# ATTACHMENT 3

# DRESDEN STATION THIRD TEN YEAR INSERVICE TESTING PLAN

# REVISION 3

# TABLE OF CONTENTS

## REVISION SUMMARY SHEET

| Section | Description | Page(s) | Revision | Date |
|---|---|---|---|---|
| | **INFORMATION COMMON TO PUMPS AND VALVES** | | | |
| 1 | Table of Contents | 1-1 | 3 | 08/95 |
| 2 | Revision Summary Sheet | 2-1 | 3 | 08/95 |
| 3 | Introduction and Plan Description | 3-1 to 3-11 | 3 | 08/95 |
| 4 | List of IST P&ID's | 4-1 to 4-2 | 3 | 08/95 |
| | **PUMPS** | | | |
| | Pump Listing by EPN: | | | |
| 5 | ASME Class 1, 2, and 3 Pumps | 5-1 to 5-7 | 3 | 08/95 |
| 6 | Augmented IST Pumps | 6-1 to 6-2 | 3 | 08/95 |
| 7 | Relief Request Index/Summaries Sheet | 7-1 | 3 | 08/95 |
| 8 | Relief Requests | 8-1 to 8-3 | * | * |
| 9 | Technical Approach and Position Index/Summaries | 9-1 | 3 | 08/95 |
| 10 | Technical Approach and Positions | 10-1 to 10-3 | * | * |
| | **VALVES** | | | |
| | Valve Listing by EPN | | | |
| 11 | ASME Class 1, 2, and 3 Valves | 11-1 to 11-122 | 3 | 08/95 |
| 12 | Augmented IST Valves | 12-1 to 12-67 | 3 | 08/95 |
| 13 | Relief Requests Index/Summaries | 13-1 to 13-4 | 3 | 08/95 |
| 14 | Relief Requests | 14-1 to 14-44 | * | * |
| 15 | Technical Approach and Position Index/Summaries | 15-1 to 15-2 | 3 | 08/95 |
| 16 | Technical Approach and Positions | 16-1 to 16-18 | * | * |
| 17 | Cold Shutdown Justifications Index/Summaries | 17-1 | 3 | 08/95 |
| 18 | Cold Shutdown Justifications | 18-1 to 18-10 | * | * |

* The current revision/date for each individual Relief Request, Technical Approach & Position and Cold Shutdown Justification is listed on the Index/Summary Sheet for these sections.

## INTRODUCTION AND PLAN DESCRIPTION



1. Introduction

1.1 This Inservice Testing Plan outlines the requirements for the Inservice Testing of Class 1, 2, and 3 pumps and valves and certain non-code class pumps and valves at Dresden Nuclear Power Station, Units 2 and 3.

1.2 This Inservice Testing Plan will be effective from March 1, 1992 through and including February 28, 2002, which represents the third ten-year interval of the Inservice Testing Program for Dresden Nuclear Power Station, Units 2 and 3.

1.3 The key features of this plan are the following:

1.3.1 The pump and valve listing that define the scope of the Inservice Testing Plan.

1.3.2 Relief Requests (R.R.). Pursuant to 10CFR50.55a(f)(6)(i), relief requests have been included when specific requirements in the Code are considered impractical. The enclosed relief requests are subject to change throughout the inspection interval. If testing requirements are determined to be impractical during the course of the interval, additional or modified relief requests will be submitted in accordance with 10CFR50.55a(f)(6)(i), NRC Generic Letter 89-04, and NUREG-1482.

1.3.3 Technical Approach and Positions (T.A.&P.). When the requirements of the Code are not easily interpreted, Dresden Station has reviewed general licensing and regulatory requirements and industry practice to determine a practical method of implementing each Code requirement. The Technical Approach and Position documents in this Plan have been provided to clarify Dresden Station's implementation of the Code.

Per J. E. Dyer (USNRC) to T. J. Kovach letter, "SAFETY EVALUATION (SE) OF THE INSERVICE TESTING PROGRAM RELIEF REQUESTS FOR PUMPS AND VALVES, DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 (TAC NOS. M82898 AND M82899)", dated December 17, 1992, Relief Requests for Non-Code items are not reviewed by the NRC. For this reason, testing methodologies for these items, which do not meet code requirements, will be placed in Technical Approach and Positions.

1.3.4 Cold Shutdown Justifications (C.S.J.) (Valves only). In accordance with Article IWV-3412 or IWV-3522 of the Code, Dresden will full stroke exercise certain valves during Cold Shutdown if the valve cannot be exercised during normal operation. The technical justification for exercising a valve during Cold Shutdown rather than normal operation is provided in the Cold Shutdown Justification.

1.4 Administrative procedures, surveillance testing procedures, reference value test results, and other records required to define and execute the Inservice Testing Program are all retained at Dresden Station.

## 2. Basis of Inservice Testing Program

2.1 This Plan was developed in accordance with the requirements delineated in the July 31, 1991 issue of 10 CFR 50.55a, the 1986 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsection IWV, and ANSI/ASME OMa-1988 PART 6. Specifically:

ANSI/ASME OMa-1988 PART 6 is used to establish the pump monitoring and testing requirements and allowable ranges for all pumps. ASME Section XI, Subsection IWP will not be used.

Subsection IWV is used to establish all valve testing requirements with the exception of OMa-1988, Part 10, Sections 4.2.1.2(g) and 4.3.2.2(g). These OM-10 sections govern cold shutdown testing requirements.

2.2 The commercial service dates for Dresden 2 and 3 are June 9, 1972 and November 16, 1971, respectively. The NRC has granted permission for establishment of November 1, 1978 as the common implementation date for the Inservice Testing Plan for both units [1]. The November 1, 1978 implementation date began the Third Inspection Period of the First Inspection Interval.

2.3 The Second Inspection Interval for both Units is from March 1, 1982 through February 28, 1992,

2.4 The Third Inspection Interval for both Units is form March 1, 1992 through February 28, 2002.

2.5 Augmented Inservice Testing (AIST) is performed on pumps and valves at the request of the NRC. These AIST requirements are in addition to the ASME Code requirements.

## 3. System Classification

3.1 The construction permits for Dresden Units 2 and 3 were issued on January 10, 1966 and October 14, 1966 respectively. At that time, the ASME Boiler and Pressure Vessel Code covered only nuclear vessels and associated piping up to and including the first isolation or check valve. Piping, pumps, and valves were built primarily to the rules of USAS B31.1.0-1967, Power Piping. Consequently, the Dresden Station Inservice Testing Program does not contain any ASME Section III, Code Class 1, 2, or 3 systems.

[1] Letter from V. Stello, NRC, to C. Reed, CECo, dated May 5, 1978.

## INTRODUCTION AND PLAN DESCRIPTION



System Classification (Con't)

3.2 The system classifications for the Inservice Inspection and Testing Programs are based on the requirements of 10 CFR 50 and Regulatory Guide 1.26, Revision 3. These classifications were developed for the sole purpose of assigning the appropriate inservice testing requirements for water, steam, and radioactive waste containing components.

3.3 Components within the reactor coolant pressure boundary, as defined in 10 CFR 50.2, are designated as Inservice Inspection Class 1, while other safety related components are designated as Inservice Inspection Class 2 or 3 in accordance with the guidelines of Regulatory Guide 1.26, Revision 3. Pursuant to 10 CFR 50.55a, paragraph (a)(1), the inservice testing requirements of the ASME Boiler and Pressure Vessel Code, Section XI are assigned to these components, within the constraints of existing plant design.

4. Contents of Inservice Testing Plan

4.1 SECTION - 1 Table of Contents
Provides the organizational format for the Inservice Testing Plan.

4.2 SECTION - 2 Revision Summary Sheet
Provides the revision status of the effective pages in the Inservice Testing Plan.

4.3 SECTION 3 - Introduction and Plan Description
Provides details on the scope, basis, and contents of the Inservice Testing Plan.

4.4 SECTION 4 - List of IST Systems and P&IDs
Provides a listing of all applicable systems, system numbers and Piping and Instrumentation Diagrams (P&IDs) that contain pumps and valves subject to testing under this Plan.

4.5 SECTION 5 - Class 1, 2, and 3 Pump Listing
Provides a listing of all ASME Class 1, 2, and 3 pumps sorted by Equipment Piece Number (EPN).

4.6 SECTION 6 - Augmented Pump Listing
Provides a listing of all Augmented pumps requiring testing by the NRC.

4.7 SECTION 7 - Pump Relief Request Index/Summaries
Provides a summary and the revision status of all relief requests related to Inservice Testing of pumps.

## INTRODUCTION AND PLAN DESCRIPTION



Contents of Inservice Testing Plan (Con't)

4.8 **SECTION 8 - Relief Requests, Pumps**
This section contains Relief Requests written in accordance with 10 CFR 50.55a(f)(6)(i) when specific OMa-1988, Part 6 requirements for Inservice Testing of Pumps are considered impractical.

Relief Request numbers are in the following format:

RP-NNX

Where; RP: Relief Request for Pump Inservice Testing

NN: The first two numbers of the EPN are used for system dependent Relief Requests. The Number 00 is used for Relief Requests applying to more than one system.

| | | |
|---|---|---|
| NN = | 00 | General Issues |
| | 11 | Standby Liquid Control (SBLC) |
| | 14 | Core Spray |
| | 15 | LPCI/CCSW |
| | 19 | Fuel Pool Cooling |
| | 23 | High Pressure Coolant Injection (HPCI) |
| | 39 | Diesel Cooling Water |
| | 52 | Diesel Oil |

X: A unique, sequential alphabetical character used for identifying multiple Relief Requests on the same system. X = A for the first Relief Requests, B for the second ...

4.9 **SECTION 9 - Pump Technical Approach and Position Index/Summaries**
Provides a summary and the revision status of all Technical Approach and Positions related to Inservice Testing of Pumps.

4.10 **SECTION 10 - Technical Approach and Positions, Pumps**
This section contains the Technical Approach and Position documents provided to clarify Dresden Station's implementation of ASME Section XI requirements for Inservice Testing of pumps.

Where; TP: Technical Approach and Position for Pump Inservice Testing.

## INTRODUCTION AND PLAN DESCRIPTION



Contents of Inservice Testing Plan (Con't)

NN: The first two numbers of the EPN are used for system dependent Technical Approach and Positions. The Number 00 is used for Technical Approach and Position applying to more than one system.

X: A unique, sequential alphabetical character used for identifying multiple Technical Approach and Positions on the same system. X = A for the first Technical Approach, B for the second ...

4.11 **SECTION 11 - Class 1, 2, and 3 Valve Listing**
Provides a listing of all ASME Class 1, 2, and 3 valves sorted by EPN.

4.12 **SECTION 12 - Augmented Valve Listing**
Provides a listing of all Augmented valves requiring testing by the NRC.

4.13 **SECTION 13 - Valve Relief Request Index/Summaries**
Provides a summary and the revision status of all Relief Requests related to Inservice Testing of valves.

4.14 **SECTION 14 - Relief Requests, Valves**
This section contains Relief Requests written in accordance with 10CFR50.55a(f)(6)(i) when specific ASME Section XI requirements for Inservice Testing of valves are considered impractical.

Relief Requests numbers are in the following format:

RV-NNX

Where; RV: Relief Request for Valve Inservice Testing

NN: The first two numbers of the EPN are used for system dependent Relief Requests. The Number 00 is used for Relief Requests applying to more than one system.

| | | |
|---|---|---|
| NN = | 00 | General Issues |
| | 02 | Reactor Recirculation/Main Steam/Feedwater |
| | 03 | Control Rod Drive (CRD) |
| | 07 | Traversing In-Core Probe (TIP) |
| | 10 | Shutdown Cooling |
| | 11 | Standby Liquid Control (SBLC) |
| | 12 | Reactor Water Cleanup (RWCU) |
| | 13 | Isolation Condenser |
| | 14 | Core Spray |

## INTRODUCTION AND PLAN DESCRIPTION



Contents of Inservice Testing Plan (Con't)

| | |
|---|---|
| 15 | LPCI/CCSW |
| 16 | Containment & Pressure Suppression |
| 19 | Fuel Pool Cooling |
| 20 | Radwaste (Drywell Sumps) |
| 23 | High Pressure Coolant Injection (HPCI) |
| 24 | Containment Atmosphere Monitor (CAM) |
| 25 | Atmospheric Containment Atmosphere Dilution (ACAD) |
| 37 | Reactor Building Closed Cooling Water (RBCCW) |
| 39 | Diesel Cooling Water |
| 41 | Fire Protection |
| 46 | Service Air |
| 47 | Instrument Air |
| 48 | Reactor Building Equipment Drains |
| 52 | Diesel Oil |
| 54 | Off Gas |
| 57 | Reactor Building/Control Room Ventilation |
| 66 | Diesel Generator (D/G) Starting Air |
| 75 | Standby Gas Treatment (SBGT) |
| 85 | Process Sampling System |
| 89 | High Radiation Sampling System (HRSS) |
| 92 | Process Sampling System |

X: A unique, sequential alphabetical character used for identifying multiple Relief Requests on the same system. X = A for the first Relief Requests, B for the second ...

4.15 **SECTION 15 - Valve Technical Approach and Position Index/Summaries**
Provides a summary and the revision status of all Technical Approach and Positions related to the Inservice Testing of valves.

## INTRODUCTION AND PLAN DESCRIPTION



Contents of Inservice Testing Plan (Con't)

4.16 SECTION 16 - Technical Approach and Positions, Valves
This section contains the Technical Approach and Position documents provided to clarify Dresden Station's implementation of ASME Section XI requirements for Inservice Testing of valves.

Technical Approach and Position numbers are in the following format:

TV-NNX

Where; TV: Technical Approach and Position for Valve Inservice Testing

NN: The first two numbers of the EPN are used for system dependent Technical Approach and Positions. The Number 00 is used for Technical Approach and Position applying to more than one system.

X: A unique, sequential alphabetical character used for identifying multiple Technical Approach and Positions on the same system. X = A for the first Technical Approach, B for the second ...

4.17 SECTION 17 - Cold Shutdown Justifications Index/Summaries
Provides a summary and the revision status of all Cold Shutdown Justifications.

4.18 SECTION 18 - Cold Shutdown Justifications
This section contains the justifications for testing valves during Cold Shutdowns.

Cold Shutdown Justification numbers are in the following format:

CS-NNX

Where; CS: Cold Shutdown Justification for Valve Inservice Testing

NN: The first two numbers of the EPN are used for system dependent Cold Shutdown Justifications. The Number 00 is used for Cold Shutdown Justifications applying to more than one system.

X: A unique, sequential alphabetical character used for identifying multiple Cold Shutdown Justifications on the same system. X = A for the first Cold Shutdown Justification, B for the second ...

## INTRODUCTION AND PLAN DESCRIPTION



5. **Pump Format Legend**

The following abbreviations are used in the Pump Listing (Sections 5 & 6):

| FIELD | DESCRIPTION |
|---|---|
| PUMP EPN | Pump equipment part number as used on the P&ID. To differentiate between units, the pump EPN is prefixed with "2-" or "3-" for Units 2 and 3 respectively and with "2/3-" for a pump which is common to both units. |
| DESCRIPTION | Pump work description and name. |
| CLASS | 1 ASME Code Class 1.<br>2 ASME Code Class 2.<br>3 ASME Code Class 3.<br>SR Non ASME Code Class 1, 2, or 3, but is Safety-Related.<br>NSR Non ASME Code Class 1, 2, or 3, and Non Safety-Related. |
| PID | Piping and Instrumentation Drawing (P&ID) Number. All drawing numbers are prefixed with "M". Sheet numbers follow the drawing number. |
| CORD | Pump location on the P&ID. |

TEST TYPES:

| | |
|---|---|
| N | Speed of pump to be measured. N/A - Not applicable for pumps that are either synchronous or induction motor driven. |
| $P_d$ | Discharge pressure of pump to be measured. |
| $\Delta P$ | Differential pressure of pump to be measured. |
| Q | Flow rate of pump to be measured. |
| V | Vibration amplitude and velocity of pump to be measured. |
| RELIEF REQUEST | Relief Request associated with a particular test. |

## INTRODUCTION AND PLAN DESCRIPTION



**Pump Format Legend** (Con't)

TECHNICAL
POSITION Technical Approach and Position associated with a particular test.

