiller Room; 2HVC*UC103B Thermal Relief	3	N	C	A	0.75	REV	SE	11J (B-2)	C	O	NA	RVTh	10Y		
2SWP*RV9A 2HVR*UC408A Thermal Relief	3	Y	C	A	0.75	REV	SE	11C (C-6)	C	O	NA	RVTh	10Y		

Valve Table

SWP - Service Water System

Valve ID Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*RV9B 2HVR*UC408B Thermal Relief	3	N	C	A	0.75	REV	SE	11C (C-6)	C	O	NA	RVTh	10Y		
2SWP*RVX157A SWP Pump Bay; 2HVY*UC2A Thermal Relief	3	Y	C	A	0.75	REV	SE	11M (C-5)	C	O	NA	RVTh	10Y		
2SWP*RVX157B SWP Pump Bay; 2HVY*UC2B Thermal Relief	3	N	C	A	0.75	REV	SE	11M (G-5)	C	O	NA	RVTh	10Y		
2SWP*RVX46A Reactor Bldg Recirc; 2HVR*UC413A Thermal Relief	3	Y	C	A	0.75	REV	SE	11E (D-3)	C	O	NA	RVTh	10Y		
2SWP*RVX46B Reactor Bldg Recirc; 2HVR*UC413A Thermal Relief	3	N	C	A	0.75	REV	SE	11F (K-2)	C	O	NA	RVTh	10Y		
2SWP*RVY157A SWP Pump Bay; 2HVY*UC2C Thermal Relief	3	Y	C	A	0.75	REV	SE	11M (B-5)	C	O	NA	RVTh	10Y		
2SWP*RVY157B SWP Pump Bay; 2HVY*UC2D Thermal Relief	3	N	C	A	0.75	REV	SE	11M (E-5)	C	O	NA	RVTh	10Y		
2SWP*RVY46A Reactor Bldg Recirc; 2HVR*UC413B Thermal Relief	3	Y	C	A	0.75	REV	SE	11E (B-3)	C	O	NA	RVTh	10Y		
2SWP*RVY46B Reactor Bldg Recirc; 2HVR*UC413B Thermal Relief	3	N	C	A	0.75	REV	SE	11F (J-2)	C	O	NA	RVTh	10Y		
2SWP*TV35A Control and Relay Room Chiller 2HVK*CHL1A Service Water Temperature Control Valve	3	N	B	A	4	FCV	EH	11J (G-7)	OC	O	NA	FE FS-O ST-O	Q Q Q		
2SWP*TV35B Control and Relay Room Chiller 2HVK*CHL1A Service Water Temperature Control Valve	3	N	B	A	4	FCV	EH	11J (C-7)	OC	O	NA	FE FS-O ST-O	Q Q Q		
2SWP*V1002A Cross-Connect to SFC; no HVR*UC	3	N	C	A	3	CHV	SE	11E (H-2)	OC	O	NA	DI PE-F	CMP R		Condition Monitoring Program component
2SWP*V1002B Cross-Connect to SFC; no HVR*UC	3	N	C	A	3	CHV	SE	11F (H-2)	OC	O	NA	DI PE-F	CMP R		Condition Monitoring Program component

Constellation Energy (NMP Unit 2) IST Program
Valve Table
SWP - Service Water System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*V1024	3	N	C	A	6	SWCV	SE	11E (H-2)	OC	OC	NA	FE-F	Q		CKV Program
												FE-R	Q		
Header Supply to RB; 2HVR*UC413A & MOV21A to SFC															
2SWP*V1025	3	N	C	A	6	SWCV	SE	11F (I-1)	OC	OC	NA	DI	R		CKV Program
												FE-F	Q		
SWP To RB Recirc; 2HVR*UC413B												FE-R	Q		
												PE-F	Q		
												PE-R	Q		
2SWP*V1027	3	N	C	A	30	TDCV	SE	11A (B-7)	OC	OC	NA	FE-F	CS	SWP-CSJ - 01	CKV Program
												FE-R	CS	SWP-CSJ - 01	
Header Check															
2SWP*V1194	3	N	C	A	6	CHV	SE	N/A (N/A)	OC	C	NA	BDT-O	2Y		
												FE-R	R	SWP-ROJ - 01	
Chemical Cleaning Check Valve															
2SWP*V1195	3	N	C	A	6	CHV	SE	N/A (N/A)	OC	C	NA	BDT-O	2Y		
												FE-R	R	SWP-ROJ - 01	
Chemical Cleaning Check Valve															
2SWP*V1196	3	N	C	A	6	CHV	SE	N/A (N/A)	OC	C	NA	BDT-O	2Y		
												FE-R	R	SWP-ROJ - 01	
Chemical Cleaning Check Valve															
2SWP*V1197	3	N	C	A	6	CHV	SE	N/A (N/A)	OC	C	NA	BDT-O	2Y		
												FE-R	R	SWP-ROJ - 01	
Chemical Cleaning Check Valve															
2SWP*V1A	3	N	C	A	18	TDCV	SE	11B (E-8)	OC	OC	NA	FE-F	Q		CKV Program
												FE-R	Q		
Pump Discharge Check															
2SWP*V1B	3	N	C	A	18	TDCV	SE	11A (J-5)	OC	OC	NA	FE-F	Q		CKV Program
												FE-R	Q		
Pump Discharge Check															
2SWP*V1C	3	N	C	A	18	TDCV	SE	11A (J-9)	OC	OC	NA	FE-F	Q		CKV Program
												FE-R	Q		
Pump Discharge Check															
2SWP*V1D	3	N	C	A	18	TDCV	SE	11A (F-4)	OC	OC	NA	FE-F	Q		CKV Program
												FE-R	Q		
Pump Discharge Check															
2SWP*V1E	3	N	C	A	18	TDCV	SE	11B (J-8)	OC	OC	NA	FE-F	Q		CKV Program
												FE-R	Q		
Pump Discharge Check															

Valve Table

SWP - Service Water System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2SWP*V1F Pump Discharge Check	3	N	C	A	18	TDCV	SE	11A (F-10)	OC	OC	NA	FE-F FE-R	Q Q		CKV Program
2SWP*V202A Header Check	3	N	C	A	30	TDCV	SE	11A (B-7)	OC	OC	NA	FE-F FE-R	CMP CMP	SWP-CSJ - 01 SWP-CSJ - 01	Condition Monitoring Program component
2SWP*V202B Non-Essential Return to CWS	3	N	C	A	30	TDCV	SE	11H (C-8)	OC	C	NA	BDT-O FE-R	Q Q		CKV Program
2SWP*V219A Supply to Control Room Chiller; HVK*CHL1A	3	N	C	A	4	SWCV	SE	11J (I-3)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
2SWP*V219B Supply to Control Room Chiller; HVK*CHL1B	3	N	C	A	4	SWCV	SE	11J (D-3)	OC	O	NA	BDT-C FE-F	CMP CMP		Condition Monitoring Program component
2SWP*V240A Control Room Chiller Temperature Control Recirc; HVK*CHL1A	3	N	C	A	4	CHV	SE	11J (J-5)	OC	OC	NA	FE-F FE-R	Q Q		
2SWP*V240B Control Room Chiller Temperature Control Recirc; HVK*CHL1B	3	N	C	A	4	CHV	SE	11J (E-5)	OC	OC	NA	FE-F FE-R	Q Q		
2SWP*V259 Supply to HPCS Diesel HX & HVP*UC2	3	N	C	A	8	SWCV	SE	11L (I-3)	OC	OC	NA	FE-F FE-R	Q Q		CKV Program
2SWP*V260 Supply to HPCS Diesel HX & HVP*UC2	3	N	C	A	8	SWCV	SE	11L (I-3)	OC	OC	NA	FE-F FE-R	Q Q		CKV Program