6. **Valve Format Legend**

The following abbreviations are used in the Valve Listings (Sections 11 & 12):

| FIELD | DESCRIPTION |
|---|---|
| VALVE EPN | Valve equipment part number as used on the P&ID and in the IST Program. To differentiate between units, the valve EPN is prefixed with "2-" or "3-" for units 2 and 3 respectively and with "2/3-" for a valve which is common to both units. |
| SIZE | Nominal size of valve in inches. |
| PID | Piping and Instrumentation Drawing (P&ID) Number. All drawing numbers are prefixed with "M". Sheet numbers follow the drawing number. |
| CORD | Valve location on the P&ID. |
| CLS | 1 ASME Code Class 1.<br>2 ASME Code Class 2.<br>3 ASME Code Class 3.<br>SR Non ASME Code Class 1, 2, or 3, but is Safety-Related.<br>NSR Non ASME Code Class 1, 2, or 3, and Non Safety-Related. |
| CAT | A ASME Valve Category A.<br>B ASME Valve Category B.<br>C ASME Valve Category C.<br>D ASME Valve Category D.<br>AC Falls in both Categories A and C<br>BC Falls in both Categories B and C |
| VALVE TYPE | BTF Butterfly<br>CK Check<br>ERV Electromatic Relief<br>FCV Flow Control Valve<br>GA Gate<br>GL Globe<br>RPD Rupture Diaphragm |

## INTRODUCTION AND PLAN DESCRIPTION



**Valve Format Legend** (Con't)

| | | |
|---|---|---|
| | RV | Relief Valve |
| | SCK | Stop Check |
| | SV | Safety Valve |
| | XFC | Excess Flow Check |
| | TRV | Target Rock Valve |
| | TWV | Three Way Valve |
| ACT TYPE | AO | Air Operated |
| | EXP | Explosive Actuated |
| | MAN | Manual |
| | MO | Motor Operated |
| | SA | Self Actuated |
| | SO | Solenoid Operated |
| NOR POS | O | Valve is normally open during power operations (>1% power with mode switch in RUN) |
| | C | Valve is normally closed during power operations (>1% power with mode switch in RUN) |
| STR DIR | O | Valve stroke exercise is to the Open position |
| | C | Valve stroke exercise is to Closed position |
| | O/C | Valve stroke exercise is to both the Open and to the Closed positions |
| A/P | A | Active valve. This valve is required to change its position to accomplish its safety-related function. |
| | P | Passive valve. This valve is not required to change its position to accomplish its safety-related function. |
| TEST | AT | Valve seat leakage tested per Appendix J of 10 CFR 50 and Dresden Technical Specification Sections 3.7 and 4.7 (Containment Systems). |
| | BT | Full stroke exercise which includes measurement of stroke times from switch to light. |
| | CT-O | Check valve exercise open |
| | CT-C | Check valve exercise closed |
| | RT | Safety valve, relief valve, and rupture disk tests per ASME IWV-3510 (ANSI/ASME OM-1-1981) |
| | DT | Fire explosive charge. |
| | FST | Fail-safe test. |
| | PIT | Position indication test. |

## INTRODUCTION AND PLAN DESCRIPTION



**Valve Format Legend** (Con't)

| | | |
|---|---|---|
| TEST SCHED | OP | Tested Quarterly during normal operation. |
| | CS | Tested during Cold Shutdown. |
| | RR | Reactor refueling. For PIT, AT and DT tests, test frequency shall be at least once every 2 years. |
| | SAM | Sampling Plan Technique |
| | 5Y | 5 Year Interval |
| | 10Y | 10 Year Interval |
| REL REQ | | A relief request number is listed when a specific ASME Code requirement is determined to be impractical. |
| TECH POS. | | A Technical Approach and Position is listed when the requirements of the Code are not easily interpreted. |
| CS JUST | | A Cold Shutdown Justification is listed when stroking a valve during normal operations is determined to be impractical. |

## P&ID LISTING
## (SORTED BY SYSTEM NAME)

(Page 1 of 2)

| SYSTEM | Unit 2 P&ID | Unit 3 P&ID |
|---|---|---|
| Atmospheric Containment Atmosphere Dilution (ACAD System) | M-707, SH. 1 | M-707, SH. 2 |
| Containment Air Sampling | -- | M-1240 |
| Containment Atmosphere Monitor (CAM System) | M-706, SH. 1 | M-706, SH. 2 |
| Control Rod Drive Hydraulic Piping (CRD System) | M-34 | M-365 |
| Control Room Ventilation (HVAC) | M-3121 | M-3121 |
| Core Spray (CS System) | M-27 | M-358 |
| Diesel Start-up Air Piping | M-173 | M-173 |
| Fuel Pool Cooling (FPC System) | M-31 | M-362 |
| High Pressure Coolant Injection (HPCI System) | M-51 | M-374 |
| High Radiation Sampling System (HRSS) | M-1234, SH. 1 | M-1239, SH. 1 |
| Instrument Air | M-37, SH. 2 | M-367, SH. 2 |
| Isolation Condenser | M-28 | M-359 |
| Low Pressure Coolant Injection (LPCI System) | M-29, SH. 1 | M-360, SH. 1 |
| Containment Cooling Service Water (CCSW System) | M-29, SH. 2 | M-360, SH. 2 |
| Main Steam | M-12, SH. 1 & 2 | M-345, SH 1 & 2 |
| Nuclear Boiler & Reactor Recirculation (Recirc System) | M-26, SHs. 1 - 3 | M-357, SHs 1 - 3 |
| Offgas | M-43, SH 1 | M-371 - SH. 1 |

**P&ID LISTING (Con't)**
**(SORTED BY SYSTEM NAME)**
(Page 2 of 2)

| SYSTEM | Unit 2 P&ID | Unit 3 P&ID |
|---|---|---|
| Pressure Suppression | M-25 | M-356 |
| Reactor Building Closed Cooling Water (RBCCW System) | M-20 | M-353 |
| Reactor Building Equipment Drains | M-39 | M-369 |
| Reactor Building Ventilation | M-269 | M-529 |
| Reactor Feedwater (FW) | M-14 | M-347 |
| Reactor Water Clean-up (RWCU System) | M-30 | M-361 |
| Service Water (Diesel Generator Cooling Water also) | M-22 | M-355 |
| Shutdown Cooling (SDC System) | M-32 | M-363 |
| Standby Gas Treatment (SBGT System) | M-49 | M-49 |
| Standby Liquid Control (SBLC System) | M-33 | M-364 |
| Turbine & Diesel Oil | M-41, SH. 2 | M-41, SH 2 |

**CLASS 1, 2, & 3 PUMP LISTING**
PAGE 1 OF 7

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 2-1102A | 2A SBLC | 2 | 29 | E3 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | [redacted] | [redacted] |
| | | | | | Q | | |
| | | | | | V | RP-11B | |
| 2-1102B | 2B SBLC | 2 | 29 | E7 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | [redacted] | [redacted] |
| | | | | | Q | | |
| | | | | | V | RP-11B | |
| 2-1401A | 2A CORE SPRAY | 2 | 27 | D9 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-1401B | 2B CORE SPRAY | 2 | 27 | E7 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-1501-44A | 2A CCSW | 3 | 29 | D10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

**CLASS 1, 2, & 3 PUMP LISTING**
PAGE 2 OF 7

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 2-1501-44B | 2B CCSW | 3 | 29 | C10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-1501-44C | 2C CCSW | 3 | 29 | B10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-1501-44D | 2D CCSW | 3 | 29 | F3 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-1502A | 2A LPCI | 2 | 29 | F7 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-1502B | 2B LPCI | 2 | 29 | E3 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

**CLASS 1, 2, & 3 PUMP LISTING**
PAGE 3 OF 7

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 2-1502C | 2C LPCI | 2 | 29 | E3 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-1502D | 2D LPCI | 2 | 29 | F3 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-2302 | HPCI | 2 | 51 | A5 | N | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-3903 | DIESEL COOLING | 3 | 22 | B10 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2/3-3903 | DIESEL COOLING | 3 | 355 | A10 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

**CLASS 1, 2, & 3 PUMP LISTING**
PAGE 4 OF 7

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 2-1401-4 | ECCS KEEP FILL | 2 | 27 | E8 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | RP-14A | |
| | | | | | Q | RP-14A | |
| | | | | | V | | |
| 3-1102A | 3A SBLC | 2 | 364 | D7 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | [redacted] | [redacted] |
| | | | | | Q | | |
| | | | | | V | RP-11B | |
| 3-1102B | 3B SBLC | 2 | 364 | E7 | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | [redacted] | [redacted] |
| | | | | | Q | | |
| | | | | | V | RP-11B | |
| 3-1401A | 3A CORE SPRAY | 2 | 358 | E7 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-1401B | 3B CORE SPRAY | 2 | 358 | E9 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

**CLASS 1, 2, & 3 PUMP LISTING**
PAGE 5 OF 7

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 3-1501-44A | 3A CCSW | 3 | 360 | A10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-1501-44B | 3B CCSW | 3 | 360 | A10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-1501-44C | 3C CCSW | 3 | 360 | C10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-1501-44D | 3D CCSW | 3 | 360 | D10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-1502A | 3A LPCI | 2 | 360 | E3 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

**CLASS 1, 2, & 3 PUMP LISTING**
PAGE 6 OF 7

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 3-1502B | 3B LPCI | 2 | 360 | F3 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-1502C | 3C LPCI | 2 | 360 | E7 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-1502D | 3D LPCI | 2 | 360 | F7 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-2302 | HPCI | 2 | 374 | A5 | N | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 3-3903 | DIESEL COOLING | 3 | 355 | B10 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

**CLASS 1, 2, & 3 PUMP LISTING**
PAGE 7 OF 7

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 3-1401-4 | ECCS KEEP FILL | 2 | 358 | E8 | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | RP-14A | |
| | | | | | Q | RP-14A | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

## AUGMENTED PUMP LISTING



NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 2-1902-A | 2A FUEL POOL COOLING | NSR | 31 | 2E | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | TP-19A |
| | | | | | Q | | TP-19A |
| | | | | | V | | |
| 2-1902-B | 2B FUEL POOL COOLING | NSR | 31 | 2F | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | TP-19A |
| | | | | | Q | | TP-19A |
| | | | | | V | | |
| 2-5203 | DIESEL OIL TRANSFER | SR | 41 | E6 | N-N/A | | |
| | | | | | $P_d$ | | TP-52A |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |
| 2-2303-AOP | UNIT 2 HPCI AUX LUBE OIL PUMP | SR | NA | NA | N-N/A | | |
| | | | | | $P_d$ | | |
| | | | | | $\Delta P$ | | TP-23A |
| | | | | | Q | | TP-23A |
| | | | | | V | | |
| 2/3-5203 | DIESEL OIL TRANSFER | SR | 41 | D2 | N-N/A | | |
| | | | | | $P_d$ | | TP-52A |
| | | | | | $\Delta P$ | | |
| | | | | | Q | | |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

**AUGMENTED PUMP LISTING**
PAGE 2 OF 2

NOTE: All pumps are tested quarterly.

| PUMP EPN | DESCRIPTION | CLASS | PID | COOR | TEST TYPE* | RELIEF REQUEST | TECHNICAL POSITION |
|---|---|---|---|---|---|---|---|
| 3-1902-A | 3A FUEL POOL COOLING | NSR | 362 | 2E | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | TP-19A |
| | | | | | Q | | TP-19A |
| | | | | | V | | |
| 3-1902-B | 3B FUEL POOL COOLING | NSR | 362 | 2F | N-N/A | | |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | TP-19A |
| | | | | | Q | | TP-19A |
| | | | | | V | | |
| 3-5203 | DIESEL OIL TRANSFER | SR | 41 | B6 | N-N/A | | |
| | | | | | $P_d$ | | TP-52A |
| | | | | | $\Delta P$ | [redacted] | [redacted] |
| | | | | | Q | | |
| | | | | | V | | |
| 3-2303-AOP | UNIT 3 HPCI AUX LUBE OIL PUMP | SR | NA | NA | N-N/A | | TP-23A |
| | | | | | $P_d$ | [redacted] | [redacted] |
| | | | | | $\Delta P$ | | TP-23A |
| | | | | | Q | | TP-23A |
| | | | | | V | | |

* TEST TYPE: N - SPEED, $P_d$ - DISCHARGE PRESSURE, $\Delta P$ = DIFFERENTIAL PRESSURE, Q = FLOW, V = VIBRATION.

## PUMP RELIEF REQUEST INDEX/SUMMARIES

(Page 1 of 1)

| Relief Request | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| RP-00A | NA | 3 | 08/95 | Relief Request Deleted. SBLC specific information moved to Relief Request RP-11B. |
| RP-00B | NA | 3 | 08/95 | Relief Request Deleted. |
| RP-11A | NA | 3 | 08/95 | Relief Request Deleted. |
| RP-11B | 8-1 | 3 | 08/95 | SBLC Pumps<br>Vibration Monitor Frequency Response. |
| RP-14A | 8-2 | 3 | 08/95 | ECCS Keep Fill Pumps<br>Hydraulic parameters will not be established or measured. |
| RP-19A | NA | 3 | 08/95 | Converted to Technical Approach and Position TP-19A. |
| RP-23A | NA | 3 | 08/95 | Relief Request deleted. |
| RP-52A | NA | 3 | 08/95 | Converted to Technical Approach and Position TP-52A. |

## RELIEF REQUEST NUMBER RP-11B

(Page 1 of 1)

### DESCRIPTION

Frequency response range of vibration monitoring equipment for the Standby Liquid Control (SBLC) pumps.

### COMPONENT IDENTIFICATION/FUNCTION

| PUMP | CLASS | P&ID CORD | FUNCTION |
|---|---|---|---|
| 2-1102A | 2 | 33/D7 | Standby Liquid Control Pump |
| 2-1102B | 2 | 33/E7 | Standby Liquid Control Pump |
| 3-1102A | 2 | 364/D7 | Standby Liquid Control Pump |
| 3-1102B | 2 | 364/E7 | Standby Liquid Control Pump |

### CODE REQUIREMENT(S)

ANSI/ASME OMa-1988 PART 6 Paragraph 4.6.1.6 Frequency Response Range: The frequency response range of the vibration measuring transducers and their readout system shall be from one-third minimum pump shaft rotational speed to at least 1000 Hz.

### BASIS FOR RELIEF

The SBLC pumps operate at 420 rpm. The frequency response range requirement of ASME (1/3 minimum pump shaft rotational speed for low frequency) for these pumps is 2.3 Hz to 1000 Hz. Dresden Station has 2 vibration measurement systems. One covers 1 Hz to 500 Hz. the other covers 5 Hz to 10K Hz. The vibration results from the two response ranges cannot be added together to provide significant meaning. Commonwealth Edison's vibration analysis experts have determined that information provided by vibration analysis below 5 Hz may be of some value while above 500 Hz for slowly rotating pumps provides no significant indication of degradation.

A review of failure types shows that the failure which would occur at the highest frequency would be a bearing failure. The ball pass inner frequency at the first harmonic for the bearings in the SBLC pumps is 83.6 Hz and the frequency is still only 334.4 Hz at the fourth harmonic. Taking readings past the fourth harmonic will be of little or no benefit. Therefore, developing equipment and methodologies to determine vibration measurements at frequencies above 500 Hz places additional cost and burden on the utility without a corresponding increase in plant safety.

**ALTERNATIVE TEST**

The vibration measurements of the SBLC pumps will only be analyzed for IST purposes below 500 Hz.

## RELIEF REQUEST NUMBER RP-14A

(Page 1 of 1)

### DESCRIPTION

Relief is requested from establishing and measuring differential pressure and flow rate.

### COMPONENT IDENTIFICATION/FUNCTION

| PUMP | CLASS | P&ID CORD | FUNCTION |
|---|---|---|---|
| 2-1401-4 | 2 | 27/E8 | Unit 2 ECCS Keep Fill Pump |
| 3-1401-4 | 2 | 358/E8 | Unit 3 ECCS Keep Fill Pump |

### CODE REQUIREMENT(S)

OMa-1988, Part 6, Section 5.2: An inservice test shall be conducted with the pump operating at specified test reference conditions. The differential pressure and flow rate will be measured.

### BASIS FOR RELIEF

Instrumentation does not exist for measuring pressures or flow rates. Pump output varies with system operation and with system leakage. Establishing set flow rates for vibration measurement purposes is not practicable. System modification to provide test measuring locations and a standard test flow path places undue burden on the utility without demonstrating any increase in the level of plant safety. These pumps are in continuous operation.

The Condensate Transfer system provides an additional non-Safety Related source of water for maintaining the ECCS pump discharge headers in a filled condition.

### ALTERNATIVE TEST

Vibration measurements will be taken under normal operating conditions. Additionally, the LPCI and Core Spray systems are vented prior to each pump run and these systems have alarms that indicate if the discharge lines are not maintained full which gives further indication that the system is performing acceptably.

## PUMP TECHNICAL APPROACH AND POSITIONS INDEX/SUMMARIES

(Page 1 of 1)

| Technical Approach & Position | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| TP-00A | NA | 3 | 08/95 | Deleted. |
| TP-00B | NA | 3 | 08/95 | Deleted. |
| TP-19A | 10-1 | 3 | 08/95 | Fuel Pool Cooling Pumps<br>Hydraulic parameters will not be set due to system requirements. |
| TP-23A | 10-2 | 3 | 08/95 | HPCI Aux Oil Pump<br>Hydraulic parameters will not be set or measured. |
| TP-52A | 10-3 | 3 | 08/95 | Diesel Fuel Oil Transfer Pump<br>Suction pressure, differential pressure, and flow rate will not be measured. |

## TECHNICAL APPROACH AND POSITION NUMBER TP-19A

(Page 1 of 1)

### DESCRIPTION

Hydraulic parameters of the fuel pool cooling pumps will not be set due to the system requirements, shifting of the operating pumps will not be performed solely for the collection of IST data.

| PUMP | CLASS | P&ID CORD | FUNCTION |
|---|---|---|---|
| 2-1902-A | NSR | 31/2E | 2A Fuel Pool Cooling Pump |
| 2-1902-B | NSR | 31/2F | 2B Fuel Pool Cooling Pump |
| 3-1902-A | NSR | 362/2E | 3A Fuel Pool Cooling Pump |
| 3-1902-B | NSR | 362/2F | 3B Fuel Pool Cooling Pump |

### DISCUSSION

These pumps are required to circulate fuel pool water through the fuel pool heat exchangers, filter, and demineralizers. The system flow is maintained between 450 to 550 gpm through the use of a flow control valve and the pump discharge pressure would vary according to the cleanliness of the fuel pool filters. This flow can be maintained as long as the differential pressure across the fuel pool filters is between 1 and 30 psid. The pumps will trip on low suction pressure ($< 6$ psig) and low discharge pressure ($< 100$ psig).

Since the hydraulic parameters are dependent upon the system, i.e. differential pressure across the filters, it is impractical to determine pump performance using hydraulic parameters. The fuel pool cooling system is in continuous operation and is monitored by operations personnel. Shifting pumps causes unnecessary transients on the system including loss of the filter precoats, with no corresponding increase in the level of safety due to additional testing.

### POSITION

Pump vibration measurements will be taken quarterly on the operating pump.

## TECHNICAL APPROACH AND POSITION NUMBER TP-23A

(Page 1 of 1)

### DESCRIPTION

Standardized hydraulic flow path and parameters will not be established, and measurements of hydraulic values will not be collected.

| PUMP | CLASS | P&ID CORD | FUNCTION |
|---|---|---|---|
| 2-2303-AOP | SR | NA | HPCI Aux Lube Oil Pump |
| 3-2303-AOP | SR | NA | HPCI Aux Lube Oil Pump |

### DISCUSSION

The HPCI Auxiliary Lube Oil Pumps do not have suction or discharge pressure gauges, or flow gauges. Therefore, collection of this information cannot be performed. System modification to collect this information would place undue burden on the station without achieving a commensurate level of performance monitoring capability beyond normal operations.

### POSITION

Vibration measurements will be taken while the system is in operation.

## TECHNICAL APPROACH AND POSITION NUMBER TP-52A

(Page 1 of 1)

### DESCRIPTION

Flow rate will not be measured.

| PUMP | CLASS | P&ID CORD | FUNCTION |
|---|---|---|---|
| 2-5203 | SR | 41-2/E6 | Diesel Fuel Oil Transfer Pump |
| 2/3-5203 | SR | 41-2/D2 | Diesel Fuel Oil Transfer Pump |
| 3-5203 | SR | 41-2/B6 | Diesel Fuel Oil Transfer Pump |

### DISCUSSION

The Diesel Fuel Oil Transfer Pumps are positive displacement gear type pumps that operate at a constant speed. The pumps discharge into the top of a vented tank. The discharge piping is not provided with flow measuring devices. Measuring flow rate by change in tank level is not accurate enough to provide useful information. Modification of this system to install accurate flow rate instrumentation places unnecessary burden on the utility without providing any significant improvement in monitoring pump performance or degradation, and leads to no increase in plant safety.

### POSITION

Vibration measurements will be taken and discharge pressure will be observed. Pump discharge capacity will be verified to be adequate to fill the day tank while the diesel is operating.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0202-5A | 28 | 26-2 | 6D | 1 | B | GA | MO | O | C | A | BT | CS | | | CS-02A |
| | | | | | | | | | | | PIT | RR | | | |
| 2A RECIRC PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 2-0202-5B | 28 | 26-2 | 3C | 1 | B | GA | MO | O | C | A | BT | CS | | | CS-02A |
| | | | | | | | | | | | PIT | RR | | | |
| 2B RECIRC PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 2-0203-1A | 20 | 12-1 | 4E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 2-0203-1B | 20 | 12-1 | 4D | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 2-0203-1C | 20 | 12-1 | 4C | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 2-0203-1D | 20 | 12-1 | 4B | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0203-2A | 20 | 12-2 | 7F | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 2-0203-2B | 20 | 12-2 | 7E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 2-0203-2C | 20 | 12-2 | 7D | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 2-0203-2D | 20 | 12-2 | 7C | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 2-0203-3A | 6 | 12-1 | 7F | 1 | BC | TRV | AO/SA | C | O | A | BT | RR | RV-02A | | |
| | | | | | | | | | | | RT | RR | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 3A TARGET ROCK RELIEF/SAFETY VALVE | | | | | | | | | | | | | | | |
| 2-0203-3B | 6 | 12-1 | 7E | 1 | BC | ERV | SO | C | O | A | BT | RR | RV-02A | | |
| | | | | | | | | | | | RT | RR | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 3B ELECTROMATIC RELIEF VALVE | | | | | | | | | | | | | | | |

TEST: BT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0203-3C | 6 | 12-1 | 7C | 1 | BC | ERV | SO | C | O | A | BT<br>RT<br>PIT | RR<br>RR<br>RR | RV-02A | | |
| 3C ELECTROMATIC RELIEF VALVE | | | | | | | | | | | | | | | |
| 2-0203-3D | 6 | 12-1 | 7B | 1 | BC | ERV | SO | C | O | A | BT<br>RT<br>PIT | RR<br>RR<br>RR | RV-02A | | |
| 3D ELECTROMATIC RELIEF VALVE | | | | | | | | | | | | | | | |
| 2-0203-3E | 6 | 12-1 | 6E | 1 | BC | ERV | SO | C | O | A | BT<br>RT<br>PIT | RR<br>RR<br>RR | RV-02A | | |
| 3E ELECTROMATIC RELIEF VALVE | | | | | | | | | | | | | | | |
| 2-0203-4A | 6 | 12-1 | 8E | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |
| 2-0203-4B | 6 | 12-1 | 8E | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |
| 2-0203-4C | 6 | 12-1 | 8D | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |

TEST: X-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0203-4D | 6 | 12-1 | 8D | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |
| 2-0203-4E | 6 | 12-1 | 8C | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |
| 2-0203-4F | 6 | 12-1 | 8C | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |
| 2-0203-4G | 6 | 12-1 | 8B | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |
| 2-0203-4H | 6 | 12-1 | 8B | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY VALVE | | | | | | | | | | | | | | | |

TEST -SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0205-24 | 2.5 | 26-1 | 6E | 1 | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR HEAD COOLING INLET (INBOARD) | | | | | | | | | | | | | | | |
| 2-0205-27 | 2.5 | 26-1 | 5E | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | RR | RV-02F | | |
| | | | | | | | | | | | CT-C | RR | | | |
| REACTOR HEAD COOLING INLET CHECK | | | | | | | | | | | | | | | |
| 2-0220-1 | 2 | 12-1 | 4E | 1 | A | GL | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM LINES INBOARD DRAIN | | | | | | | | | | | | | | | |
| 2-0220-105A | 8 | 25 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| TARGET ROCK SAFETY/RELIEF VLV LINE VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-0220-105B | 8 | 25 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-0220-105C | 8 | 25 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-105D | 8 | 25 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | CS<br>CS | RV-02E | | CS-02C |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-0220-105E | 8 | 25 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | CS<br>CS | RV-02E | | CS-02C |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-0220-17A | 0.5 | 12-2 | 8E | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | <br>RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS-261-1-2E-H | | | | | | | | | | | | | | | |
| 2-0220-17B | 0.5 | 12-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | <br>RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS-261-2E-H | | | | | | | | | | | | | | | |
| 2-0220-17C | 0.5 | 12-2 | 8C | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | <br>RV-00B | | |
| FLOW-LIMITING CHECK FOR LO-DPIS-261J-M | | | | | | | | | | | | | | | |
| 2-0220-17D | 0.5 | 12-2 | 8B | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | <br>RV-00B | | |
| FLOW-LIMITING CHECK FOR LO DPIS-261-2N-S | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-18A | 0.5 | 12-2 | 8E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2A-D | | | | | | | | | | | | | | | |
| 2-0220-18B | 0.5 | 12-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2E-H | | | | | | | | | | | | | | | |
| 2-0220-18C | 0.5 | 12-2 | 8C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2J-M | | | | | | | | | | | | | | | |
| 2-0220-18D | 0.5 | 12-2 | 8B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2N-S | | | | | | | | | | | | | | | |
| 2-0220-19A | 0.5 | 26-2 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG DPT-261-5A | | | | | | | | | | | | | | | |
| 2-0220-19B | 0.5 | 26-2 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG DPT-261-5B | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-2 | 2 | 12-2 | 7E | 1 | A | GL | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM LINES OUTBOARD DRAIN | | | | | | | | | | | | | | | |
| 2-0220-20A | 0.5 | 26-2 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG DPT-261-5A+D | | | | | | | | | | | | | | | |
| 2-0220-20B | 0.5 | 26-2 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG DPT-261-5B+D | | | | | | | | | | | | | | | |
| 2-0220-21A | 0.5 | 26-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG FT-261-6A+B | | | | | | | | | | | | | | | |
| 2-0220-21B | 0.5 | 26-2 | 1D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG FT-2-261-6C | | | | | | | | | | | | | | | |
| 2-0220-22A | 0.5 | 26-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT-261-6A+B | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-22B | 0.5 | 26-2 | 1D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT-2-261-6C | | | | | | | | | | | | | | | |
| 2-0220-44 | .75 | 26-2 | 2E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RECIRC. LOOP SAMPLE (INBOARD) | | | | | | | | | | | | | | | |
| 2-0220-45 | .75 | 26-2 | 1E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RECIRC. LOOP SAMPLE (OUTBOARD) | | | | | | | | | | | | | | | |
| 2-0220-54 | 0.5 | 26-1 | 5E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PS-261-20,PI-261-20 | | | | | | | | | | | | | | | |
| 2-0220-58A | 18 | 14 | 4E | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| INBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 2-0220-58B | 18 | 14 | 4F | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| | | | | | | | | | | | CT-O | OP | | | |
| INBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-59 | 18 | 14 | 2F | 2 | C | CK | SA | O | C | A | CT-C | RR | RV-00C | | |
| OUTBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 2-0220-62A | 18 | 14 | 3E | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| OUTBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 2-0220-62B | 18 | 14 | 3F | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| | | | | | | | | | | | CT-O | OP | | | |
| OUTBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 2-0220-67A | 0.5 | 26-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34A | | | | | | | | | | | | | | | |
| 2-0220-67B | 0.5 | 26-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34A | | | | | | | | | | | | | | | |
| 2-0220-67C | 0.5 | 26-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34C | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-67D | 0.5 | 26-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34C | | | | | | | | | | | | | | | |
| 2-0220-67E | 0.5 | 26-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34B | | | | | | | | | | | | | | | |
| 2-0220-67F | 0.5 | 26-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34B | | | | | | | | | | | | | | | |
| 2-0220-67G | 0.5 | 26-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34D | | | | | | | | | | | | | | | |
| 2-0220-67H | 0.5 | 26-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 2-261-34D | | | | | | | | | | | | | | | |
| 2-0262-25A | 0.5 | 26-2 | 7B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7C | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0262-25B | 0.5 | 26-2 | 2B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7D | | | | | | | | | | | | | | | |
| 2-0262-26A | 0.5 | 26-2 | 7B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7A | | | | | | | | | | | | | | | |
| 2-0262-26B | 0.5 | 26-2 | 2B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7B | | | | | | | | | | | | | | | |
| 2-0263-2-11 | 0.5 | 26-1 | 5E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG LT-263-61. | | | | | | | | | | | | | | | |
| 2-0263-2-13A | 0.5 | 26-1 | 5D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR REF LEG TO 2202-5 | | | | | | | | | | | | | | | |
| 2-0263-2-13B | 0.5 | 26-1 | 3D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR REF LEG TO 2203-6 | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0263-2-15A | 0.5 | 26-1 | 5D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR VAR LEG TO 2202-5. | | | | | | | | | | | | | | | |
| 2-0263-2-15B | 0.5 | 26-1 | 3D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR VAR LEG TO 2202-6 | | | | | | | | | | | | | | | |
| 2-0263-2-17A | 0.5 | 26-1 | 5D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR RPV INSTRUMENTS | | | | | | | | | | | | | | | |
| 2-0263-2-17B | 0.5 | 26-1 | 3D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR RPV INSTRUMENTS | | | | | | | | | | | | | | | |
| 2-0263-2-19A | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG LT-646A. | | | | | | | | | | | | | | | |
| 2-0263-2-19B | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR INST LT-646B. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0263-2-20A | 0.5 | 26-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT 263-63A | | | | | | | | | | | | | | | |
| 2-0263-2-20B | 0.5 | 26-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR FT 263-63B | | | | | | | | | | | | | | | |
| 2-0263-2-20C | 0.5 | 26-1 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT 263-63C. | | | | | | | | | | | | | | | |
| 2-0263-2-20D | 0.5 | 26-1 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT 263-63D | | | | | | | | | | | | | | | |
| 2-0263-2-23A | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-63B | | | | | | | | | | | | | | | |
| 2-0263-2-23B | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-63A | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0263-2-23C | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-63D | | | | | | | | | | | | | | | |
| 2-0263-2-23D | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-63C | | | | | | | | | | | | | | | |
| 2-0263-2-25 | 0.5 | 26-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK ABOVE THE CORE PLATE PRESS. | | | | | | | | | | | | | | | |
| 2-0263-2-27 | 0.5 | 26-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK BELOW THE CORE PLATE PRESS. | | | | | | | | | | | | | | | |
| 2-0263-2-31B | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG FT 263-64B. | | | | | | | | | | | | | | | |
| 2-0263-2-31C | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64C. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0263-2-31D | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG FT 263-64D. | | | | | | | | | | | | | | | |
| 2-0263-2-31E | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64E. | | | | | | | | | | | | | | | |
| 2-0263-2-31G | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64G. | | | | | | | | | | | | | | | |
| 2-0263-2-31H | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64H. | | | | | | | | | | | | | | | |
| 2-0263-2-31J | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263 64J. | | | | | | | | | | | | | | | |
| 2-0263-2-31K | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64K. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0263-2-31M | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64M. | | | | | | | | | | | | | | | |
| 2-0263-2-31N | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64N. | | | | | | | | | | | | | | | |
| 2-0263-2-31P | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64P. | | | | | | | | | | | | | | | |
| 2-0263-2-31R | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64R. | | | | | | | | | | | | | | | |
| 2-0263-2-31T | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64T. | | | | | | | | | | | | | | | |
| 2-0263-2-31U | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64U. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0263-2-31V | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64V. | | | | | | | | | | | | | | | |
| 2-0263-2-31W | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64W. | | | | | | | | | | | | | | | |
| 2-0263-2-33 | 0.5 | 26-1 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG JET PUMP FT'S. | | | | | | | | | | | | | | | |
| 2-0263-42A | 0.5 | 26-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LI-262-151A. | | | | | | | | | | | | | | | |
| 2-0263-42B | 0.5 | 26-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PS-263-111B+D. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX VESSEL WATER LVL INDICATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0299-100A | 3/8 | 26-3 | 6E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'A' NARROW RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |
| 2-0299-100B | 3/8 | 26-3 | 4E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'B' NARROW RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |
| 2-0299-97A | 3/8 | 26-3 | 7E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'A' MEDIUM RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 2-0299-97B | 3/8 | 26-3 | 3E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'B' MEDIUM RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 2-0299-98A | 3/8 | 26-3 | 6E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'A' NARROW RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 2-0299-98B | 3/8 | 26-3 | 4E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'B' NARROW RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX VESSEL WATER LVL INDICATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0299-99A | 3/8 | 26-3 | 7E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS "A" MEDIUM RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |
| 2-0299-99B | 3/8 | 26-3 | 3E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS "B" MEDIUM RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/F | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0302-157A | 1 | 34 | 2F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN. | | | | | | | | | | | | | | | |
| 2-0302-157B | 1 | 34 | 5F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN | | | | | | | | | | | | | | | |
| 2-0302-158A | 1 | 34 | 2F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN | | | | | | | | | | | | | | | |
| 2-0302-158B | 1 | 34 | 5F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN | | | | | | | | | | | | | | | |
| 2-0302-160A | 1 | 34 | 1F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV VENT | | | | | | | | | | | | | | | |
| 2-0302-160B | 1 | 34 | 6F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV VENT | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0302-161A | 1 | 34 | 1F | 2 | B | GA | AO | O | C | A | BT<br>FST<br>PIT | OP<br>OP<br>RR | | | |
| SDV VENT . | | | | | | | | | | | | | | | |
| 2-0302-161B | 1 | 34 | 6F | 2 | B | GA | AO | O | C | A | BT<br>FST<br>PIT | OP<br>OP<br>RR | | | |
| SDV VENT | | | | | | | | | | | | | | | |
| 2-0305-114 | 0.5 | 34 | 9D | 2 | C | CK | SA | C | O | A | CT-O | OP | RV-03B | | |
| SCRAM DISCH RISER BALL CHECK | | | | | | | | | | | | | | | |
| 2-0305-115 | 0.5 | 34 | 0E | 1 | C | CK | SA | O | C | A | CT-C | CS | | | CS-03A |
| ACCUMULATOR CHARGING WATER CHECK | | | | | | | | | | | | | | | |
| 2-0305-126 | 0.5 | 34 | 0E | 1 | B | GA | AO | C | O | A | BT<br>FST | OP<br>OP | RV-03B | | |
| HCU SCRAM INLET | | | | | | | | | | | | | | | |
| 2-0305-127 | 0.5 | 34 | 9D | 1 | B | GA | AO | C | O | A | BT<br>FST | OP<br>OP | RV-03B | | |
| HCU SCRAM OUTLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0305-138 | 0.5 | 34 | 0C | 1 | C | CK | SA | O | C | A | CT-C | OP | | | |
| COOLING WATER BALL CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SHUTDOWN COOLING