Valve Table

WCS - Reactor Water Cleanup System

Valve ID / Description	Class	Aug.	Cat.	A/P	Size	Valve Type	Actuator Type	Drawing & Coord	Position Normal	Position Safety	Position Fail-Safe	Required Test	Frequency	RR/CSJ/ROJ	Comments / Notes
2WCS*EFV221 Instrument Line to 2WCS-FT134	2	N	C	A	0.75	EFV	SE	37A (G-7)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2WCS*EFV222 Instrument Line to 2WCS*FT67X; PDS115	2	N	C	A	0.75	EFV	SE	37A (G-5)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2WCS*EFV223 Instrument Line to 2WCS*FT67Y	2	N	C	A	0.75	EFV	SE	37A (H-4)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2WCS*EFV224 Instrument Line to 2WCS*FT67Y	2	N	C	A	0.75	EFV	SE	37A (H-3)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2WCS*EFV300 Instrument Line to 2WCS*FT67X; PDS115	2	N	C	A	0.75	EFV	SE	37A (G-6)	O	C	NA	FE PI	10Y-S 10Y-S	GV-RR - 08	
2WCS*MOV102 RWCU Inlet from RCS; Inboard Isolation	1	N	A	A	8	GLV	MO	37A (F-5)	O	C	As-Is	DIAG FE LJ-C	OMN1 CS 30		Note - 02
2WCS*MOV112 RWCU Inlet from RCS; Outboard Isolation	1	N	A	A	8	GLV	MO	37A (G-5)	O	C	As-Is	DIAG FE LJ-C	OMN1 CS 60		Note - 02
2WCS*MOV200 RWCU Return to FWS; Outboard Isolation	1	N	A	A	8	GLV	MO	37B (G-5)	O	C	As-Is	DIAG FE LJ-C	OMN1 CS 60		
2WCS-RV139 Regen. HX 2WCS-E2 Tube Side Relief	3	Y	C	A	0.75	REV	SE	37B (I-6)	C	O	N/A	RVTh	10Y		

SECTION IIIB

UNIT 2 COLD SHUTDOWN AND REFUEL OUTAGE JUSTIFICATIONS

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

GSN-CSJ-01

Component ID	Class	Cat.	System	Label
2GSN*V70A	3	C	GTS	Receiver 2IAS*TK4 Inlet Check
2GSN*V70B	3	C	GTS	Receiver 2IAS*TK5 Inlet Check
2GSN*V75A	3	C	GTS	Emergency Nitrogen Makeup
2GSN*V75B	3	C	GTS	Emergency Nitrogen Makeup

FUNCTION:

Valves 2GSN*V70A & 2GSN*V70B open to permit filling the ADS nitrogen receivers, 2IAS*TK4 and *TK5. The valves close to maintain receiver pressure.

Valves 2GSN*V75A & 2GSN*V75B open to allow emergency N2 flow from the tube trailer through emergency supply connections.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

The GSN system supplies nitrogen to ADS accumulators to ensure their operability during and after a design basis accident. System leak tight integrity is an essential requirement for system operability. This system is leak-rate tested in accordance with USAR 6.3.4.2.2 at least every refueling outage. Performing the quarterly exercise tests takes approximately 4 hours and requires breaking the system integrity by removing flanges and opening instrument lines. Valve exercising requires several manual valve manipulations, and the supply line piping must be opened. As the result of an excessive nitrogen leakage event following this surveillance test, NMP has determined that the risk and potential consequences associated with the challenges to system integrity as a result of exercising these valves quarterly is not practical.

ALTERNATE TESTING:

The subject valves shall be exercised during cold shutdown when ADS and GSN system operability is not required.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

IAS-CSJ-01

Component ID	Class	Cat.	System	Label
2IAS*V1605	3	A/C	IAS	2IAS*TK45 Inlet (MSS*AOV7A)
2IAS*V1606	3	A/C	IAS	2IAS*TK46 Inlet (MSS*AOV7B)
2IAS*V1607	3	A/C	IAS	2IAS*TK47 Inlet (MSS*AOV7C)
2IAS*V1608	3	A/C	IAS	2IAS*TK48 Inlet (MSS*AOV7D)

FUNCTION:

Outboard MSIV accumulator air inlet check valves must close to maintain accumulator pressure.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

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 outboard MSIVs are inside the steam tunnel. Access to this area is restricted during power operation due to high radiation levels in the steam tunnel. This testing also requires isolating the air/nitrogen supply to the inboard MSIVs, which could eventually cause the valves to close. This test requires the plant to be in a cold shutdown condition when the steam tunnel is accessible and the plant will not be adversely affected by a potential MSIV closure.

ALTERNATE TESTING:

Reverse flow closure testing of the outboard MSIV accumulator check valves will be performed during cold shutdown when the steam tunnel is accessible and the plant will not be adversely affected by a potential MSIV closure.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

ICS-CSJ-01

Component ID	Class	Cat.	System	Label
2ICS*V156	1	A/C	ICS	RCIC Injection (F066); Outboard Isolation

FUNCTION:

RCIC injection line outboard containment isolation check valve must open to allow RCIC flow to the vessel.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

This is a swing check valve operated by system flow or by using a mechanical exerciser when the differential pressure across the valve is zero. The use of system flow to exercise this valve 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 may exist across the testable check valve. During normal plant operation pressure monitoring is performed on the piping located downstream of 2ICS*V156 to ensure the piping remains water filled for RCIC to be operable. In the event line pressure drops to less than or equal to 50 psig actions are taken to refill the piping which partially opens the check valve to a very small degree. This partial stroking is only performed when downstream piping pressure conditions require the line to be filled. This activity is not routinely performed and is not a considered for quarterly partial stroke exercising due to the limited performance and the fractional disc movement that is of little value for degradation detection.

ALTERNATE TESTING:

Forward flow exercising will be performed using shutdown cooling flow or a mechanical exerciser. This testing will be performed during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

MSS-CSJ-01

Component ID	Class	Cat.	System	Label
2MSS*AOV6A	1	A	MSS	Main Steam Isolation Valve; Inboard Isolation
2MSS*AOV6B	1	A	MSS	Main Steam Isolation Valve; Inboard Isolation
2MSS*AOV6C	1	A	MSS	Main Steam Isolation Valve; Inboard Isolation
2MSS*AOV6D	1	A	MSS	Main Steam Isolation Valve; Inboard Isolation
2MSS*AOV7A	1	A	MSS	Main Steam Isolation Valve; Outboard Isolation
2MSS*AOV7B	1	A	MSS	Main Steam Isolation Valve; Outboard Isolation
2MSS*AOV7C	1	A	MSS	Main Steam Isolation Valve; Outboard Isolation
2MSS*AOV7D	1	A	MSS	Main Steam Isolation Valve; Outboard Isolation

FUNCTION:

Main steam line inside and outside primary containment isolation valves must close to provide containment isolation in the event of a main steam line break or DBA-LOCA.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

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.

ALTERNATE TESTING:

The MSIVs will be full-stroke exercised during cold shutdown conditions.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RCS-CSJ-01

Component ID	Class	Cat.	System	Label
2RCS*SOV65A	2	B	RCS	HPU to RCS Flow Control Valve A
2RCS*SOV65B	2	B	RCS	HPU to RCS Flow Control Valve B
2RCS*SOV66A	2	B	RCS	HPU to RCS Flow Control Valve A
2RCS*SOV66B	2	B	RCS	HPU to RCS Flow Control Valve B
2RCS*SOV67A	2	B	RCS	HPU to RCS Flow Control Valve A
2RCS*SOV67B	2	B	RCS	HPU to RCS Flow Control Valve B
2RCS*SOV68A	2	B	RCS	HPU from RCS Flow Control Valve A
2RCS*SOV68B	2	B	RCS	HPU from RCS Flow Control Valve B
2RCS*SOV79A	2	B	RCS	HPU to RCS Flow Control Valve A
2RCS*SOV79B	2	B	RCS	HPU to RCS Flow Control Valve B
2RCS*SOV80A	2	B	RCS	HPU to RCS Flow Control Valve A
2RCS*SOV80B	2	B	RCS	HPU to RCS Flow Control Valve B
2RCS*SOV81A	2	B	RCS	HPU to RCS Flow Control Valve A
2RCS*SOV81B	2	B	RCS	HPU to RCS Flow Control Valve B
2RCS*SOV82A	2	B	RCS	HPU from RCS Flow Control Valve A
2RCS*SOV82B	2	B	RCS	HPU from RCS Flow Control Valve B

FUNCTION:

Containment isolation valves on the Recirculation Flow Control Valve hydraulic lines must close to provide primary containment isolation.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves control the flow of hydraulic fluid to the reactor coolant recirculation flow control valves. 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. The operating circuitry of these valves only permits full stroke operation.