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1001-1A | 16 | 32 | 9B | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| SDC INLET HEADER ISOLATION | | | | | | | | | | | | | | | |
| 2-1001-1B | 16 | 32 | 9E | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| SDC INLET HEADER ISOLATION | | | | | | | | | | | | | | | |
| 2-1001-2A | 14 | 32 | 8A | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| 2A SDC PUMP SUCTION | | | | | | | | | | | | | | | |
| 2-1001-2B | 14 | 32 | 8C | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| 2B SDC PUMP SUCTION | | | | | | | | | | | | | | | |
| 2-1001-2C | 14 | 32 | 8F | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| 2C SDC PUMP SUCTION | | | | | | | | | | | | | | | |
| 2-1001-5A | 14 | 32 | 1E | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| SDC OUTLET HEADER ISOLATION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SHUTDOWN COOLING

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1001-5B | 14 | 32 | 2E | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| SDC OUTLET HEADER ISOLATION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SBLC

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1101-15 | 1.5 | 33 | 3C | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | RR | RV-11A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| SBLC INJECTION CHECK | | | | | | | | | | | | | | | |
| 2-1101-16 | 1.5 | 33 | 4C | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | RR | RV-11A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| SBLC INJECTION CHECK | | | | | | | | | | | | | | | |
| 2-1101-43A | 1.5 | 33 | 6D | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| "A" SBLC PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1101-43B | 1.5 | 33 | 6E | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| "B" SBLC PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1105A | 0.5 | 33 | 4C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "A" SBLC RELIEF TO MAIN TANK | | | | | | | | | | | | | | | |
| 2-1105B | 0.5 | 33 | 4D | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "B" SBLC RELIEF TO MAIN TANK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SBLC

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1106A | 1.5 | 33 | 4C | 2 | D | GA | EXP | C | O | A | DT | SAM | | | |
| "A" SBLC SQUIB VALVE | | | | | | | | | | | | | | | |
| 2-1106B | 1.5 | 33 | 4C | 2 | D | GA | EXP | C | O | A | DT | SAM | | | |
| "B" SBLC SQUIB VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RWCU

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1201-1 | 8 | 30 | 3A | 1 | A | GA | MO | O | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| RWCU SYSTEM INLET | | | | | | | | | | | | | | | |
| 2-1201-1A | 2 | 30 | 3A | 1 | A | GL | MO | O/C | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| RWCU SYSTEM INLET BYPASS | | | | | | | | | | | | | | | |
| 2-1201-158 | 8 | 30 | 5A | 2 | C | CK | SA | O | C | A | CT-C | RR | RV-00C | | |
| RWCU TO FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 2-1201-2 | 8 | 30 | 3A | 1 | A | GA | MO | O | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| RWCU AUX PUMP BYPASS | | | | | | | | | | | | | | | |
| 2-1201-3 | 8 | 30 | 4A | 1 | A | GA | MO | C | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| RWCU AUX PUMP SUCTION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ISOLATION CONDENSER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1301-1 | 14 | 28 | 9C | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER STEAM INLET | | | | | | | | | | | | | | | |
| 2-1301-11 | 4 | 28 | 3C | 3 | C | CK | SA | C | O | A | CT-O | SAM | RV-13A | TV-00C | |
| ISO CONDENSER CONTAMINATED DEMIN FILL CHECK | | | | | | | | | | | | | | | |
| 2-1301-17 | .75 | 28 | 2A | 2 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| ISO CONDENSER VENT TO MAIN STEAM LINE | | | | | | | | | | | | | | | |
| 2-1301-2 | 14 | 28 | 0B | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER STEAM INLET | | | | | | | | | | | | | | | |
| 2-1301-20 | .75 | 28 | 3A | 2 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| ISO CONDENSER VENT TO MAIN STEAM LINE | | | | | | | | | | | | | | | |
| 2-1301-23 | 0.5 | 28 | 0C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ISOLATION CONDENSER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1301-24 | 0.5 | 28 | 0C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |
| 2-1301-29 | 0.5 | 28 | 8E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |
| 2-1301-3 | 12 | 28 | 7E | 1 | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER CONDENSATE OUTLET | | | | | | | | | | | | | | | |
| 2-1301-30 | 0.5 | 28 | 8E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |
| 2-1301-4 | 12 | 28 | 8E | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER CONDENSATE OUTLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1402-13A | 1.5 | 27 | 0C | 2 | C | SCK | SA | C | O | A | CT-O | SAM | RV-14A | TV-00C | |
| 2A CORE SPRAY PUMP MIN FLOW STOP CHECK | | | | | | | | | | | | | | | |
| 2-1402-13B | 1.5 | 27 | 7D | 2 | C | SCK | SA | C | O | A | CT-O | SAM | RV-14A | TV-00C | |
| 2B CORE SPRAY PUMP MIN FLOW STOP CHECK | | | | | | | | | | | | | | | |
| 2-1402-24A | 10 | 27 | 2B | 2 | A | GA | MO | O | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| 2A CORE SPRAY PUMP UP-STREAM INJECTION | | | | | | | | | | | | | | | |
| 2-1402-24B | 10 | 27 | 5B | 2 | A | GA | MO | O | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| 2B CORE SPRAY PUMP UP-STREAM INJECTION | | | | | | | | | | | | | | | |
| 2-1402-25A | 10 | 27 | 2C | 1 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | TV-00B | |
| 2A CORE SPRAY PUMP DOWN-STREAM INJECTION | | | | | | | | | | | | | | | |
| 2-1402-25B | 10 | 27 | 5C | 1 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | TV-00B | |
| 2B CORE SPRAY PUMP DOWN-STREAM INJECTION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1402-28A | 2 | 27 | 6D | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 2A CORE SPRAY PUMP DISCHARGE RELIEF | | | | | | | | | | | | | | | |
| 2-1402-28B | 2 | 27 | 9B | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 2B CORE SPRAY PUMP DISCHARGE RELIEF | | | | | | | | | | | | | | | |
| 2-1402-3A | 16 | 27 | 7F | 2 | B | GA | MO | O | C | A | BT<br>PIT | OP<br>RR | | | |
| 2A CORE SPRAY PUMP SUCTION FROM TORUS | | | | | | | | | | | | | | | |
| 2-1402-3B | 16 | 27 | 5F | 2 | B | GA | MO | O | C | A | BT<br>PIT | OP<br>RR | | | |
| 2B CORE SPRAY PUMP SUCTION FROM TORUS | | | | | | | | | | | | | | | |
| 2-1402-31A | 0.5 | 27 | 3D | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | RV-00B | | |
| CORE SPRAY FLOW-LIMITING CHECK | | | | | | | | | | | | | | | |
| 2-1402-31B | 0.5 | 27 | 4D | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | RV-00B | | |
| CORE SPRAY FLOW-LIMITING CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1402-34A | .75 | 27 | 8D | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY LOOP A | | | | | | | | | | | | | | | |
| 2-1402-34B | .75 | 27 | 6D | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY LOOP B | | | | | | | | | | | | | | | |
| 2-1402-36A | .75 | 27 | 8E | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY STOP CHECK | | | | | | | | | | | | | | | |
| 2-1402-36B | .75 | 27 | 6E | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY STOP CHECK | | | | | | | | | | | | | | | |
| 2-1402-38A | 1.5 | 27 | 8B | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| 2A CORE SPRAY PUMP MIN FLOW | | | | | | | | | | | | | | | |
| 2-1402-38B | 1.5 | 27 | 7C | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| 2B CORE SPRAY PUMP MIN FLOW | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1402-4A | 8 | 27 | 8B | 2 | A | GL | MO | C | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 2A CORE SPRAY PUMP TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 2-1402-4B | 8 | 27 | 8B | 2 | A | GL | MO | C | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 2B CORE SPRAY PUMP TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 2-1402-8A | 12 | 27 | 8C | 2 | C | SCK | SA | C | O | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| 2A CORE SPRAY PUMP DISCHARGE STOP CHECK | | | | | | | | | | | | | | | |
| 2-1402-8B | 12 | 27 | 7B | 2 | C | SCK | SA | C | O | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| 2B CORE SPRAY PUMP DISCHARGE STOP CHECK | | | | | | | | | | | | | | | |
| 2-1402-9A | 10 | 27 | 3C | 1 | AC | CK | SA | C | O/C | A | AT | RR | | TV-00B | |
| | | | | | | | | | | | CT-O | CS | | | CS-00A |
| | | | | | | | | | | | CT-C | RR | RV-14C | | |
| 2A CORE SPRAY INJECTION CHECK | | | | | | | | | | | | | | | |
| 2-1402-9B | 10 | 27 | 4C | 1 | AC | CK | SA | C | O/C | A | AT | RR | | TV-00B | |
| | | | | | | | | | | | CT-O | CS | | | CS-00A |
| | | | | | | | | | | | CT-C | RR | RV-14C | | |
| 2B CORE SPRAY INJECTION CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1499-14 | 1 | 358 | 8E | 2 | C | CK | SA | O/C | O | A | CT-O | OP | | | |
| U2 ECCS JOCKEY PUMP DISCHG CK VLV | | | | | | | | | | | | | | | |
| 2-1499-15 | 3/4 | 27 | 8E | 2 | C | CK | SA | O/C | O | A | CT-O | OP | | | |
| U2 ECCS JOCKEY PMP MIN FLOW CK VLV | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-1A | 10 | 29-2 | 3B | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "A" CCSW PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1501-1B | 10 | 29-2 | 3C | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "B" CCSW PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1501-1C | 10 | 29-2 | 3E | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "C" CCSW PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1501-1D | 10 | 29-2 | 3F | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "D" CCSW PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1501-11A | 18 | 29-1 | 9E | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI HEAT EXCHANGER "A" SHELL SIDE BYPASS | | | | | | | | | | | | | | | |
| 2-1501-11B | 18 | 29-1 | 2D | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI HEAT EXCHANGER "B" SHELL SIDE BYPASS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-13A | 3 | 29-1 | 7C | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP I MIN FLOW BYPASS | | | | | | | | | | | | | | | |
| 2-1501-13B | 3 | 29-1 | 2C | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP II MIN FLOW BYPASS | | | | | | | | | | | | | | | |
| 2-1501-17A | 2 | 29-1 | 8C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 2A LPCI HEAT EXCHANGER OUTLET HEADER RELIEF | | | | | | | | | | | | | | | |
| 2-1501-17B | 2 | 29-1 | 2C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 2B LPCI HEAT EXCHANGER OUTLET HEADER RELIEF | | | | | | | | | | | | | | | |
| 2-1501-18A | 6 | 29-1 | 8B | 2 | A | GL | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP I TORUS SPRAY | | | | | | | | | | | | | | | |
| 2-1501-18B | 6 | 29-1 | 2B | 2 | A | GL | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP II TORUS SPRAY | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-20A | 14 | 29-1 | 7B | 2 | A | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 2-1501-20B | 14 | 29-1 | 2B | 2 | A | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 2-1501-21A | 18 | 29-1 | 8A | 2 | B | GA | MO | O | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I INJECTION | | | | | | | | | | | | | | | |
| 2-1501-21B | 18 | 29-1 | 2A | 2 | B | GA | MO | O | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II INJECTION | | | | | | | | | | | | | | | |
| 2-1501-22A | 18 | 29-1 | 7B | 1 | A | GA | MO | C | O/C | A | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I INJECTION | | | | | | | | | | | | | | | |
| 2-1501-22B | 18 | 29-1 | 3B | 1 | A | GA | MO | C | O/C | A | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II INJECTION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-25A | 14 | 29-1 | 5B | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | CT-O | CS | | | CS-00A |
| | | | | | | | | | | | CT-C | CS | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI INJECTION CHECK | | | | | | | | | | | | | | | |
| 2-1501-25B | 14 | 29-1 | 4B | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | CT-O | CS | | | CS-00A |
| | | | | | | | | | | | CT-C | CS | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI INJECTION CHECK | | | | | | | | | | | | | | | |
| 2-1501-27A | 16 | 29-1 | 6A | 2 | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I DRYWELL SPRAY | | | | | | | | | | | | | | | |
| 2-1501-27B | 16 | 29-1 | 6A | 2 | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II DRYWELL SPRAY | | | | | | | | | | | | | | | |
| 2-1501-28A | 16 | 29-1 | 3A | 2 | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I DRYWELL SPRAY | | | | | | | | | | | | | | | |
| 2-1501-28B | 16 | 29-1 | 3A | 2 | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II DRYWELL SPRAY | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-3A | 12 | 29-1 | 8E | 3 | B | GL | MO | C | O/C | A | BT | OP | | | |
| CNMT CLG HX A TUBE SIDE DISCH MOV | | | | | | | | | | | | | | | |
| 2-1501-3B | 12 | 29-1 | F3 | 3 | B | GL | MO | C | O/C | A | BT | OP | | | |
| CNMT CLG HX B TUBE SIDE DISCH MOV | | | | | | | | | | | | | | | |
| 2-1501-32A | 18 | 29-1 | 8D | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI DISCHARGE HEADER CROSS-TIE | | | | | | | | | | | | | | | |
| 2-1501-32B | 18 | 29-1 | 2D | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI DISCHARGE HEADER CROSS-TIE | | | | | | | | | | | | | | | |
| 2-1501-38A | 14 | 29-1 | 8B | 2 | B | GL | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP I FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 2-1501-38B | 14 | 29-1 | 3B | 2 | B | GL | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP II FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-5A | 14 | 29-1 | 5E | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| "A" LPCI PUMP SUCTION | | | | | | | | | | | | | | | |
| 2-1501-5B | 14 | 29-1 | 5F | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| "B" LPCI PUMP SUCTION | | | | | | | | | | | | | | | |
| 2-1501-5C | 14 | 29-1 | 4E | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| "C" LPCI PUMP SUCTION | | | | | | | | | | | | | | | |
| 2-1501-5D | 14 | 29-1 | 4F | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| "D" LPCI PUMP SUCTION | | | | | | | | | | | | | | | |
| 2-1501-63A | 12 | 29-1 | 7E | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "A" LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1501-63B | 12 | 29-1 | 7F | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "B" LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-63C | 12 | 29-1 | 2E | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "C" LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1501-63D | 12 | 29-1 | 2F | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "D" LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1501-65A | 2 | 29-1 | 7F | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A TV-00C | | |
| "A" LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |
| 2-1501-65B | 2 | 29-1 | 7E | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A TV-00C | | |
| "B" LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |
| 2-1501-65C | 2 | 29-1 | 2E | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A TV-00C | | |
| "B" LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |
| 2-1501-65D | 2 | 29-1 | 2F | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A TV-00C | | |
| "D" LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-66A | 2 | 29-1 | 8F | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI STOP CHECK | | | | | | | | | | | | | | | |
| 2-1501-66B | 2 | 29-1 | 2F | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI STOP CHECK | | | | | | | | | | | | | | | |
| 2-1501-67A | 2 | 29-1 | 8F | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI CHECK | | | | | | | | | | | | | | | |
| 2-1501-67B | 2 | 29-1 | 2F | 2 | C | CK | SA | O | C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI CHECK | | | | | | | | | | | | | | | |
| 2-1599-13A | 2 | 29-1 | 6E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "A" LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |
| 2-1599-13B | 2 | 29-1 | 6E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "B" LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1599-13C | 2 | 29-1 | 4E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "C" LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |
| 2-1599-13D | 2 | 29-1 | 4E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "D" LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RADWASTE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2001-105 | 3 | 39 | 6F | 2 | A | GA | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL FLOOR DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 2-2001-3 | 3 | 39 | 4E | 2 | B | GA | AO | O/C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL EQUIPMENT DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 2-2001-5 | 3 | 39 | 4E | 2 | A | GA | AO | O/C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL EQUIPMENT DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2301-10 | 12 | 51 | 4E | 2 | B | GL | MO | C | C | A | BT<br>PIT | OP<br>RR | | | |
| HPCI PUMP DISCHARGE TO CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 2-2301-14 | 4 | 51 | 6C | 2 | B | GL | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| HPCI MAIN PUMP MIN FLOW TO TORUS | | | | | | | | | | | | | | | |
| 2-2301-20 | 16 | 51 | 2E | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| HPCI CONDENSATE STORAGE TANK SUCTION CHECK | | | | | | | | | | | | | | | |
| 2-2301-23 | 1.5 | 51 | 4A | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| HPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |
| 2-2301-26 | .75 | 51 | 0C | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HPCI RX HI PRESS INST. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2301-27 | .75 | 51 | 0D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HPCI RX HI PRESS INST. | | | | | | | | | | | | | | | |
| 2-2301-28 | 1 | 51 | 8B | 2 | B | GL | AO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI INLET DRAIN POT 2A DRAIN TO TORUS | | | | | | | | | | | | | | | |
| 2-2301-29 | 1 | 51 | 9B | 2 | B | GL | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI INLET DRAIN POT DRAIN TO MAIN CONDENSER | | | | | | | | | | | | | | | |
| 2-2301-3 | 10 | 51 | 9A | 2 | B | GA | MO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TURBINE STEAM SUPPLY | | | | | | | | | | | | | | | |
| 2-2301-31 | 1 | 51 | 9A | 2 | B | GL | AO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI INLET DRAIN POT 2A TRAP BYPASS | | | | | | | | | | | | | | | |
| 2-2301-32 | 1 | 51 | 7B | 2 | B | GL | SO | C | O/C | A | BT | OP | RV-23H | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI DRAIN POT TO GLAND SEAL CONDENSER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2301-34 | 2 | 51 | 8D | 2 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI STEAM LINE DRAIN TO TORUS CHECK | | | | | | | | | | | | | | | |
| 2-2301-35 | 16 | 51 | 2E | 2 | B | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TORUS SUCTION | | | | | | | | | | | | | | | |
| 2-2301-36 | 16 | 51 | 9E | 2 | B | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TORUS SUCTION | | | | | | | | | | | | | | | |
| 2-2301-39 | 16 | 51 | 8E | 2 | C | CK | SA | C | O/C | A | CT-O | SAM | RV-23A TV-00C | | |
| | | | | | | | | | | | CT-C | SAM | | | |
| HPCI PUMP SUCTION FROM TORUS CHECK | | | | | | | | | | | | | | | |
| 2-2301-4 | 10 | 51 | 9C | 1 | A | GA | MO | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TURBINE STEAM INLET | | | | | | | | | | | | | | | |
| 2-2301-40 | 4 | 51 | 7C | 2 | AC | CK | SA | C | O | A | CT-O | SAM | RV-23F TV-00C | | |
| HPCI MIN FLOW TO TORUS CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2301-45 | 24 | 51 | 8B | 2 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI TURBINE EXHAUST CHECK | | | | | | | | | | | | | | | |
| 2-2301-48 | 4 | 51 | 4B | 2 | B | GA | MO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI COOLING WATER RETURN TO BOOSTER PUMP | | | | | | | | | | | | | | | |
| 2-2301-49 | 4 | 51 | 4D | 2 | B | GA | MO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI COOLING WATER RETURN TO CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 2-2301-5 | 10 | 51 | 0B | 1 | A | GA | MO | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TURBINE STEAM INLET | | | | | | | | | | | | | | | |
| 2-2301-50A | 4 | 51 | 4C | 2 | C | CK | SA | C | O | A | CT-O | SAM | RV-23G | TV-00C | |
| HPCI GLAND SEAL CONDENSER INLET | | | | | | | | | | | | | | | |
| 2-2301-51 | 4 | 51 | 4C | 2 | C | CK | SA | O | C | A | CT-O | SAM | RV-23G | TV-00C | |
| | | | | | | | | | | | CT-C | SAM | RV-23G | TV-00C | |
| HPCI AUX COOLING WATER PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2301-53 | 4 | 51 | 3C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| HPCI GLAND SEAL CONDENSER INLET RELIEF | | | | | | | | | | | | | | | |
| 2-2301-6 | 16 | 51 | 2F | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| HPCI BOOSTER PUMP SUCTION FROM CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 2-2301-64 | 1 | 51 | 5A | 2 | B | GL | AO | O | C | A | BT<br>PIT<br>FST | OP<br>RR<br>OP | | | |
| HPCI TURBINE SV ABOVE SEAT DRAIN | | | | | | | | | | | | | | | |
| 2-2301-68 | 16 | 51 | 7A | 2 | C | RPD | SA | C | O | A | RT | 5Y | | | |
| HPCI TURBINE EXHAUST RUPTURE DISK | | | | | | | | | | | | | | | |
| 2-2301-69 | 16 | 51 | 7A | 2 | C | RPD | SA | C | O | A | RT | 5Y | | | |
| HPCI TURBINE EXHAUST RUPTURE DISK | | | | | | | | | | | | | | | |
| 2-2301-7 | 14 | 51 | 6E | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | CS<br>RR | RV-23B | | CS-23A |
| HPCI INJECTION CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2301-71 | 2 | 51 | 8D | 2 | AC | SCK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI STEAM LINE DRAIN TO TORUS STOP CHECK | | | | | | | | | | | | | | | |
| 2-2301-74 | 12 | 51 | 8C | 2 | AC | SCK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI TURBINE EXHAUST STOP CHECK | | | | | | | | | | | | | | | |
| 2-2301-75 | 4 | 51 | 4B | 2 | C | CK | SA | C | O/C | A | CT-O | SAM | RV-23G TV-00C | | |
| | | | | | | | | | | | CT-C | SAM | | | |
| HPCI GLAND SEAL CONDENSER DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-2301-76 | 2 | 51 | 4C | 2 | C | CK | SA | C | O/C | A | CT-O | SAM | RV-23G TV-00C | | |
| | | | | | | | | | | | CT-C | SAM | | | |
| HPCI GSLO PUMP CHECK | | | | | | | | | | | | | | | |
| 2-2301-8 | 14 | 51 | 6E | 2 | B | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI MAIN PUMP DISCHARGE TO FEEDWATER HEADER | | | | | | | | | | | | | | | |
| 2-2301-9 | 14 | 51 | 5E | 2 | B | GA | MO | O | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI PUMP DISCHARGE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2354-500 | .75 | 51 | 6E | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-23C | | |
| ECCS KEEP FILL TO HPCI CHECK | | | | | | | | | | | | | | | |
| 2-2354-501 | .75 | 51 | 6E | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-23C | | |
| ECCS KEEP FILL TO HPCI STOP CHECK | | | | | | | | | | | | | | | |
| 2-2399-76A | 1 | 51 | 8D | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | RV-23D | | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-2399-76B | 1 | 51 | 8D | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | RV-23D | | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTAINMENT ATMOSPHERE MONITOR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2499-1A | 0.5 | 706-1 | 6D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "A" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 2-2499-1B | 0.5 | 706-1 | 2D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "B" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 2-2499-2A | 0.5 | 706-1 | 6D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "A" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 2-2499-2B | 0.5 | 706-1 | 3D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "B" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 2-2499-28A | 0.5 | 706-1 | 7C | 2 | AC | CK | SA | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | RV-24A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| "A" CAM H2/O2 ANALYSIS SAMPLE OUTLET CHECK | | | | | | | | | | | | | | | |
| 2-2499-28B | 0.5 | 706-1 | 2C | 2 | AC | CK | SA | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | RV-24A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| "B" CAM H2/O2 ANALYSIS SAMPLE OUTLET CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTAINMENT ATMOSPHERE MONITOR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2499-3A | 0.5 | 706-1 | 7B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'A' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 2-2499-3B | 0.5 | 706-1 | 2B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'B' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 2-2499-4A | 0.5 | 706-1 | 6B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'A' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 2-2499-4B | 0.5 | 706-1 | 3B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'B' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2599-1A | 1.5 | 707 | 8C | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2A ACAD AIR INLET HEADER | | | | | | | | | | | | | | | |
| 2-2599-1B | 1.5 | 707 | 1C | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2B ACAD AIR INLET HEADER | | | | | | | | | | | | | | | |
| 2-2599-2A | 1 | 707 | 5C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2A ACAD DRYWELL AIR INLET HEADER | | | | | | | | | | | | | | | |
| 2-2599-2B | 1 | 707 | 4C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2B ACAD DRYWELL AIR INLET HEADER | | | | | | | | | | | | | | | |
| 2-2599-22 | 1.5 | 707 | 6A | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| ACAD AIR RECEIVER INLET CHECK | | | | | | | | | | | | | | | |
| 2-2599-23A | 1 | 707 | 6C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A TV-00C | | |
| ACAD SYSTEM DRYWELL CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2599-23B | 1 | 707 | 3C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A | TV-00C | |
| ACAD SYSTEM DRYWELL CHECK | | | | | | | | | | | | | | | |
| 2-2599-24A | 1 | 707 | 6C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A | TV-00C | |
| ACAD SYSTEM TORUS CHECK | | | | | | | | | | | | | | | |
| 2-2599-24B | 1 | 707 | 3C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A | TV-00C | |
| ACAD SYSTEM TORUS CHECK | | | | | | | | | | | | | | | |
| 2-2599-3A | 1 | 707 | 6C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2A ACAD TORUS AIR INLET HEADER | | | | | | | | | | | | | | | |
| 2-2599-3B | 1 | 707 | 3C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2B ACAD TORUS AIR INLET HEADER | | | | | | | | | | | | | | | |
| 2-2599-4A | 0.5 | 707 | 3F | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2A ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2599-4B | 0.5 | 707 | 3E | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 2B ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |
| 2-2599-5A | 0.5 | 707 | 5F | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | AT | RR | RV-00A | | |
| 2A ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |
| 2-2599-5B | 0.5 | 707 | 5E | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | AT | RR | RV-00A | | |
| 2B ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RBCCW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-3702 | 6 | 20 | 3B | 2 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | CS | | | CS-37A |
| | | | | | | | | | | | PIT | RR | | | |
| RBCCW TO DRYWELL SUPPLY HEADER | | | | | | | | | | | | | | | |
| 2-3703 | 6 | 20 | 1B | 2 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | CS | | | C3-37A |
| | | | | | | | | | | | PIT | RR | | | |
| RBCCW DRYWELL RETURN HEADER | | | | | | | | | | | | | | | |
| 2-3706 | 6 | 20 | 1B | 2 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | CS | | | CS-37A |
| | | | | | | | | | | | PIT | RR | | | |
| RBCCW DRYWELL RETURN HEADER | | | | | | | | | | | | | | | |
| 2-3769-500 | 6 | 20 | 3B | 2 | C | CK | SA | O | C | A | CT-C | RR | RV-37A | | |
| | | | | | | | | | | | AT | RR | RV-00A | | |
| REACTOR BLG CLOSED CLG WATER CHECK VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: DIESEL COOLING/SERVICE WATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-3930-501 | 6 | 22 | 0B | 3 | C | CK | SA | C | O | A | CT-O | OP | | | |
| D/G COOLING WATER PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-3999-336 | 1 | 29-2 | 4C | 3 | C | CK | SA | O | C | A | CT-C | OP | | | |
| D/G COOLING WATER TO CCSW CHECK | | | | | | | | | | | | | | | |
| 2-3999-338 | 1 | 29-2 | 4E | 3 | C | CK | SA | O | C | A | CT-C | OP | | | |
| D/G COOLING WATER TO CCSW CHECK | | | | | | | | | | | | | | | |
| 2-3999-634 | 1.5 | 29-2 | 4E | 3 | C | CK | SA | C | O/C | A | CT-C<br>CT-O | OP<br>OP | | | |
| D/G COOLING WATER TO CCSW KEEP FILL | | | | | | | | | | | | | | | |
| 2-3999-636 | 1.5 | 29-2 | 4B | 3 | C | CK | SA | C | O/C | A | CT-C<br>CT-O | OP<br>OP | | | |
| D/G COOLING WATER TO CCSW KEEP FILL | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX. BLDG. EQUIP. DRAINS/LPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-4899-72 | 1 | 39 | 6E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'A'LPCI HEAT EXCHANGER SHELL SIDE RELIEF | | | | | | | | | | | | | | | |
| 2-4899-77 | 1 | 39 | 5E | 3 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'B' LPCI HEAT EXCHANGER TUBE SIDE RELIEF | | | | | | | | | | | | | | | |
| 2-4899-78 | 1 | 39 | 5E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'B' LPCI HEAT EXCHANGER SHELL SIDE RELIEF | | | | | | | | | | | | | | | |
| 2-4899-79 | 1 | 39 | 6E | 3 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'A' LPCI HEAT EXCHANGER TUBE SIDE RELIEF | | | | | | | | | | | | | | | |

CLASS 1, 2, & 3 VALVE LISTING

SYSTEM: DIESEL COOLING/SERVICE WATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-1599-103 | 2.5 | 3121 | 2B | 3 | C | CK | SA | C | O | A | CT-O | OP | | | |
| CONTROL ROOM HVAC REFRIG COND UNIT CCSW INLET | | | | | | | | | | | | | | | |
| 2/3-3930-501 | 6 | 355 | 8A | 3 | C | CK | SA | C | O | A | CT-O | OP | | | |
| D/G COOLING WATER PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2, & 3 VALVE LISTING

SYSTEM: CONTROL ROOM VENTILATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-5741-48A | 2.5 | 3121 | 2A | 3 | B | GA | AO | O/C | O | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| INSTRUMENT AIR TO CONTROL ROOM HVAC | | | | | | | | | | | | | | | |
| 2/3-5741-48B | 3 | 3121 | 2B | 3 | B | GA | AO | O/C | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| CONTROL ROOM HVAC COND UNIT INLET | | | | | | | | | | | | | | | |
| 2/3-5741-62 | 2.5 | 3121 | 3B | 3 | B | GL | AO | O/C | O | A | BT | OP | RV-57A | | |
| | | | | | | | | | | | FST | OP | | | |
| CONTROL ROOM HVAC REF. COND SW OUT FCV | | | | | | | | | | | | | | | |