ALTERNATE TESTING:

The valves will be full-stroke exercised during cold shutdown conditions.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RHS-CSJ-01

Component ID	Class	Cat.	System	Label
2RHS*V143	1	C	RHS	RHR Head Spray

FUNCTION:

RHR system reactor vessel head spray line check valve must open and allow flow when shutdown cooling is placed in service.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Forward flow exercising of this valve would require the flow of water from the RHR system to the ICS system through valve 2RHS*MOV104. There is an interlock on 2RHS*MOV104, which is not permitted to be defeated by Technical Specifications. Therefore, forward flow exercise testing can only be accomplished at cold shutdown.

ALTERNATE TESTING:

The valve will be forward flow exercised during cold shutdown conditions.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

SWP-CSJ-01

Component ID	Class	Cat.	System	Label
2SWP*V1027	3	C	SWP	Header Check
2SWP*V202A	3	C	SWP	Header Check

FUNCTION:

These valves must open to supply service water to the reactor building loads. They must close to prevent reverse flow through the service water system and 2SWP*V202A also closes to prevent draining the upper section of the SWP system piping during a loss of offsite power, which aids in preventing water hammer on a pump restart after trip.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

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." Forward exercise testing 2SWP*V202A would require closing one of the safety related to non-safety related isolation valves (2SWP*MOV3A or 2SWP*MOV3B). Forward exercise testing of 2SWP*V1027 would require closing one of the SWP header cross connect valves (2SWP*MOV50A or 2SWP*MOV50B). Closing 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.

Reverse flow closure of the check 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 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 Division A pumps. 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.

ALTERNATE TESTING:

Full forward flow exercising and reverse flow exercising of these valves will be performed during cold shutdowns.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

ADH-ROJ-01

Component ID	Class	Cat.	System	Label
2ADH*V21A	3	C	ADH	Return From Cooling Tower; Required for Sec. CT Integrity; 6.92 in.H2O
2ADH*V21B	3	C	ADH	Return From Cooling Tower; Required for Sec. CT Integrity; 6.92 in.H2O
2ADH*V22A	3	C	ADH	Heat Exchanger to Cooling Tower; Required for Sec. CT Integrity; 6.92 in.
2ADH*V22B	3	C	ADH	Heat Exchanger to Cooling Tower; Required for Sec. CT Integrity; 6.92 in.

FUNCTION:

Provide secondary containment integrity when alternate decay heat removal is in service.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Testing these valves requires opening manual valves in the ADH lines. Opening the manual valves would violate Secondary Containment integrity. Therefore, the ADH check valves cannot be tested when secondary containment integrity is required. Simple check valves cannot be partially stroked closed.

ALTERNATE TESTING:

These valves shall be tested as part of the Reactor Building drawdown tests performed each refueling outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

CCP-ROJ-01

Component ID	Class	Cat.	System	Label
2CCP*V996	3	C	CCP	Alternate Drywell Cooling
2CCP*V997	3	C	CCP	Alternate Drywell Cooling
2CCP*V998	3	C	CCP	Alternate Drywell Cooling
2CCP*V999	3	C	CCP	Alternate Drywell Cooling

FUNCTION:

Provide secondary containment integrity when alternate drywell cooling is in service.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These spring-loaded check valves are located inside the reactor building at the penetrations of the inlet and outlet piping of the RBCLW system. The valves are arranged in pairs. Test connections are not available to allow individual valve closure testing. The valves are not in service during plant operation. During normal plant operation, secondary containment integrity is maintained by safety-related blind flanges on the outboard side of the reactor building penetrations. These blind flanges are installed prior to reactor startup. Therefore, the valves are not relied upon to provide secondary containment integrity except during operation of Alternate Drywell Cooling. Operation of Alternate Drywell Cooling typically occurs during refueling outages. Since these valves are not normally in service, they are not required to be tested quarterly during plant operation. If they are to be placed into service during a cold shutdown or refueling, they shall be tested within 3 months prior to placing them in an operable status.

ALTERNATE TESTING:

These valves shall be disassembled, inspected & manually exercised within 3 months prior to placing them in an operable status. This testing is not restricted to being performed only during a refueling outage. If these valves are not to be placed into service during a particular outage, no testing is required.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

CSH-ROJ-01

Component ID	Class	Cat.	System	Label
2CSH*V108	1	A/C	CSH	HPCS Injection to Reactor

FUNCTION:

HPCS discharge line inside containment isolation valve must open to inject high pressure core spray into the reactor vessel. This valve must close to provide primary containment and reactor coolant pressure boundary isolation.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

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. At power, full reactor pressure is imposed on the valve disk, causing a large differential pressure across the valve. The valve is located inside the drywell and is not accessible to be mechanically exercised except when primary containment is de-inerted. It is not practical to de-inert the containment during each cold shutdown outage solely to perform this testing. Deferring testing to refueling outages is permitted by the OM Code and NUREG-1482, Revision 1, paragraph 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing," which states: "The staff has determined that it is impractical to de-inert the containment during each cold shutdown outage solely to perform such routine testing or repair activities."

ALTERNATE TESTING:

Forward flow operability and reverse flow closure will be verified using a mechanical exerciser when the differential pressure across the valve is zero. This testing will be performed during each refueling outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

CSL-ROJ-01

Component ID	Class	Cat.	System	Label
2CSL*V101	1	A/C	CSL	LPCS Injection

FUNCTION:

LPCS injection line inside containment isolation valve must open to inject low pressure core spray into the reactor vessel. This valve must close to provide primary containment and reactor coolant pressure boundary isolation.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

This valve is a reactor coolant system pressure boundary valve. It provides isolation between high and low pressure CSL piping. The check valve can be operated either by using system flow through 2CSL*MOV104 or by using a mechanical exerciser when the differential pressure across the valve is zero. During normal plant operation, these conditions cannot be achieved. The valve is located inside the drywell and is not accessible to be mechanically exercised except when primary containment is de-inerted. It is not practical to de-inert the containment during each cold shutdown outage solely to perform this testing. Deferring testing to refueling outages is permitted by the OM Code and NUREG-1482, Revision 1, paragraph 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing," which states: "The staff has determined that it is impractical to de-inert the containment during each cold shutdown outage solely to perform such routine testing or repair activities."

ALTERNATE TESTING:

Forward flow operability and reverse flow closure will be verified using a mechanical exerciser when the differential pressure across the valve is zero. This testing will be performed during each refueling outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

GV-ROJ-01

Component ID	Class	Cat.	System	Label
2CMS*EFV10	2	C	CMS	Instrument Line to 2CMS*PI173; PS173
2CMS*EFV1A	2	C	CMS	Instrument Line to 2CMS*PT1A; *PT17B
2CMS*EFV1B	2	C	CMS	Instrument Line to 2CMS*PT1B
2CMS*EFV3A	2	C	CMS	Instrument Line to 2CMS*PT2A
2CMS*EFV3B	2	C	CMS	Instrument Line to 2CMS*PT2B
2CMS*EFV5A	2	C	CMS	Instrument Line to 2CMS*PT7A
2CMS*EFV5B	2	C	CMS	Instrument Line to 2CMS*PT7B
2CMS*EFV6	2	C	CMS	Instrument Line to 2CMS*PT168
2CMS*EFV8A	2	C	CMS	Instrument Line to 2CMS*LT9A; 11A; 114
2CMS*EFV8B	2	C	CMS	Instrument Line to 2CMS*LT9B; 11B; 105
2CMS*EFV9A	2	C	CMS	Instrument Line to 2CMS*LT9A; 11A; 114
2CMS*EFV9B	2	C	CMS	Instrument Line to 2CMS*LT9B; 11B; 105
2CSH*EFV1	2	C	CSH	Instrument Line to 2CSH*LT123; LT124
2CSH*EFV2	2	C	CSH	Instrument Line to 2CSH*LT123; LT124
2DER*EFV31	2	C	DER	Instrument Line to 2DER-PT134; RPV Head Seal Leak Detector
2IAS*EFV200	2	C	IAS	2IAS*TK33 (MSS*PSV127) Instrument Line to 2IAS*PT231
2IAS*EFV201	2	C	IAS	2IAS*TK32 (MSS*PSV121) Instrument Line to 2IAS*PT230
2IAS*EFV202	2	C	IAS	2IAS*TK34 (MSS*PSV126) Instrument Line to 2IAS*PT232
2IAS*EFV203	2	C	IAS	2IAS*TK37 (MSS*PSV130) Instrument Line to 2IAS*PT235
2IAS*EFV204	2	C	IAS	2IAS*TK36 (MSS*PSV134) Instrument Line to 2IAS*PT234
2IAS*EFV205	2	C	IAS	2IAS*TK35 (MSS*PSV137) Instrument Line to 2IAS*PT233
2IAS*EFV206	2	C	IAS	2IAS*TK38 (MSS*PSV129) Instrument Line to 2IAS*PT236
2ISC*EFV12	2	C	ISC	Instrument Line to 2ISC*PT15B; 17B; 17D
2ISC*EFV16	2	C	ISC	Instrument Line to 2ISC*PT15A; 16A; 16C
2ISC*EFV19	2	C	ISC	Instrument Line to 2ISC*PT15D; 17A; 17C
2ISC*EFV9	2	C	ISC	Instrument Line to 2ISC*PT15C; 16B; 16D
2RCS*EFV44A	2	C	RCS	Instrument Line to 2RCS*PT84A
2RCS*EFV44B	2	C	RCS	Instrument Line to 2RCS*PT84B

FUNCTION:

Prevent excess flow in the event of an instrument line break outside the primary containment.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

GV-ROJ-01

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, 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) or high temperature (>200°F) and highly contaminated reactor coolant. The remainder of the valves process side is the containment atmosphere, which is inerted during operation, or is compressed air / nitrogen supply to a safety-related valve. Testing one of these excess flow check valves could result in a loss of actuating air for the safety-related function. Therefore, the test described above cannot be accomplished during normal plant operation.

Additionally, testing many of these excess flow check valves requires access to the primary containment. It is not practical to de-inert the containment during each cold shutdown outage solely to perform this testing. Deferring testing to refueling outages is permitted by the OM Code and NUREG-1482, Revision 1, paragraph 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing," which states: "The staff has determined that it is impractical to de-inert the containment during each cold shutdown outage solely to perform such routine testing or repair activities."

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 will 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.

ALTERNATE TESTING:

Reverse flow exercise testing shall be performed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

IAS-ROJ-01

Component ID	Class	Cat.	System	Label
2IAS*V1601	3	A/C	IAS	2IAS*TK41 Inlet (MSS*AOV6A)
2IAS*V1602	3	A/C	IAS	2IAS*TK42 Inlet (MSS*AOV6B)
2IAS*V1603	3	A/C	IAS	2IAS*TK43 Inlet (MSS*AOV6C)
2IAS*V1604	3	A/C	IAS	2IAS*TK44 Inlet (MSS*AOV6D)

FUNCTION:

Inboard MSIV accumulator air inlet check valves must close to maintain accumulator pressure.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

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 are located inside the primary containment. Access to the primary containment is restricted during power operation due to the inert atmosphere in the containment. Performing this test during power operation or cold shutdown requires de-inerting the primary containment. It also requires isolating the air/nitrogen supply to the inboard MSIVs, which could eventually cause the valves to close. It is not practical to de-inert the containment during each cold shutdown outage solely to perform this testing. Deferring testing to refueling outages is permitted by the OM Code and NUREG-1482, Revision 1, paragraph 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing," which states: "The staff has determined that it is impractical to de-inert the containment during each cold shutdown outage solely to perform such routine testing or repair activities."

ALTERNATE TESTING:

Reverse flow closure testing of the inboard MSIV accumulator inlet check valves will be performed during each refueling outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

ICS-ROJ-01

Component ID	Class	Cat.	System	Label
2ICS*V156	1	A/C	ICS	RCIC Injection (F066); Outboard Isolation
2ICS*V157	1	A/C	ICS	RCIC Injection (F065); Inboard Isolation

FUNCTION:

RCIC injection line inboard containment isolation check valve must open to allow RCIC flow to the vessel. Both valves must close to provide primary containment and reactor coolant pressure boundary isolation.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These check valves operate by system flow or can be exercised with a mechanical exerciser. The use of system flow to exercise the valves 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 check valves and manual exercising is not possible. Check Valve 2ICS*V157 is located inside the drywell. A forward flow failure of 2ICS*V157 would require the drywell to be de-inerted to perform maintenance. The only practical means of verifying reverse flow closure for both check valves is by use of a mechanical exerciser or during local leak rate testing. Reverse flow closure by leak rate testing requires the primary containment to be accessible. It is not practical to de-inert the containment during each cold shutdown outage solely to perform this testing. Deferring testing to refueling outages is permitted by the OM Code and NUREG-1482, Revision 1, paragraph 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing," which states: "The staff has determined that it is impractical to de-inert the containment during each cold shutdown outage solely to perform such routine testing or repair activities."

ALTERNATE TESTING:

Forward flow exercising of 2ICS*V157 will be performed by using system flow or a mechanical exerciser. Reverse flow closure of both check valves will be verified using local leak rate testing or a mechanical exerciser. This testing will be performed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RHS-ROJ-01

Component ID	Class	Cat.	System	Label
2RHS*V16A	1	A/C	RHS	LPCI Injection Inboard Check
2RHS*V16B	1	A/C	RHS	LPCI Injection Inboard Check
2RHS*V16C	1	A/C	RHS	LPCI Injection Inboard Check

FUNCTION:

RHS injection line containment isolation check valves must open to allow low pressure coolant injection flow into the reactor vessel. The valves must close to provide primary containment and reactor coolant pressure boundary isolation.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These check valves are capable of being operated either by system flow or by using a mechanical exerciser. 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. The only practical means of verifying reverse flow closure of the check valves is by use of a mechanical exerciser or during leak-rate testing. Since the RHS system is depressurized during normal operation, a differential pressure approximately equal to reactor pressure exists across the check valves. The mechanical exerciser is only capable of exercising the valve with a zero pressure differential. Reverse flow closure testing requires the primary containment to be accessible. The check valves are located inside the drywell and can only be accessed for exercising when the containment is de-inerted. It is not practical to de-inert the containment during each cold shutdown outage solely to perform this testing. Deferring testing to refueling outages is permitted by the OM Code and NUREG-1482, Revision 1, paragraph 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing," which states: "The staff has determined that it is impractical to de-inert the containment during each cold shutdown outage solely to perform such routine testing or repair activities."

ALTERNATE TESTING:

Forward flow exercising and reverse flow closure will be performed using a mechanical exerciser when the differential pressure across the valve is zero. This testing will be performed during each refueling outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

RHS-ROJ-02

Component ID	Class	Cat.	System	Label
2RHS*V39A	1	A/C	RHS	Shutdown Cooling Return to Reactor; Inboard Check
2RHS*V39B	1	A/C	RHS	Shutdown Cooling Return to Reactor; Outboard Check

FUNCTION:

RHS injection line containment isolation check valves must close to provide primary containment and reactor coolant pressure boundary isolation.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These check valves are capable of being operated either by system flow or by using a mechanical exerciser. 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. A forward flow failure would require the drywell to be de-inerted to perform maintenance. The only practical means of verifying reverse flow closure of the check valves is by use of a mechanical exerciser or during leak-rate testing. Since the RHS system is depressurized during normal operation, a differential pressure approximately equal to reactor pressure exists across the check valves. The injection isolation valves are interlocked to prevent injection at high pressure. The mechanical exerciser is only capable of exercising the valve with a zero pressure differential. Reverse flow closure testing requires the primary containment to be accessible. The check valves are located inside the drywell and can only be accessed for exercising when the containment is de-inerted. It is not practical to de-inert the containment during each cold shutdown outage solely to perform this testing. Deferring testing to refueling outages is permitted by the OM Code and NUREG-1482, Revision 1, paragraph 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing," which states: "The staff has determined that it is impractical to de-inert the containment during each cold shutdown outage solely to perform such routine testing or repair activities."