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0202-5A | 28 | 357-2 | 6D | 1 | B | GA | MO | O | C | A | BT | CS | | | CS-02A |
| | | | | | | | | | | | PIT | RR | | | |
| RX RECIRC "A" PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-0202-5B | 28 | 357-2 | 3C | 1 | B | GA | MO | O | C | A | BT | CS | | | CS-02A |
| | | | | | | | | | | | PIT | RR | | | |
| RX RECIRC "B" PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-0203-1A | 20 | 345-1 | 4E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 3-0203-1B | 20 | 345-1 | 4D | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 3-0203-1C | 20 | 345-1 | 4C | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 3-0203-1D | 20 | 345-1 | 4B | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0203-2A | 20 | 345-2 | 7F | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 3-0203-2B | 20 | 345-2 | 7E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 3-0203-2C | 20 | 345-2 | 7D | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 3-0203-2D | 20 | 345-2 | 7C | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | RV-02H | | |
| | | | | | | | | | | | FST | CS | RV-02H | | CS-02B |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM ISOLATION VALVE | | | | | | | | | | | | | | | |
| 3-0203-3A | 6 | 345-1 | 7F | 1 | BC | TRV | AO/SA | C | O | A | BT | RR | RV-02A | | |
| | | | | | | | | | | | RT | RR | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TARGET ROCK SAFETY/RELIEF | | | | | | | | | | | | | | | |
| 3-0203-3B | 6 | 345-1 | 7E | 1 | BC | ERV | SO | C | O | A | BT | RR | RV-02A | | |
| | | | | | | | | | | | RT | RR | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 3B ELECTROMATIC RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0203-3C | 6 | 345-1 | 7C | 1 | BC | ERV | SO | C | O | A | BT | RR | RV-02A | | |
| | | | | | | | | | | | RT | RR | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 3C ELECTROMATIC RELIEF | | | | | | | | | | | | | | | |
| 3-0203-3D | 6 | 345-1 | 7B | 1 | BC | ERV | SO | C | O | A | BT | RR | RV-02A | | |
| | | | | | | | | | | | RT | RR | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 3D ELECTROMATIC RELIEF | | | | | | | | | | | | | | | |
| 3-0203-3E | 6 | 345-1 | 6E | 1 | BC | ERV | SO | C | O | A | BT | RR | RV-02A | | |
| | | | | | | | | | | | RT | RR | | | |
| | | | | | | | | | | | PIT | RR | | | |
| 3E ELECTROMATIC RELIEF | | | | | | | | | | | | | | | |
| 3-0203-4A | 6 | 345-1 | 8E | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |
| 3-0203-4B | 6 | 345-1 | 8E | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |
| 3-0203-4C | 6 | 345-1 | 8D | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0203-4D | 6 | 345-1 | 8D | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |
| 3-0203-4E | 6 | 345-1 | 8C | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |
| 3-0203-4F | 6 | 345-1 | 8C | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |
| 3-0203-4G | 6 | 345-1 | 8B | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |
| 3-0203-4H | 6 | 345-1 | 8B | 1 | C | SV | SA | C | O | A | RT | 5Y | | | |
| MAIN STEAM SAFETY | | | | | | | | | | | | | | | |
| 3-0205-24 | 2.5 | 357-1 | 6E | 1 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| REACTOR HEAD COOLING INLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0205-27 | 2.5 | 357-1 | 5E | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | RR | RV-02F | | |
| | | | | | | | | | | | CT-C | RR | | | |
| REACTOR HEAD COOLING INLET CHECK | | | | | | | | | | | | | | | |
| 3-0220-1 | 2 | 345-1 | 4E | 1 | A | GL | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM DRAIN TO CONDENSER | | | | | | | | | | | | | | | |
| 3-0220-105A | 8 | 356 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| TARGET ROCK SAFETY/RELIEF VLV VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-0220-105B | 8 | 356 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-0220-105C | 8 | 356 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-0220-105D | 8 | 356 | 5E | 3 | C | CK | SA | C | O/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-105E | 8 | 356 | 5E | 3 | C | CK | SA | C | D/C | A | CT-O | CS | RV-02E | | CS-02C |
| | | | | | | | | | | | CT-C | CS | | | |
| ELECTROMATIC RELIEF VALVE LINE VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-0220-17A | 0.5 | 345-2 | 8E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO DPIS-261-2A-D. | | | | | | | | | | | | | | | |
| 3-0220-17B | 0.5 | 345-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO DPIS-261-2E-H. | | | | | | | | | | | | | | | |
| 3-0220-17C | 0.5 | 345-2 | 8C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO-DPIS-261-2JM. | | | | | | | | | | | | | | | |
| 3-0220-17D | 0.5 | 345-2 | 8B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO DPIS-261-2N-S. | | | | | | | | | | | | | | | |
| 3-0220-18A | 0.5 | 345-2 | 8E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2A-D. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-18B | 0.5 | 345-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2E-H. | | | | | | | | | | | | | | | |
| 3-0220-18C | 0.5 | 345-2 | 8C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2J-M. | | | | | | | | | | | | | | | |
| 3-0220-18D | 0.5 | 345-2 | 8B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPIS-261-2N-S. | | | | | | | | | | | | | | | |
| 3-0220-19A | 0.5 | 357-2 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG DPT-261-5A | | | | | | | | | | | | | | | |
| 3-0220-19B | 0.5 | 357-2 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG DPT-261-5B | | | | | | | | | | | | | | | |
| 3-0220-2 | 2 | 345-2 | 7E | 1 | A | GL | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| MAIN STEAM LINE OUTBOARD DRAIN | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-20A | 0.5 | 357-2 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPT-261-5A | | | | | | | | | | | | | | | |
| 3-0220-20B | 0.5 | 357-2 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI DPT-261-5B | | | | | | | | | | | | | | | |
| 3-0220-21A | 0.5 | 357-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO FT-261-6A | | | | | | | | | | | | | | | |
| 3-0220-21B | 0.5 | 357-2 | 1D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO FT-261-6B | | | | | | | | | | | | | | | |
| 3-0220-22A | 0.5 | 357-2 | 8D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITNG CHECK FOR HI FT-261-6A | | | | | | | | | | | | | | | |
| 3-0220-22B | 0.5 | 357-2 | 1D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LI LEG FT-261-6C | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-44 | .75 | 357-2 | 2E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RECIRC. LOOP SAMPLE (INBOARD) | | | | | | | | | | | | | | | |
| 3-0220-45 | .75 | 357-2 | 1E | 1 | A | GL | AO | O | C | A | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RECIRC. LOOP SAMPLE (OUTBOARD) | | | | | | | | | | | | | | | |
| 3-0220-54 | 0.5 | 357-1 | 5E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PS-261-20, PI-261-20 | | | | | | | | | | | | | | | |
| 3-0220-58A | 18 | 347 | 4E | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| INBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 3-0220-58B | 18 | 347 | 4F | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| | | | | | | | | | | | CT-O | OP | | | |
| INBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 3-0220-59 | 18 | 347 | 2F | 2 | C | CK | SA | O | C | A | CT-C | RR | RV-00C | | |
| OUTBOARD FEEDWATER CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-62A | 18 | 347 | 3E | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| FEEDWATER OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0220-62B | 18 | 347 | 3F | 1 | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-02C | | |
| | | | | | | | | | | | CT-O | OP | | | |
| FEEDWATER OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0220-67A | 0.5 | 357-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34A | | | | | | | | | | | | | | | |
| 3-0220-67B | 0.5 | 357-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34A | | | | | | | | | | | | | | | |
| 3-0220-67C | 0.5 | 357-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34C | | | | | | | | | | | | | | | |
| 3-0220-67D | 0.5 | 357-2 | 5F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34C | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-67E | 0.5 | 357-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34B | | | | | | | | | | | | | | | |
| 3-0220-67F | 0.5 | 357-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34B | | | | | | | | | | | | | | | |
| 3-0220-67G | 0.5 | 357-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34D | | | | | | | | | | | | | | | |
| 3-0220-67H | 0.5 | 357-2 | 3F | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR DPIS 3-261-34D | | | | | | | | | | | | | | | |
| 3-0262-25A | 0.5 | 357-2 | 7B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7C | | | | | | | | | | | | | | | |
| 3-0262-25B | 0.5 | 357-2 | 2B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7D | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0262-26A | 0.5 | 357-2 | 7B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7A | | | | | | | | | | | | | | | |
| 3-0262-26B | 0.5 | 357-2 | 2B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PT-262-7B | | | | | | | | | | | | | | | |
| 3-0263-2-11 | 0.5 | 357-1 | 5E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG LT-263-61 | | | | | | | | | | | | | | | |
| 3-0263-2-13A | 0.5 | 357-1 | 5D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR REF LEG TO 2203-5 | | | | | | | | | | | | | | | |
| 3-0263-2-13B | 0.5 | 357-1 | 3D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR REF LEG TO 2203-6 | | | | | | | | | | | | | | | |
| 3-0263-2-15A | 0.5 | 357-1 | 5D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR VAR LEG TO 2203-6 | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0263-2-15B | 0.5 | 357-1 | 3D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR VAR LEG TO 2203-6 | | | | | | | | | | | | | | | |
| 3-0263-2-17A | 0.5 | 357-1 | 5D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR RPV INSTRUMENTS | | | | | | | | | | | | | | | |
| 3-0263-2-17B | 0.5 | 357-1 | 3D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR RPV INSTRUMENTS | | | | | | | | | | | | | | | |
| 3-0263-2-19A | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LOW LEG LT-646A | | | | | | | | | | | | | | | |
| 3-0263-2-19B | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR INST LT-646B | | | | | | | | | | | | | | | |
| 3-0263-2-20A | 0.5 | 357-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT 263-63A | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0263-2-20B | 0.5 | 357-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT 263-63B | | | | | | | | | | | | | | | |
| 3-0263-2-20C | 0.5 | 357-1 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT 263-63C | | | | | | | | | | | | | | | |
| 3-0263-2-20D | 0.5 | 357-1 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG FT-263-63D | | | | | | | | | | | | | | | |
| 3-0263-2-23A | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT-263-63B | | | | | | | | | | | | | | | |
| 3-0263-2-23B | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-63A | | | | | | | | | | | | | | | |
| 3-0263-2-23C | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-63D | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0263-2-23D | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT263-63C | | | | | | | | | | | | | | | |
| 3-0263-2-25 | 0.5 | 357-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK ABOVE THE CORE PLATE PRESS. | | | | | | | | | | | | | | | |
| 3-0263-2-27 | 0.5 | 357-1 | 5B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK BELOW THE CORE PLATE PRESS. | | | | | | | | | | | | | | | |
| 3-0263-2-31B | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT-263-64B | | | | | | | | | | | | | | | |
| 3-0263-2-31C | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64C | | | | | | | | | | | | | | | |
| 3-0263-2-31D | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64D | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0263-2-31E | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64E | | | | | | | | | | | | | | | |
| 3-0263-2-31G | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64G | | | | | | | | | | | | | | | |
| 3-0263-2-31H | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64H | | | | | | | | | | | | | | | |
| 3-0263-2-31J | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64J | | | | | | | | | | | | | | | |
| 3-0263-2-31K | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64K | | | | | | | | | | | | | | | |
| 3-0263-2-31M | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64M | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0263-2-31N | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64N | | | | | | | | | | | | | | | |
| 3-0263-2-31P | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64P | | | | | | | | | | | | | | | |
| 3-0263-2-31R | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64R | | | | | | | | | | | | | | | |
| 3-0263-2-31T | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64T | | | | | | | | | | | | | | | |
| 3-0263-2-31U | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64U | | | | | | | | | | | | | | | |
| 3-0263-2-31V | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64V | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0263-2-31W | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LO LEG FT 263-64W | | | | | | | | | | | | | | | |
| 3-0263-2-33 | 0.5 | 357-1 | 3B | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HI LEG JET PUMP FT'S | | | | | | | | | | | | | | | |
| 3-0263-42A | 0.5 | 357-1 | 5C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR LI 262-151A | | | | | | | | | | | | | | | |
| 3-0263-42B | 0.5 | 357-1 | 3C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR PS-263-111B+D | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX VESSEL WATER LVL INDICATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0299-100A | 3/8 | 357-3 | 6E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'A' NARROW RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0299-100B | 3/8 | 357-3 | 4E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'B' NARROW RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0299-97A | 3/8 | 357-3 | 7E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'A' MEDIUM RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0299-97B | 3/8 | 357-3 | 3E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'B' MEDIUM RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0299-98A | 3/8 | 357-3 | 6E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'A' NARROW RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0299-98B | 3/8 | 357-3 | 4E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'B' NARROW RANGE BACKFILL OUTBOARD CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX VESSEL WATER LVL INDICATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0299-99A | 3/8 | 357-3 | 7E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'A' MEDIUM RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |
| 3-0299-99B | 3/8 | 357-3 | 3E | 1 | AC | CK | SA | O | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-02G | | |
| | | | | | | | | | | | A | RR | RV-00A | | |
| RVWLIS 'B' MEDIUM RANGE BACKFILL INBOARD CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0302-156A | 1 | 365 | 5F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN. | | | | | | | | | | | | | | | |
| 3-0302-156B | 1 | 365 | 2F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN | | | | | | | | | | | | | | | |
| 3-0302-157A | 1 | 365 | 2F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN | | | | | | | | | | | | | | | |
| 3-0302-157B | 1 | 365 | 5F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV DRAIN | | | | | | | | | | | | | | | |
| 3-0302-160A | 1 | 365 | 1F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV VENT | | | | | | | | | | | | | | | |
| 3-0302-160B | 1 | 365 | 6F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV VENT | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0302-161A | 1 | 365 | 1F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV VENT | | | | | | | | | | | | | | | |
| 3-0302-161B | 1 | 365 | 6F | 2 | B | GA | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| SDV VENT | | | | | | | | | | | | | | | |
| 3-0305-114 | 0.5 | 365 | 9D | 2 | C | CK | SA | C | O | A | CT-O | OP | RV-03B | | |
| SCRAM DISCH RISER BALL CHECK | | | | | | | | | | | | | | | |
| 3-0305-115 | 0.5 | 365 | 0E | 1 | C | CK | SA | O | C | A | CT-C | CS | | | CS-03A |
| ACCUMULATOR CHARGING WATER CHECK | | | | | | | | | | | | | | | |
| 3-0305-126 | 0.5 | 365 | 0E | 1 | B | GA | AO | C | O | A | BT | OP | RV-03B | | |
| | | | | | | | | | | | FST | OP | | | |
| HCU SCRAM INLET | | | | | | | | | | | | | | | |
| 3-0305-127 | 0.5 | 365 | 9D | 1 | B | GA | AO | C | O | A | BT | OP | RV-03B | | |
| | | | | | | | | | | | FST | OP | | | |
| HCU SCRAM OUTLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0305-138 | 0.5 | 365 | 0C | 1 | C | CK | SA | O | C | A | CT-C | OP | | | |

COOLING WATER BALL CHECK

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SHUTDOWN COOLING

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1001-1A | 16 | 363 | 9B | 1 | A | GA | MO | C | C | P | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| SDC INLET HEADER ISOLATION | | | | | | | | | | | | | | | |
| 3-1001-1B | 16 | 363 | 9E | 1 | A | GA | MO | C | C | P | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| SDC INLET HEADER ISOLATION | | | | | | | | | | | | | | | |
| 3-1001-2A | 14 | 363 | 8A | 1 | A | GA | MO | C | C | P | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| 3A SDC PUMP SUCTION | | | | | | | | | | | | | | | |
| 3-1001-2B | 14 | 363 | 8C | 1 | A | GA | MO | C | C | P | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| 3B SDC PUMP SUCTION | | | | | | | | | | | | | | | |
| 3-1001-2C | 14 | 363 | 8F | 1 | A | GA | MO | C | C | P | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| 3C SDC PUMP SUCTION | | | | | | | | | | | | | | | |
| 3-1001-5A | 14 | 363 | 1E | 1 | A | GA | MO | C | C | P | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |
| SDC OUTLET HEADER ISOLATION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SHUTDOWN COOLING

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1061-5B | 14 | 363 | 2E | 1 | A | GA | MO | C | C | P | AT | RR | RV-00A | TV-00B | |
| | | | | | | | | | | | BT | CS | | | CS-10A |
| | | | | | | | | | | | PIT | RR | | | |