ALTERNATE TESTING:

Forward flow exercising will be performed by using system flow or a mechanical exerciser. Reverse flow closure of both check valves will be verified using local leak rate testing or a mechanical exerciser. This testing will be performed during refueling outages.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

SLS-ROJ-01

Component ID	Class	Cat.	System	Label
2SLS*MOV5A	1	A/C	SLS	SLC Pump 1A Injection Valve; Outboard Isolation
2SLS*MOV5B	1	A/C	SLS	SLC Pump 1B Injection Valve; Outboard Isolation

FUNCTION:

SLS injection outside containment isolation valves must open to inject standby liquid control into the reactor vessel. The valves must close to provide primary containment isolation.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

Since the only flow path through these valves is the injection flow path, forward flow exercising 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. There is no provision for partial stroke testing. Firing the explosive valves at every cold shutdown would produce excessive wear on the squib valve internals, and is considered impracticable. Technical specification testing further reduces the firing of the squib valves by alternating the firing between squib valves 2SLS*VEX3A&B. Therefore, forward flow testing of the check valves will be performed at refueling during the SLS injection test required by Technical Specification SR 3.7.1.8.

ALTERNATE TESTING:

Forward flow operability will be verified at refueling during the SLS injection test.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

SWP-ROJ-01

Component ID	Class	Cat.	System	Label
2SWP*V1194	3	C	SWP	Chemical Cleaning Check Valve
2SWP*V1195	3	C	SWP	Chemical Cleaning Check Valve
2SWP*V1196	3	C	SWP	Chemical Cleaning Check Valve
2SWP*V1197	3	C	SWP	Chemical Cleaning Check Valve

FUNCTION:

Provide secondary containment integrity during service water chemical cleaning.

TEST REQUIREMENT:

OM Code paragraph ISTC-3510 requires Active Category A and B valves and Category C check valves to be exercised nominally every 3 months during operation at power to the position(s) required to fulfill its function(s), except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and 5222.

BASIS:

These valves are not installed in the plant. They are on spool pieces that are stored in the Reactor Building. The secondary containment penetrations they protect are blind flanged on the inside and the outside of the reactor building wall. Therefore, these valves are part of an out-of-service system, and are not subject to quarterly testing in accordance with the Code (ISTC-3570). They are required to be tested within 3 months prior to declaring them operable, if the station elects to use service water chemical cleaning.

ALTERNATE TESTING:

These valves will be tested within 92 days prior to declaring them operable and placing them into service. If they are not to be used during a particular refueling outage, they need not be tested prior to that outage.

ACCEPTANCE CRITERIA:

REFERENCES:

APPROVAL REFERENCES:

SECTION IV

Engineering Judgment Criteria

NMPNS-IST-001
Pump & Valve In-Service Testing Program

Unit 1 Fourth 10 – Year Interval

Unit 2 – Third 10 – Year Interval

TABLE 3

Engineering Judgment Criteria for Stroke-Time Limiting Values and Required Action Ranges

Actuator Type	Reference Value (ST_{ref})	Engineering Judgment Limiting Value (LOW)	Required Action (LOW)	Required Action (HIGH)	Engineering Judgment Limiting Value (HIGH)
MOV **(REF. ISTC-5122)**	>10sec	<0.75*ST_{ref}	<0.85*ST_{ref}	>1.15*ST_{ref}	>1.25*ST_{ref}
MOV **(REF. ISTC-5122)**	≤10 sec	<0.50*ST_{ref} (1) OR ST_{ref} −1 sec. (1)	<0.75*ST_{ref} (1) OR ST_{ref} −1 sec. (1)	>1.25*ST_{ref} (1) OR ST_{ref} +1 sec. (1)	>1.50*ST_{ref} (1) OR ST_{ref} +1 sec. (1)
Power Operated Valves, Not MOV **(REF. ISTC-5114)**	>10sec	<0.50*ST_{ref}	<0.75*ST_{ref}	>1.25*ST_{ref}	>1.50*ST_{ref}
Power Operated Valves, Not MOV **(REF. ISTC-5114)**	≤10 sec	<0.25*ST_{ref}	<0.50*ST_{ref}	>1.50*ST_{ref}	>1.75*ST_{ref}
All Rapid-acting Valves (2) **(REF. ISTC-5114)**	<2 sec	0.1	0.1	2 sec.	2 sec.

(1) Whichever is greater.

(2) Valves with stroke-time reference values less than 2 seconds may be classified as fast-acting. However, classification of a valve as fast-acting is not a requirement. For further details and guidance, see ISTC-5114 and NUREG 1482, Rev. 1 section 4.2.2.

ATTACHMENT 2

PUMP AND VALVE INSERVICE TESTING PROGRAM

GENERAL PROGRAM 10 CFR 50.55a REQUESTS FOR THE

NINE MILE POINT UNIT 1 FOURTH 10-YEAR INTERVAL AND

NINE MILE POINT UNIT 2 THIRD 10-YEAR INTERVAL

The following 10 CFR 50.55a requests are included in this attachment:

GA-RR-01
GV-RR-01
GV-RR-02

Constellation Energy
Pump & Valve Inservice Testing Program Plan
Nine Mile Point Nuclear Station - Units 1 & 2

10 CFR 50.55a Request Number: GA-RR-01

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

The American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code provides the requirements for the implementation of the Inservice Testing (IST) Program.

Applicable Code Edition and Addenda:

ASME OM Code-2004 Edition

Applicable Code Requirement:

ISTA-3200(f)(3) The test plan for each successive test interval shall comply with the edition and addenda of the Section that have been adopted by the regulatory authority 12 months prior to the start of the inservice test interval, or subsequent editions and addenda that have been adopted by the regulatory authority.

Reason for Request:

The current Code edition/addenda incorporated by reference in 10CFR50.55a(b)(3) is the 2001 Edition with Addenda through OMb-2003. Nine Mile Point Nuclear Station (NMPNS) is part of the Constellation Energy fleet of nuclear plants. The other plants in the Constellation fleet have recently updated or will be updating their IST Programs within the next 2 years. Constellation's goal for uniformity and economic benefit is to have all their plants in the fleet using the same ASME Code edition/addenda for their IST Programs. Constellation Energy/Nine Mile Point Nuclear Station proposes to use the ASME OM Code-2004 Edition.

NMPNS has evaluated the differences between the ASME OM Code-2004 Edition and the 2001 Edition with Addenda through OMb-2003. The majority of the changes are editorial. The changes to Subsection ISTB for pumps are limited to table and figure number updates. The changes to Subsection ISTC for valves are predominately corrections to referenced paragraph numbers. The following differences in Subsection ISTC are noted:

1) In ISTC-3620 & ISTC-3630 the word "Nonmandatory" has been deleted where Appendix J is referenced.
2) In ISTC-3630 subparagraphs (e)(1) & (e)(2) the leakage calculation conversion values and units have been revised.

The changes to Mandatory Appendix I for relief valves are predominately corrections to referenced paragraph numbers. The following differences in Mandatory Appendix I are noted:

1) In I-3410 subparagraph (a) the words "except for on-line testing" have been deleted.
2) In I-3410 subparagraph (d) the words "refurbished in place" have been deleted.
3) In I-3410 subparagraph (d) the requirement to 'verify open and close capability' of the main disc has been eliminated.

4) In I-4120, "Compressible Fluid Services Other Than Steam," the minimum time between successive openings is reduced from 10 minutes to 5 minutes. (This change was previously made for steam service, I-4110, and liquid service, I-4130, in the ASME OMb Code-1997.)

NMPNS believes these changes to be improvements that provide an acceptable level of quality and safety compared to the requirements in the existing approved ASME OM Code. This is supported by the fact that the NRC has issued a notice in the Federal Register (72 FR 16731) of their intent to update the ASME Code referenced in 10CFR50.55a(b)(3) to the ASME OM Code-2004 Edition.

Proposed Alternative and Basis for Use:

NMPNS will use the 2004 Edition of the ASME OM Code as the Code of record for the IST Program. NMPNS will apply the following modifications and limitations in 10 CFR 50.55a(b)(3) to the 10-Year Interval IST Program:

10 CFR 50.55a(b)(3)(i) - Quality Assurance
(Note: The applicable paragraph reference for OM-Code-2004 Edition is ISTA-1400)
10 CFR 50.55a(b)(3)(ii) - Motor-Operated Valve testing
(Note: See GV-RR-01 for implementation of Code Case OMN-1)
10 CFR 50.55a(b)(3)(iv) - Appendix II
10 CFR 50.55a(b)(3)(vi) - Exercise interval for manual valves.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This relief request, upon approval, will be applied to the NMPNS Unit 1 Fourth and Unit 2 Third Ten-Year IST Intervals.