SDC OUTLET HEADER ISOLATION

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SBLC

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1101-15 | 1.5 | 364 | 3C | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | RR | RV-11A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| SBLC INJECTION CHECK | | | | | | | | | | | | | | | |
| 3-1101-16 | 1.5 | 364 | 4C | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | RR | RV-11A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| SBLC INJECTION CHECK | | | | | | | | | | | | | | | |
| 3-1101-43A | 1.5 | 364 | 6D | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| 'A' SBLC PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-1101-43B | 1.5 | 364 | 6E | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| 'B' SBLC PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-1105A | 0.5 | 364 | 4C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'A' SBLC RELIEF TO MAIN TANK | | | | | | | | | | | | | | | |
| 3-1105B | 0.5 | 364 | 4D | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'B' SBLC RELIEF TO MAIN TANK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: SBLC

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1106A | 1.5 | 364 | 4C | 2 | D | GA | EXP | C | O | A | DT | SAM | | | |
| 'A' SBLC SQUIB VALVE | | | | | | | | | | | | | | | |
| 3-1106B | 1.5 | 364 | 4C | 2 | D | GA | EXP | C | O | A | DT | SAM | | | |
| 'B' SBLC SQUIB VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RWCU

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1201-1 | 8 | 361 | 3A | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RWCU SYSTEM INLET | | | | | | | | | | | | | | | |
| 3-1201-1A | 2 | 361 | 3A | 1 | A | GL | MO | O/C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RWCU SYSTEM INLET BYPASS | | | | | | | | | | | | | | | |
| 3-1201-158 | 8 | 361 | 5A | 2 | C | CK | SA | O | C | A | CT-C | RR | RV-00C | | |
| RWCU TO FEEDWATER CHECK | | | | | | | | | | | | | | | |
| 3-1201-2 | 8 | 361 | 3A | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RWCU AUX PUMP BYPASS | | | | | | | | | | | | | | | |
| 3-1201-3 | 8 | 361 | 4A | 1 | A | GA | MO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| RWCU AUX PUMP SUCTION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ISOLATION CONDENSER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1301-1 | 14 | 359 | 9C | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER STEAM INLET | | | | | | | | | | | | | | | |
| 3-1301-11 | 4 | 359 | 3C | 3 | C | CK | SA | C | O | A | CT-O | SAM | RV-13A | TV-00C | |
| ISO CONDENSER CONTAMINATED DEMIN FILL CHECK | | | | | | | | | | | | | | | |
| 3-1301-17 | .75 | 359 | 2A | 2 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| ISO CONDENSER VENT TO MAIN STEAM LINE | | | | | | | | | | | | | | | |
| 3-1301-2 | 14 | 359 | 0B | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER STEAM INLET | | | | | | | | | | | | | | | |
| 3-1301-20 | .75 | 359 | 3A | 2 | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| ISO CONDENSER VENT TO MAIN STEAM LINE | | | | | | | | | | | | | | | |
| 3-1301-23 | 0.5 | 359 | 0C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ISOLATION CONDENSER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1301-24 | 0.5 | 359 | 8C | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |
| 3-1301-29 | 0.5 | 359 | 8E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |
| 3-1301-3 | 12 | 359 | 7E | 1 | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER CONDENSATE OUTLET | | | | | | | | | | | | | | | |
| 3-1301-30 | 0.5 | 359 | 8E | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR ISO CONDENSER STEAM LINE | | | | | | | | | | | | | | | |
| 3-1301-4 | 12 | 359 | 8E | 1 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| ISO CONDENSER CONDENSATE OUTLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1402-13A | 1.5 | 358 | 0C | 2 | C | SCK | SA | C | O | A | CT-O | SAM | RV-14A | TV-00C | |
| 3A CORE SPRAY MIN FLOW STOP CHECK | | | | | | | | | | | | | | | |
| 3-1402-13B | 1.5 | 358 | 7D | 2 | C | SCK | SA | C | O | A | CT-O | SAM | RV-14A | TV-00C | |
| 3B CORE SPRAY MIN FLOW STOP CHECK | | | | | | | | | | | | | | | |
| 3-1402-24A | 10 | 358 | 2B | 2 | A | GA | MO | O | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| 3A CORE SPRAY PUMP UP-STREAM INJECTION | | | | | | | | | | | | | | | |
| 3-1402-24B | 10 | 358 | 5B | 2 | A | GA | MO | O | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| 3B CORE SPRAY PUMP UP-STREAM INJECTION | | | | | | | | | | | | | | | |
| 3-1402-25A | 10 | 358 | 2C | 1 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | TV-00B | |
| 3A CORE SPRAY PUMP DOWN-STREAM INJECTION | | | | | | | | | | | | | | | |
| 3-1402-25B | 10 | 358 | 5C | 1 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | TV-00B | |
| 3B CORE SPRAY PUMP DOWN-STREAM INJECTION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1402-28A | 2 | 358 | 6D | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 3A CORE SPRAY PUMP DISCHARGE RELIEF | | | | | | | | | | | | | | | |
| 3-1402-28B | 2 | 358 | 9B | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 3B CORE SPRAY PUMP DISCHARGE RELIEF | | | | | | | | | | | | | | | |
| 3-1402-3A | 16 | 358 | 7F | 2 | B | GA | MO | O | C | A | BT<br>PIT | OP<br>RR | | | |
| 3A CORE SPRAY PUMP SUCTION FROM TORUS | | | | | | | | | | | | | | | |
| 3-1402-3B | 16 | 358 | 5F | 2 | B | GA | MO | O | C | A | BT<br>PIT | OP<br>RR | | | |
| 3B CORE SPRAY PUMP SUCTION FROM TORUS | | | | | | | | | | | | | | | |
| 3-1402-31A | 0.5 | 358 | 3D | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | RV-00B | | |
| CORE SPRAY FLOW-LIMITING CHECK | | | | | | | | | | | | | | | |
| 3-1402-31B | 0.5 | 358 | 4D | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | RV-00B | | |
| CORE SPRAY FLOW LIMITING CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1402-34B | .75 | 358 | 6D | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY LOOP B | | | | | | | | | | | | | | | |
| 3-1402-36A | .75 | 358 | 8E | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY STOP CHECK | | | | | | | | | | | | | | | |
| 3-1402-36B | .75 | 358 | 6E | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY STOP CHECK | | | | | | | | | | | | | | | |
| 3-1402-38A | 1.5 | 358 | 8B | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| 3A CORE SPRAY PUMP MIN FLOW | | | | | | | | | | | | | | | |
| 3-1402-38B | 1.5 | 358 | 7C | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| 3B CORE SPRAY PUMP MIN FLOW | | | | | | | | | | | | | | | |
| 3-1402-4A | 8 | 358 | 8B | 2 | A | GL | MO | C | C | A | BT<br>PIT | OP<br>RR | | | |
| 3A CORE SPRAY PUMP TEST RETURN TO TORUS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1402-4B | 8 | 358 | 8B | 2 | A | GL | MO | C | C | A | BT<br>PIT | OP<br>RR | | | |
| 3B CORE SPRAY PUMP TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 3-1402-8A | 12 | 358 | 8C | 2 | C | SCK | SA | C | O | A | CT-O<br>CT-C | OP<br>OP | | | |
| CORE SPRAY PUMP DISCHARGE STOP CHECK | | | | | | | | | | | | | | | |
| 3-1402-8B | 12 | 358 | 7B | 2 | C | SCK | SA | C | O | A | CT-O<br>CT-C | OP<br>OP | | | |
| CORE SPRAY PUMP DISCHARGE STOP CHECK | | | | | | | | | | | | | | | |
| 3-1402-9A | 10 | 358 | 3C | 1 | AC | CK | SA | C | O/C | A | AT<br>CT-O<br>CT-C | RR<br>CS<br>RR | RV-14C | TV-00B | CS-00A |
| 3A CORE SPRAY INJECTION CHECK | | | | | | | | | | | | | | | |
| 3-1402-9B | 10 | 358 | 4C | 1 | AC | CK | SA | C | O/C | A | AT<br>CT-O<br>CT-C | RR<br>CS<br>RR | RV-14C | TV-00B | CS-00A |
| 3B CORE SPRAY INJECTION CHECK | | | | | | | | | | | | | | | |
| 3-1499-14 | 1 | 358 | 8E | 2 | C | CK | SA | O/C | O | A | CT-O | OP | | | |
| U3 ECCS JOCKEY PUMP DISCHG CK VLV | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CORE SPRAY