Precedent:

NRC letter, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Relief Requests for the Fourth 10-Year Inservice Testing Program for Pumps and Valves," dated June 18, 2008, has authorized a comparable relief request (also identified as GA-RR-01) for the Calvert Cliffs plants.

Constellation Energy
Pump & Valve Inservice Testing Program Plan
<u>Nine Mile Point Nuclear Station - Units 1 & 2</u>

10 CFR 50.55a Request Number: GV-RR-01

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

<u>ASME Code Component(s) Affected</u>:

Certain Motor-Operated Valves in ASME Safety Class 1, 2, and 3 systems which are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. The valves are those that include the designation "OMN1" in the "Frequency" column of the Valve Tables.

<u>Applicable Code Edition and Addenda</u>:

ASME OM Code-2004 Edition

<u>Applicable Code Requirement</u>:

ISTA-3130(b) states: "Code Cases shall be applicable to the edition and addenda specified in the test plan." The edition and addenda specified in the test plan for next Ten-Year Interval for the Nine Mile Point Nuclear Station is the ASME OM Code-2004 Edition.

<u>Reason for Request</u>:

Code Case OMN-1 contains no applicability statement. In the latest edition/addenda incorporated by reference in 10 CFR 50.55a(b)(3) (i.e., 2001 Edition with Addenda through OMb-2003), the expiration date given for OMN-1 is March 30, 2004. OMN-1 is included in the 2006 Addenda to the 2004 Edition of the OM Code with a new expiration date of March 30, 2007. The ASME OM committee has recently reaffirmed this Code Case; however, neither the 2004 Edition of the OM Code nor any Addenda have been incorporated by reference in 10 CFR 50.55a(b)(3). Paragraph 10 CFR 50.55a(b)(6) references Regulatory Guide 1.192, which conditionally approves the use of Code Case OMN-1 "in lieu of the provisions for stroke-time testing in Subsection ISTC of the 1995 Edition up to and including the 2000 Addenda of the ASME OM Code".

<u>Proposed Alternative and Basis for Use</u>:

Nine Mile Point Nuclear Station will apply the requirements of OMN-1 "Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants," including the conditions specified in Table 2 of USNRC Regulatory Guide 1.192, in lieu of the provisions for motor-operated valve testing in Subsection ISTC of the 2004 Edition of the ASME OM Code.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

<u>Duration of Proposed Alternative</u>:

This relief request, upon approval, will be applied to the NMPNS Unit 1 Fourth and Unit 2 Third Ten-Year IST Intervals.

Precedent:

NRC letter, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Relief Requests for the Fourth 10-Year Inservice Testing Program for Pumps and Valves," dated June 18, 2008, has authorized a comparable relief request (identified as GV-RR-02) for the Calvert Cliffs plants.

10 CFR 50.55a Request Number: GV-RR-02

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

<u>ASME Code Component(s) Affected</u>:

Certain control valves in ASME Safety Class 1, 2, and 3 systems which are required fail-safe to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. The valves are those that include the designation "OMN-8" in the "Comments" column of the Valve Tables.

<u>Applicable Code Edition and Addenda</u>:

ASME OM Code-2004 Edition

<u>Applicable Code Requirement</u>:

ISTA-3130(b) states: "Code Cases shall be applicable to the edition and addenda specified in the test plan." The edition and addenda specified in the test plan for next Ten-Year Interval for the Nine Mile Point Nuclear Station is the ASME OM Code-2004 Edition.

<u>Reason for Request</u>:

Code Case OMN-8 contains no applicability statement. In the latest edition/addenda incorporated by reference in 10 CFR 50.55a(b)(3) (i.e., 2001 Edition with Addenda through OMb-2003), the expiration date given for OMN-8 is November 20, 2006. OMN-8 is included in the 2006 Addenda to the 2004 Edition of the OM Code without a new expiration date. The ASME OM committee has recently reaffirmed this Code Case; however, neither the 2004 Edition of the OM Code nor any subsequent Addenda have been incorporated by reference in 10 CFR 50.55a(b)(3). Paragraph 10 CFR 50.55a(b)(6) references Regulatory Guide 1.192, which approves the use of Code Case OMN-8. Code Case OMN-8 provides an alternative to stroke time testing power-operated control valves that have only a fail safe safety function.

<u>Proposed Alternative and Basis for Use</u>:

Nine Mile Point Nuclear Station will apply the requirements of Code Case OMN-8 "Alternative Rules for Preservice and Inservice Testing of Power-Operated Valves That Are Used for System Control and Have a Safety Function per OM-10," in lieu of the provisions for power-operated control valve testing specified in paragraphs ISTC-5131, ISTC-5132, ISTC-5133(b), ISTC-5141, ISTC-5142 & ISTC-5143(b), in Subsection ISTC of the 2004 Edition of the ASME OM Code.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

<u>Duration of Proposed Alternative</u>:

This relief request, upon approval, will be applied to the NMPNS Unit 1 Fourth and Unit 2 Third Ten-Year IST Intervals.

10 CFR 50.55a Request Number: GV-RR-02

Precedent:

NRC letter, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Relief Requests for the Fourth 10-Year Inservice Testing Program for Pumps and Valves," dated June 18, 2008, has authorized a comparable relief request (identified as GV-RR-03) for the Calvert Cliffs plants.

<u>ATTACHMENT 3</u>

PUMP AND VALVE INSERVICE TESTING PROGRAM

10 CFR 50.55a REQUESTS FOR THE

NINE MILE POINT UNIT 1 FOURTH 10-YEAR INTERVAL

The following 10 CFR 50.55a requests are included in this attachment:

RBCLC-PR-01
CRD-VR-01
CTNH2O2-VR-01
CTNH2O2-VR-02

Nine Mile Point Nuclear Station, LLC
June 30, 2008

Constellation Energy
Pump & Valve Inservice Testing Program Plan
Nine Mile Point Nuclear Station - Units 1 & 2

10 CFR 50.55a Request Number: RBCLC-PR-01 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(ii)

-- Hardship or Unusual Difficulty
Without Compensating Increase in Level of Quality or Safety --

ASME Code Component(s) Affected:

Component ID	Class	Group	Label
PMP-70-01	3	A	Reactor Building Closed Loop Cooling Water #11
PMP-70-02	3	A	Reactor Building Closed Loop Cooling Water #12
PMP-70-03	3	A	Reactor Building Closed Loop Cooling Water #13

Applicable Code Edition and Addenda:

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code - 2004 Edition

Applicable Code Requirement:

ISTB-3400, Frequency of Inservice Tests & Table ISTB-3400-1:
An inservice test shall be run on each Group A pump quarterly as specified in Table ISTB-3400-1.

ISTB-5121, Group A Test Procedure:
Group A tests shall be conducted with the pump operating at a specified reference point. The test parameters shown in Table ISTB-3000-1 shall be determined and recorded as required by this paragraph.

Reason for Request:

The Reactor Building Closed Loop Cooling (RBCLC) system is not a fixed resistance system. For the RBCLC system, no pump test loops or individual pump flow instrumentation is installed. Individual pump flow can only be determined by measuring system flow rate. The system flow rate and differential pressure are a function of the number of pumps running and system heat loads. During normal plant operations, system heat loads prevent removing the RBCLC system from service. Operating conditions do not permit single pump operation at repeatable test conditions to allow individual pump parameters (i.e., flow rate and differential pressure) to be measured.

Therefore, during normal plant operation, operating a single RBCLC pump at a fixed reference condition (per ISTB-5121) to perform a Group A test (per ISTB-3400) would require reducing system heat loads and may result in a plant shutdown to cold shutdown conditions. Complying with the Code would require Nine Mile Point Unit 1 to enter cold shutdown conditions every quarter where RBCLC system operating conditions allow single pump operation. Cold shutdown reduces system heat loads sufficiently to allow single RBCLC pump operation at a fixed reference condition and thus allows measurement of individual pump parameters (i.e., flow rate and differential pressure). Obtaining flow rate and differential pressure measurements (parameters required by Table ISTB-3000-1) for an individual RBCLC pump on a quarterly basis poses a significant hardship (plant shutdown).

Alternatively, compliance could be achieved by a major system redesign and modification such as installation of individual pump test loops with flow instrumentation. This would allow a single pump to be removed from the system flow path and operated on a test flow path at Code required fixed reference conditions. Such a major system modification would be costly and burdensome with no compensating increase in the level of quality or safety.

Proposed Alternative and Basis for Use:

Quarterly, during normal system operation, vibration (V) shall be measured for each RBCLC pump. During cold shutdowns, all the applicable parameters for a Group A test from Table ISTB-3000-1 (flow rate (Q), vibration (V), and differential pressure (DP)) shall be measured for each RBCLC pump. The comprehensive test specified in Table ISTB-3400-1 will also be performed biennially. The testing alternative described above will still allow an adequate determination of pump operational readiness and permit detection of component degradation.

Relief is requested from paragraphs ISTB-3400 and ISTB-5121 pursuant to 10CFR50.55a(a)(3)(ii) based on the hardship and burden imposed by compliance with these OM Code requirements.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

Precedents:

NRC Letter, "Nine Mile Point Nuclear Station, Unit No. 1 - Inservice Testing Relief Request PMP-RR-1 (TAC No. MB2168)", dated October 26, 2001, previously authorized this relief request as PMP-RR-1 (revision 1) for the third 10-year interval.

NRC Letter, "Request for Relief for the Third 10-Year Interval of the Pump and Valve Inservice Testing Program Plan, Nine Mile Point Nuclear Station, Unit No. 1 (TAC No. MA5957)", dated December 14, 1999, previously authorized a portion of this relief request as PMP-RR-1 (revision 0) for the third 10-year interval.

10 CFR 50.55a Request Number: CRD-VR-01 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	**Class**	**Cat.**	**Label**
IV-44.2-15	2	A	SCRAM DISCHARGE VOLUME (SDV) VENT INBOARD IV
IV-44.2-16	2	A	SDV VENT OUTBOARD IV
IV-44.2-17	2	A	SDV DRAIN OUTBOARD IV
IV-44.2-18	2	A	SDV DRAIN INBOARD IV

Applicable Code Edition and Addenda:

ASME OM Code 2004 Edition

Applicable Code Requirement:

OM Code-2004 paragraph ISTC-5131(a), Valve Stroke Testing, requires that active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

Reason for Request:

The SDV containment isolation valves (IVs) are normally open valves. These valves close on the loss of air or the de-energizing of the solenoid valves (SOV-113-275 and SOV-113-276 for IV-44.2-16 and IV-44.2-17; and SOV-113-273 and SOV-113-274 for IV-44.2-15 and IV-44.2-18). The SDV air header and valve arrangement are single failure proof. The solenoid valves are powered from either reactor trip bus 131 or 141 through fuses. Removing the fuses to fail-safe test these valves causes a scram in approximately six seconds due to the de-energizing of SOV-113-271 and SOV-113-272. Venting the scram air header due to exercising of the valves by pulling fuses subjects the control rod drives to higher differential pressures than observed during a scram at normal operating conditions. The high differential pressure applied to control rods fully inserted has resulted in equipment damage. Testing via the safety-related scram exhaust path can not be performed during power operation. The safety-related exhaust path (scram path) is through SOV-113-275 and SOV-113-276 or SOV-113-273 and SOV-113-274 exhaust ports. A test solenoid valve (SOV-113-277) was installed as a result of IE Bulletin 80-17 dated July 3, 1980, to permit fail-safe and stroke time testing without causing a scram. The test solenoid exhaust path (test path) adds a restriction that is not present in the scram path. When the test solenoid is energized, the SDV air header and valve actuators are vented through SOV-113-277. The restriction is due to exhausting air through the SOV-113-274 and SOV-113-276 air inlet supply port, since the solenoids are energized. The solenoid valve employs an internal pilot in the inlet port. Air can exhaust through the inlet port; however, the flow path is not a fixed resistance path. The variable resistance can cause variations in the quarterly stroke time measurements of the valves. These variations can result in inaccurate stroke times and mask the true valve performance. This limits the ability to accurately monitor for and detect degradation. Additionally, the test path is not the safety-related exhaust path (scram path) for the containment isolation valves.

Stroke time testing through the scram path can be performed during refueling outages. Stroke times obtained during refueling outage tests (using the scram vent path) have provided consistent accurate results. This testing method provides an accurate indication of valve performance and provides the ability to monitor for and detect degradation.

Proposed Alternative and Basis for Use:

These valves will be full stroke exercised and fail safe tested quarterly using the test solenoid valve. These valves will be stroke-time tested through the scram path during refueling outages.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

10 CFR 50.55a Request Number: CTNH2O2-VR-01 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	Class	Cat.	Label
IV-201.2-109	2	A	#11 TORUS RETURN INBOARD IV
IV-201.2-110	2	A	#11 TORUS SAMPLE INBOARD IV
IV-201.2-111	2	A	#11 TORUS SAMPLE OUTBOARD IV
IV-201.2-112	2	A	#11 TORUS RETURN OUTBOARD IV
IV-201.7-01	2	A	#11 SAMPLE STREAM B INBOARD IV
IV-201.7-02	2	A	#11 SAMPLE STREAM B OUTBOARD IV
IV-201.7-08	2	A	DW CAM SAMPLE INBOARD IV
IV-201.7-09	2	A	DW CAM SAMPLE OUTBOARD IV
IV-201.7-10	2	A	#11 DW RETURN INBOARD IV
IV-201.7-11	2	A	#11 DW RETURN OUTBOARD IV

Applicable Code Edition and Addenda:

ASME OM Code 2004 Edition

Applicable Code Requirement:

ISTC-5131 Valve Stroke Testing
(a) Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

ISTC-5132 Stroke Test Acceptance Criteria. Test results shall be compared to the reference values established in accordance with ISTC-3300, ISTC-3310, or ISTC-3320.

Reason for Request:

These pneumatically operated valves are grouped together on common control switches.

The groups are:
IV-201.7-08, IV-201.7-09, IV-201.7-10, & IV-201.7-11 and
IV-201.2-109, IV-201.2-112, IV-201.2-110, IV-201.2-111, IV-201.7-01, & IV-201.7-02

These arrangements have a common closed light (green) for a group of valves and individual open lights (red) for each valve. Reference values are established for each group by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to pre-conditioning. An individual reference value is developed for each valve in a group. A composite (group) reference value is developed by averaging the individual reference values. Typically, the individual valves reference values are within ½ second of the group reference value.

As needed, primarily after rework or repair, the individual reference values and the group reference value are re-established. This group reference value is used as a common reference value for each valve in the group. The valve stroke-time test uses switch-actuation-to-red-light-out (closed indication) for open-to-close stroke time. The stroke-time of the slowest valve is observed and recorded. Typically, the same valve in a group is not always the slowest. If the slowest valve exceeds the acceptance criterion (i.e., ± 50% of the group reference value), the group is declared inoperable. Corrective Action per ISTC-5133 is then taken.

The group reference values are <10 seconds, significantly below the Updated Final Safety Analysis Report (UFSAR) limiting value of 60 seconds. While some performance degradation is masked by this testing methodology, nuclear safety will not be compromised. Prior to any valve degrading and exceeding the limiting value of 60 seconds, the acceptance criterion would be significantly exceeded, and corrective action would be taken. The proposed alternate testing method provides an adequate capability to monitor and detect individual valve degradation prior to exceeding the UFSAR limiting value. This method provides an equivalent level of quality and safety compared to the Code required Individual valve stroke-timing.

Proposed Alternative and Basis for Use:

Establish individual reference values, group reference values, and group acceptance criteria. Stroke-time the valve groups, recording the slowest operating valve and the corresponding stroke-time. Compare the slowest valve stroke-time to the acceptance criterion to determine the valve group operability status. As necessary, take corrective actions for exceeding the acceptance criterion.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

Precedent:

NRC Safety Evaluation of Third Ten Year Interval IST Program Requests for Relief, Dated December 14, 1999, (TAC No. MA5957), authorized relief request GEN-VR-01 for the subject valves.

10 CFR 50.55a Request Number: CTNH2O2-VR-02 (Unit 1)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	Class	Cat.	Label
IV-201.2-23	2	A	#12 TORUS SAMPLE INBOARD IV
IV-201.2-24	2	A	#12 TORUS SAMPLE OUTBOARD IV
IV-201.2-29	2	A	#12 DRYWELL SAMPLE INBOARD IV
IV-201.2-30	2	A	#12 DRYWELL SAMPLE OUTBOARD IV

Applicable Code Edition and Addenda:

ASME OM Code 2004 Edition

Applicable Code Requirement:

ISTC-5151 Valve Stroke Testing
(a) Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

ISTC-5152 Stroke Test Acceptance Criteria. Test results shall be compared to the reference values established in accordance with ISTC-3300, ISTC-3310, or ISTC-3320.

Reason for Request:

These solenoid operated valves are grouped together on a common control switch.

The group is:
IV-201.2-23, IV-201.2-24, IV-201.2-29, & IV-201.2-30

This arrangement has a common closed light (green) for each pair of valves and individual open lights (red) for each valve. A reference value is established for each pair by timing the valves for at least three exercises. The exercising is conducted over a sufficient interval to prevent erroneous data due to pre-conditioning. A composite (group) reference value is developed by averaging the valve pair reference values. Individual reference values are not established. These valves stroke in less than 2 seconds and are all designated as "rapid acting" valves. A limiting value of 2 seconds is assigned to the group.

As needed, primarily after rework or repair, the valve pair reference values and the group reference value are re-established. This group reference value is used as a common reference value for each valve in the group. The valve stroke-time test uses switch-actuation-to-red-light-out (closed indication) for open-to-close stroke time. The stroke-time of the slowest valve is observed and recorded. Typically, the same valve in the group is not always the slowest. If the slowest valve exceeds the acceptance criterion (i.e., ± 50% of the group reference value or 2 second limiting value for rapid acting valves), the group is declared inoperable. Corrective Action per ISTC-5153 is then taken.

The group limiting value of 2 seconds is significantly below the UFSAR limiting value of 60 seconds. While some performance degradation is masked by this testing methodology, nuclear safety will not be compromised. Prior to any valve degrading and exceeding the limiting value of 60 seconds, the acceptance criterion would be significantly exceeded, and corrective action would be taken. The proposed alternate testing method provides an adequate capability to monitor and detect individual valve degradation prior to exceeding the UFSAR limiting value. This method provides an equivalent level of quality and safety compared to the Code required Individual valve stroke-timing.

Proposed Alternative and Basis for Use:

Establish valve pair reference values, group reference values, and group acceptance criteria. Stroke-time the valve group recording the slowest operating valve and the corresponding stroke-time. Compare the slowest valve stroke-time to the acceptance criterion to determine the valve group operability status. As necessary, take corrective actions for exceeding the acceptance criterion.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 1 Fourth 10-Year Interval.

Precedent:

NRC Safety Evaluation of Third Ten Year Interval IST Program Requests for Relief, Dated December 14, 1999, (TAC No. MA5957), authorized relief request GEN-VR-01 for a similar group of valves.

ATTACHMENT 4

PUMP AND VALVE INSERVICE TESTING PROGRAM

10 CFR 50.55a REQUEST FOR THE

NINE MILE POINT UNIT 2 THIRD 10-YEAR INTERVAL

The following 10 CFR 50.55a request is included in this attachment:

MSS-VR-01

Constellation Energy
Pump & Valve Inservice Testing Program Plan
Nine Mile Point Nuclear Station - Units 1 & 2

10 CFR 50.55a Request Number: MSS-VR-01 (Unit 2)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

-- Alternative Provides Acceptable Level of Quality and Safety --

ASME Code Component(s) Affected:

Component ID	Class	Cat.	Label
2MSS*PSV120	1	C	MAIN STEAM SAFETY RELIEF VALVE (SRV)
2MSS*PSV121	1	C	MAIN STEAM SRV (ADS*)
2MSS*PSV122	1	C	MAIN STEAM SRV
2MSS*PSV123	1	C	MAIN STEAM SRV
2MSS*PSV124	1	C	MAIN STEAM SRV
2MSS*PSV125	1	C	MAIN STEAM SRV
2MSS*PSV126	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV127	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV128	1	C	MAIN STEAM SRV
2MSS*PSV129	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV130	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV131	1	C	MAIN STEAM SRV
2MSS*PSV132	1	C	MAIN STEAM SRV
2MSS*PSV133	1	C	MAIN STEAM SRV
2MSS*PSV134	1	C	MAIN STEAM SRV (ADS)
2MSS*PSV135	1	C	MAIN STEAM SRV
2MSS*PSV136	1	C	MAIN STEAM SRV
2MSS*PSV137	1	C	MAIN STEAM SRV (ADS)

* ADS = Automatic Depressurization System

Applicable Code Edition and Addenda:

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code - 2004 Edition

Applicable Code Requirement:

ASME OM Code-2004, Mandatory Appendix I, paragraph I-1320 requires Class 1 pressure relief valves be tested at least once every 5 years with a minimum of 20% of the valves from each valve group tested within any 24-month interval. This 20% shall consist of valves that have not been tested during the current 5-year interval, if they exist. The test interval for any individual valve shall not exceed 5 years.

Reason for Request:

Pursuant to 10CFR50.55a(a)(3)(i), an alternative is proposed to the requirements of ASME OM Code-2004, Mandatory Appendix I, paragraph I-1320. Nine Mile Point Unit 2 (NMP2) has implemented a 24-month fuel cycle. When the fuel cycle was 18 months, it was possible to replace approximately one-third of the relief valves each refueling outage and meet the 5-year period requirements and the 20% in 24 months requirement. With the 24-month fuel cycle, one-half of the relief valves typically must be replaced each refueling outage to meet the 5-year period requirements.

10 CFR 50.55a Request Number: MSS-VR-01 (Unit 2)

NMP2 submits that increasing the period for Class 1 relief valves from 5 years to 3 refueling cycles (~6 years) continues to provide an acceptable level of quality and safety while restoring the operational and maintenance flexibility that was lost when the 24-month fuel cycle produced the unintended consequence of additional testing burden. This alternative period continues to provide assurance of valve operational readiness, as required by ASME OM Code-2004, Mandatory Appendix I, paragraph I-1310(b), and provides an acceptable level of quality and safety in accordance with 10CFR50.55a(a)(3)(i).

The basis for this request is as follows:
A review of the setpoint testing results for the time period from initial operation to the present (20 years), which comprises 103 data points, shows that the average setpoint change is 0.86%. This slight deviation is well within the NMP2 Improved Technical Specification surveillance requirement (SR 3.4.4.1) that the as-left setpoint be within 1% of the nameplate, and well within the as-found Code requirement of 3%. The testing of SRVs at NMP2 was taken over by the onsite test facility in 1997. There is no significant difference in the average change between the Wyle Labs data and the NMPNS onsite test facility data. A significant number of the as-found setpoints were greater than 1% above the nameplate set pressure. However, only 11 were greater than 2% above the nameplate, and only 3 exceeded the Code tolerance of 3% for the as-found setpoint test, requiring testing of additional SRVs. Two valve as-found tests were more than 3% below the nameplate set pressure. Note that there is a slight tendency toward higher as-found setpoints, but this tendency is well within both the Technical Specification and the Code requirements. The testing data indicate that setpoint history has been good with only infrequent need for Code-required additional testing. Therefore, the increased testing required by the switch to a 24 month refueling cycle (all SRVs tested in two cycles/48 months, compared to all SRVs tested in three 18-month cycles/54 months) will not result in any additional safety benefit to the plant.

Proposed Alternative and Basis for Use:

Class 1 pressure relief valves shall be tested at least once every three refueling cycles. A minimum of 20% of the valves from each valve group shall be tested within any 24 month interval. This 20% shall consist of valves that have not been tested during the current three cycle interval, if they exist. The test interval for any individual valve shall not exceed three refueling cycles.

Additionally, as required by the Code, if the setpoint of any SRV is found to be = 3% above the stamped set pressure, two additional SRVs are required to be tested for each valve found to be =3% above its stamped set pressure, which would significantly increase the rate of testing as a corrective measure.

Relief is requested pursuant to 10CFR50.55a(a)(3)(i) based on the proposed alternative providing an acceptable level of quality and safety.

Duration of Proposed Alternative:

This Relief Request, upon approval, will be applied to the NMPNS Unit 2 Third 10-Year Interval.

Precedent:

This Alternative was authorized by the NRC as GV-RR-07 on April 17, 2001 for the remainder of the second ten year interval. (Reference TAC No. MB0290)