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1499-15 | 3/4 | 358 | 8E | 2 | C | CK | SA | O/C | O | A | CT-O | OP | | | |
| U3 ECCS JOCKEY PMP MIN FLOW CK VLV | | | | | | | | | | | | | | | |
| 3-1499-34A | .75 | 358 | 9D | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-14B | | |
| ECCS KEEP FILL TO CORE SPRAY LOOP A | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-1A | 10 | 360-2 | 3B | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "A" CCSW PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-1501-1B | 10 | 360-2 | 3C | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "B" CCSW PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-1501-1C | 10 | 360-2 | 3E | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "C" CCSW PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-1501-1D | 10 | 360-2 | 3F | 3 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| "D" CCSW PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-1501-11A | 18 | 360-1 | 9E | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI HEAT EXCHANGER "A" SHELL SIDE BYPASS | | | | | | | | | | | | | | | |
| 3-1501-11B | 18 | 360-1 | 2D | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI HEAT EXHANGER "B" SHELL SIDE BYPASS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-13A | 3 | 360-1 | 2C | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP I MIN FLOW BYPASS | | | | | | | | | | | | | | | |
| 3-1501-13A(RV) | 2 | 360-1 | 4F | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'A' LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |
| 3-1501-13B | 3 | 360-1 | 7C | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP II MIN FLOW BYPASS | | | | | | | | | | | | | | | |
| 3-1501-13B(RV) | 2 | 360-1 | 4E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'B' LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |
| 3-1501-13C | 2 | 360-1 | 6E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'C' LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |
| 3-1501-13D | 2 | 360-1 | F6 | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'D' LPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-17A | 2 | 360-1 | 2C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'A' LPCI HEAT EXCHANGER OUTLET HEADER RELIEF | | | | | | | | | | | | | | | |
| 3-1501-17B | 2 | 360-1 | 8C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| 'B' LPCI HEAT EXCHANGER OUTLET HEADER RELIEF | | | | | | | | | | | | | | | |
| 3-1501-18A | 6 | 360-1 | 8B | 2 | A | GL | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP I TORUS SPRAY | | | | | | | | | | | | | | | |
| 3-1501-18B | 6 | 360-1 | 2B | 2 | A | GL | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP II TORUS SPRAY | | | | | | | | | | | | | | | |
| 3-1501-20A | 14 | 360-1 | 7B | 2 | A | GA | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP I FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 3-1501-20B | 14 | 360-1 | 2B | 2 | A | GA | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP II FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-21A | 18 | 360-1 | 8A | 2 | B | GA | MO | O | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I INJECTION | | | | | | | | | | | | | | | |
| 3-1501-21B | 18 | 360-1 | 2A | 2 | B | GA | MO | O | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II INJECTION | | | | | | | | | | | | | | | |
| 3-1501-22A | 18 | 360-1 | 3A | 1 | A | GA | MO | C | O/C | A | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I INJECTION | | | | | | | | | | | | | | | |
| 3-1501-22B | 18 | 360-1 | 7A | 1 | A | GA | MO | C | O/C | A | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II INJECTION | | | | | | | | | | | | | | | |
| 3-1501-25A | 14 | 360-1 | 5B | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | CT-O | CS | | | CS-00A |
| | | | | | | | | | | | CT-C | CS | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI INJECTION CHECK | | | | | | | | | | | | | | | |
| 3-1501-25B | 14 | 360-1 | 4B | 1 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A TV-00B | | |
| | | | | | | | | | | | CT-O | CS | | | CS-00A |
| | | | | | | | | | | | CT-C | CS | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI INJECTION CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-27A | 16 | 360-1 | 6A | 2 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP I DRYWELL SPRAY | | | | | | | | | | | | | | | |
| 3-1501-27B | 16 | 360-1 | 6A | 2 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP II DRYWELL SPRAY | | | | | | | | | | | | | | | |
| 3-1501-28A | 16 | 360-1 | 3A | 2 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP I DRYWELL SPRAY | | | | | | | | | | | | | | | |
| 3-1501-28B | 16 | 360-1 | 3A | 2 | A | GA | MO | C | O/C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| LPCI LOOP II DRYWELL SPRAY | | | | | | | | | | | | | | | |
| 3-1501-3A | 12 | 360-1 | 2F | 3 | B | GL | MO | C | O/C | A | BT | OP | | | |
| 3-1501-3B | 12 | 360-1 | 9F | 3 | B | GL | MO | C | O/C | A | BT | OP | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTAINMENT CLG SERVICE WATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-32A | 18 | 360-1 | 8D | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | CS<br>RR | | | |
| LPCI DISCHARGE HEADER CROSSTIE | | | | | | | | | | | | | | | |
| 3-1501-32B | 18 | 360-1 | 2D | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | CS<br>RR | | | |
| LPCI DISCHARGE HEADER CROSSTIE | | | | | | | | | | | | | | | |
| 3-1501-38A | 14 | 360-1 | 8B | 2 | B | GL | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP I FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 3-1501-38B | 14 | 360-1 | 3B | 2 | B | GL | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| LPCI LOOP II FULL FLOW BYPASS TEST RETURN TO TORUS | | | | | | | | | | | | | | | |
| 3-1501-5A | 14 | 360-1 | 5E | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| "A" LPCI PUMP SUCTION | | | | | | | | | | | | | | | |
| 3-1501-5B | 14 | 360-1 | 5F | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| "B" LPCI PUMP SUCTION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-5C | 14 | 360-1 | 4E | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| 'C' LPCI PUMP SUCTION | | | | | | | | | | | | | | | |
| 3-1501-5D | 14 | 360-1 | 4F | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| 'D' LPCI PUMP SUCTION | | | | | | | | | | | | | | | |
| 3-1501-63A | 12 | 360-1 | 7E | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| 'A' LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-1501-63B | 12 | 360-1 | 7F | 2 | C | CK | SA | C | O/P | A | CT-O<br>CT-C | OP<br>OP | | | |
| 'B' LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-1501-63C | 12 | 360-1 | 2E | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| 'C' LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-1501-63D | 12 | 360-1 | 2F | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C | OP<br>OP | | | |
| 'D' LPCI PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-65A | 2 | 360-1 | 7F | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A | TV-00C | |
| 'A' LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |
| 3-1501-65B | 2 | 360-1 | 7E | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A | TV-00C | |
| 'B' LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |
| 3-1501-65C | 2 | 360-1 | 2E | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A | TV-00C | |
| 'C' LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |
| 3-1501-65D | 2 | 360-1 | 2F | 2 | C | CK | SA | C | O | A | CT-O<br>CT-C<br>CT-O | SAM<br>OP<br>OP | RV-15A | TV-00C | |
| 'D' LPCI PUMP MIN FLOW CHECK | | | | | | | | | | | | | | | |
| 3-1501-66A | 2 | 360-1 | 8F | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI STOP CHECK | | | | | | | | | | | | | | | |
| 3-1501-66B | 2 | 360-1 | 2F | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI STOP CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-67A | 2 | 360-1 | 8F | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI CHECK | | | | | | | | | | | | | | | |
| 3-1501-67B | 2 | 360-1 | 2F | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-15B | | |
| ECCS KEEP FILL TO LPCI CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RADWASTE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2001-105 | 3 | 369 | 6F | 2 | A | GA | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL FLOOR DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-2001-3 | 3 | 369 | 4E | 2 | B | GA | AO | O/C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL EQUIPMENT DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-2001-5 | 3 | 369 | 4E | 2 | A | GA | AO | O/C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL EQUIPMENT DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2301-10 | 12 | 374 | 4E | 2 | B | GL | MO | C | C | A | BT<br>PIT | OP<br>RR | | | |
| HPCI PUMP DISCHARGE TO CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 3-2301-14 | 4 | 374 | 6C | 2 | B | GL | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |
| HPCI MAIN PUMP MIN FLOW TO TORUS | | | | | | | | | | | | | | | |
| 3-2301-20 | 16 | 374 | 2E | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| HPCI CONDENSATE STORAGE TANK SUCTION CHECK | | | | | | | | | | | | | | | |
| 3-2301-23 | 1.5 | 374 | 4A | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| HPCI PUMP SUCTION RELIEF | | | | | | | | | | | | | | | |
| 3-2301-26 | .75 | 374 | 0C | 1 | AC | XFC | SA | O | C | A | AT<br>CT-C | RR<br>RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HPCI RX HIGH PRESS INST. | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2301-27 | .75 | 374 | 0D | 1 | AC | XFC | SA | O | C | A | AT | RR | | | |
| | | | | | | | | | | | CT-C | RR | RV-00B | | |
| FLOW-LIMITING CHECK FOR HPCI RX HIGH PRESS INST. | | | | | | | | | | | | | | | |
| 3-2301-28 | 1 | 374 | 8B | 2 | B | GL | AO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI INLET DRAIN POT 3A DRAIN TO TORUS | | | | | | | | | | | | | | | |
| 3-2301-29 | 1 | 374 | 9B | 2 | B | GL | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI INLET DRAIN POT DRAIN TO MAIN CONDENSER | | | | | | | | | | | | | | | |
| 3-2301-3 | 10 | 374 | 9A | 2 | B | GA | MO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TURBINE STEAM SUPPLY | | | | | | | | | | | | | | | |
| 3-2301-31 | 1 | 374 | 9A | 2 | B | GL | AO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI INLET DRAIN POT 3A TRAP BYPASS | | | | | | | | | | | | | | | |
| 3-2301-32 | 1 | 374 | 7B | 2 | B | GL | SO | C | O/C | A | BT | OP | RV-23H | | |
| | | | | | | | | | | | FST | OP | | | |
| HPCI DRAIN POT TO GLAND SEAL CONDENSER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2301-34 | 2 | 374 | 8D | 2 | AC | CK | SA | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI STEAM LINE DRAIN TO TORUS CHECK | | | | | | | | | | | | | | | |
| 3-2301-35 | 16 | 374 | 2E | 2 | B | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TORUS SUCTION | | | | | | | | | | | | | | | |
| 3-2301-36 | 16 | 374 | 9E | 2 | B | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TORUS SUCTION | | | | | | | | | | | | | | | |
| 3-2301-39 | 16 | 374 | 8E | 2 | C | CK | SA | C | O/C | A | CT-O | SAM | RV-23A | TV-00C | |
| | | | | | | | | | | | CT-C | SAM | | | |
| HPCI PUMP SUCTION FROM TORUS CHECK | | | | | | | | | | | | | | | |
| 3-2301-4 | 10 | 374 | 9C | 1 | A | GA | MO | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TURBINE STEAM INLET | | | | | | | | | | | | | | | |
| 3-2301-40 | 4 | 374 | 7C | 2 | AC | CK | SA | C | O | A | CT-O | SAM | RV-23F | TV-00C | |
| HPCI MIN FLOW TO TORUS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2301-45 | 24 | 374 | 8B | 2 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI TURBINE EXHAUST CHECK | | | | | | | | | | | | | | | |
| 3-2301-48 | 4 | 374 | 4B | 2 | B | GA | MO | O | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI COOLING WATER RETURN TO BOOSTER PUMP | | | | | | | | | | | | | | | |
| 3-2301-49 | 4 | 374 | 4D | 2 | B | GA | MO | C | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI COOLING WATER RETURN TO CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 3-2301-5 | 10 | 374 | 0B | 1 | A | GA | MO | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI TURBINE STEAM INLET | | | | | | | | | | | | | | | |
| 3-2301-50A | 4 | 374 | 4C | 2 | C | CK | SA | C | O | A | CT-O | SAM | RV-23G | TV-00C | |
| HPCI GLAND SEAL CONDENSER INLET | | | | | | | | | | | | | | | |
| 3-2301-51 | 4 | 374 | 4C | 2 | C | CK | SA | O | C | A | CT-C | SAM | RV-23G | TV-00C | |
| | | | | | | | | | | | CT-C | SAM | RV-23G | TV-00C | |
| HPCI AUX COOLING WATER PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2301-53 | 4 | 374 | 3C | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| HPCI GLAND SEAL CONDENSER INLET RELIEF | | | | | | | | | | | | | | | |
| 3-2301-6 | 16 | 374 | 2F | 2 | B | GA | MO | O | O/C | A | BT<br>PIT | OP<br>RR | | | |
| HPCI BOOSTER PUMP SUCTION FROM CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 3-2301-64 | 1 | 374 | 5A | 2 | B | GL | AO | O | C | A | BT<br>FST<br>PIT | OP<br>OP<br>RR | | | |
| HPCI TURBINE SV ABOVE SEAT DRAIN | | | | | | | | | | | | | | | |
| 3-2301-68 | 16 | 374 | 7A | 2 | C | RPD | SA | C | O | A | RT | 5Y | | | |
| HPCI TURBINE EXHAUST RUPTURE DISK | | | | | | | | | | | | | | | |
| 3-2301-69 | 16 | 374 | 7A | 2 | C | RPD | SA | C | O | A | RT | 5Y | | | |
| HPCI TURBINE EXHAUST RUPTURE DISK | | | | | | | | | | | | | | | |
| 3-2301-7 | 14 | 374 | 6E | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | CS<br>RR | RV-23B | | CS-23A |
| HPCI INJECTION CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2301-71 | 2 | 374 | 8D | 2 | AC | SCK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI STEAM LINE DRAIN TO TORUS STOP CHECK | | | | | | | | | | | | | | | |
| 3-2301-74 | 12 | 374 | 8C | 2 | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | RR | RV-23E | | |
| HPCI TURBINE EXHAUST CHECK | | | | | | | | | | | | | | | |
| 3-2301-75 | 4 | 374 | 4B | 2 | C | CK | SA | C | O/C | A | CT-O | SAM | RV-23G TV-00C | | |
| | | | | | | | | | | | CT-C | SAM | | | |
| HPCI GLAND SEAL CONDENSER OUTLET CHECK | | | | | | | | | | | | | | | |
| 3-2301-76 | 2 | 374 | 4C | 2 | C | CK | SA | C | O/C | A | CT-O | SAM | RV-23G TV-00C | | |
| | | | | | | | | | | | CT-C | SAM | | | |
| HPCI GSLO PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-2301-8 | 14 | 374 | 6E | 2 | B | GA | MO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI MAIN PUMP DISCHARGE TO FEEDWATER HEADER | | | | | | | | | | | | | | | |
| 3-2301-9 | 14 | 374 | 5E | 2 | B | GA | MO | O | O | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| HPCI PUMP DISCHARGE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2354-500 | .75 | 374 | 6E | 2 | C | CK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-23C | | |
| ECCS KEEP FILL TO HPCI CHECK | | | | | | | | | | | | | | | |
| 3-2354-501 | .75 | 374 | 6E | 2 | C | SCK | SA | O | O/C | A | CT-C<br>CT-O | OP<br>OP | RV-23C | | |
| ECCS KEEP FILL TO HPCI STOP CHECK | | | | | | | | | | | | | | | |
| 3-2399-76A | 1 | 374 | 8D | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | RV-23D | | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-2399-76B | 1 | 374 | 8D | 2 | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | RV-23D | | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTAINMENT ATMOSPHERE MONITOR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2499-1A | 0.5 | 706-2 | 6D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "A" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 3-2499-1B | 0.5 | 706-2 | 2D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "B" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 3-2499-2A | 0.5 | 706-2 | 6D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "A" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 3-2499-2B | 0.5 | 706-2 | 3D | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| "B" CAM DRYWELL AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 3-2499-28A | 0.5 | 706-2 | 7C | 2 | AC | CK | SA | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | RV-24A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| "A" CAM H2/O2 ANALYSIS SAMPLE OUTLET CHECK | | | | | | | | | | | | | | | |
| 3-2499-28B | 0.5 | 706-2 | 2C | 2 | AC | CK | SA | O | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | RV-24A | | |
| | | | | | | | | | | | CT-C | RR | | | |
| "B" CAM H2/O2 ANALYSIS SAMPLE OUTLET CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: CONTAINMENT ATMOSPHERE MONITOR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2499-3A | 0.5 | 706-2 | 7B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'A' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 3-2499-3B | 0.5 | 706-2 | 2B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'B' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 3-2499-4A | 0.5 | 706-2 | 6B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'A' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |
| 3-2499-4B | 0.5 | 706-2 | 3B | 2 | A | GA | SO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 'B' CAM TORUS AIR SAMPLE INLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2599-1A | 1.5 | 707-2 | 8C | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3A ACAD AIR INLET HEADER | | | | | | | | | | | | | | | |
| 3-2599-1B | 1.5 | 707-2 | 1C | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3B ACAD AIR INLET HEADER | | | | | | | | | | | | | | | |
| 3-2599-2A | 1 | 707-2 | 5C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3A ACAD DRYWELL AIR INLET HEADER | | | | | | | | | | | | | | | |
| 3-2599-2B | 1 | 707-2 | 4C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3B ACAD DRYWELL AIR INLET HEADER | | | | | | | | | | | | | | | |
| 3-2599-22 | 1.5 | 707-2 | 6A | 2 | C | CK | SA | C | O | A | CT-O | OP | | | |
| U3 ACAD AIR RECEIVER INLET CHECK | | | | | | | | | | | | | | | |
| 3-2599-23A | 1 | 707-2 | 6C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A TV-00C | | |
| ACAD SYSTEM DRYWELL CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2599-23B | 1 | 707-2 | 3C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A | TV-00C | |
| ACAD SYSTEM DRYWELL CHECK | | | | | | | | | | | | | | | |
| 3-2599-24A | 1 | 707-2 | 6C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A | TV-00C | |
| ACAD SYSTEM TORUS CHECK | | | | | | | | | | | | | | | |
| 3-2599-24B | 1 | 707-2 | 3C | 2 | AC | CK | SA | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | RV-25A | | |
| | | | | | | | | | | | CT-O | SAM | RV-25A | TV-00C | |
| ACAD SYSTEM TORUS CHECK | | | | | | | | | | | | | | | |
| 3-2599-3A | 1 | 707-2 | 6C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3A ACAD TORUS AIR INLET HEADER | | | | | | | | | | | | | | | |
| 3-2599-3B | 1 | 707-2 | 3C | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3B ACAD TORUS AIR INLET HEADER | | | | | | | | | | | | | | | |
| 3-2599-4A | 0.5 | 707-1 | 3F | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3A ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2599-4B | 0.5 | 707-2 | 3E | 2 | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| 3B ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |
| 3-2599-5A | 0.5 | 707-2 | 5F | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | AT | RR | RV-00A | | |
| 3A ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |
| 3-2599-5B | 0.5 | 707-2 | 5E | 2 | B | GL | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | AT | RR | RV-00A | | |
| 3B ACAD DRYWELL TO SBGTS VENT HEADER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RBCCW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-3702 | 6 | 353 | 3B | 2 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | CS | | | CS-37A |
| | | | | | | | | | | | PIT | RR | | | |
| RBCCW DRYWELL SUPPLY HEADER | | | | | | | | | | | | | | | |
| 3-3703 | 6 | 353 | 1B | 2 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | CS | | | CS-37A |
| | | | | | | | | | | | PIT | RR | | | |
| RBCCW DRYWELL RETURN HEADER | | | | | | | | | | | | | | | |
| 3-3706 | 6 | 353 | 1B | 2 | A | GA | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | CS | | | CS-37A |
| | | | | | | | | | | | PIT | RR | | | |
| RBCCW DRYWELL RETURN HEADER | | | | | | | | | | | | | | | |
| 3-3769-500 | 6 | 353 | 3B | 2 | C | CK | SA | O | C | A | CT-C | RR | RV-37A | | |
| | | | | | | | | | | | AT | RR | RV-00A | | |
| REACTOR BLG CLOSED CLG WATER CHECK VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: DIESEL COOLING/SERVICE WATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-3930-501 | 6 | 355 | 0B | 3 | C | CK | SA | C | O | A | CT-O OP | | | |
| D/G COOLING WATER PUMP DISCHARGE CHECK | | | | | | | | | | | | | | |
| 3-3999-336 | 1 | 360-2 | 4C | 3 | C | CK | SA | O | C | A | CT-C OP | | | |
| D/G COOLING WATER TO CCSW CHECK | | | | | | | | | | | | | | |
| 3-3999-338 | 1 | 360-2 | 4E | 3 | C | CK | SA | O | C | A | CT-C OP | | | |
| D/G COOLING WATER TO CCSW CHECK | | | | | | | | | | | | | | |
| 3-3999-640 | 1.5 | 360-2 | 4E | 3 | C | CK | SA | C | O/C | A | CT-C OP<br>CT-O OP | | | |
| D/G COOLING WATER TO CCSW KEEP FILL | | | | | | | | | | | | | | |
| 3-3999-642 | 1.5 | 360-2 | 4B | 3 | C | CK | SA | C | O/C | A | CT-C OP<br>CT-O OP | | | |
| D/G COOLING WATER TO CCSW KEEP FILL | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

CLASS 1, 2 & 3 VALVE LISTING

SYSTEM: RX. BLDG. EQUIP. DRAINS/LPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-4899-84 | 1 | 369 | 8E | 3 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "A" LPCI HEAT EXCHANGER TUBE SIDE RELIEF | | | | | | | | | | | | | | | |
| 3-4899-89 | 1 | 369 | 8E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "A" LPCI HEAT EXHANGER SHELL SIDE RELIEF | | | | | | | | | | | | | | | |
| 3-4899-98 | 1 | 369 | 7E | 2 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "B" LPCI HEAT EXCHANGER SHELL SIDE RELIEF | | | | | | | | | | | | | | | |
| 3-4899-99 | 1 | 369 | 7E | 3 | C | RV | SA | C | O | A | RT | 10Y | | | |
| "B" LPCI HEAT EXCHANGER TUBE SIDE RELIEF | | | | | | | | | | | | | | | |

AUGMENTED VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-84A | 0.5 | 12-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 2-0220-84B | 0.5 | 12-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 2-0220-84C | 0.5 | 12-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 2-0220-84D | 0.5 | 12-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 2-0220-85A | 0.5 | 12-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 2-0220-85B | 0.5 | 12-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0220-85C | 0.5 | 12-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 2-0220-85D | 0.5 | 12-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0301-122 | 1 | 34 | 7E | SR | C | CK | SA | C | O/C | A | CT-O | RR | | TV-03A | |
| | | | | | | | | | | | CT-C | RR | | TV-03A | |
| CRD BACKUP SCRAM BYPASS | | | | | | | | | | | | | | | |
| 2-0302-19A | 0.5 | 34 | 7E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| BACKUP SCRAM | | | | | | | | | | | | | | | |
| 2-0302-19B | 0.5 | 34 | 7E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| BACKUP SCRAM | | | | | | | | | | | | | | | |
| 2-0302-20A | 0.5 | 34 | 8E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| SCRAM DUMP | | | | | | | | | | | | | | | |
| 2-0302-20B | 0.5 | 34 | 8E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| SCRAM DUMP | | | | | | | | | | | | | | | |
| 2-0305-117 | 0.5 | 34 | 0D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03B | |
| | | | | | | | | | | | FST | RR | | TV-03B | |
| SCRAM PILOT | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0305-118 | 0.5 | 34 | 0D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03B | |
| | | | | | | | | | | | FST | RR | | TV-03B | |
| SCRAM PILOT | | | | | | | | | | | | | | | |
| 2-0399-524A | 1 | 34 | 8D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 2-0399-524B | 1 | 34 | 8D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 2-0399-525 | 1 | 34 | 8D | SR | C | CK | SA | C | O | A | CT-O | RR | | TV-03C | |
| SCRAM AIR HEADER ARI BYPASS | | | | | | | | | | | | | | | |
| 2-0399-548A | 1 | 34 | 9C | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 2-0399-548B | 1 | 34 | 9C | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |

TEST: RT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0399-549A | 1 | 34 | 8E | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 2-0399-549B | 1 | 34 | 8E | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: TRAVERSING IN-CORE PROBE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0733-A | 0.5 | 37-2 | 1F | SR | A | BAL | SO | C | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 2-0733-B | 0.5 | 37-2 | 1F | SR | A | BAL | SO | C | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 2-0733-C | 0.5 | 37-2 | 1F | SR | A | BAL | SO | C | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 2-0733-D | 0.5 | 37-2 | 1F | SR | A | BAL | SO | C | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 2-0733-E | 0.5 | 37-2 | 1F | SR | A | BAL | SO | C | C | A | AT<br>BT<br>PIT | RR<br>OP<br>RR | RV-00A | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 2-0736-1 | 0.5 | 37-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: TRAVERSING IN-CORE PROBE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-0736-2 | 0.5 | 37-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |
| 2-0736-3 | 0.5 | 37-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |
| 2-0736-4 | 0.5 | 37-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |
| 2-0736-5 | 0.5 | 37-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: ISOLATION CONDENSER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1301-10 | 4 | 28 | 3C | SR | B | GA | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |

ISO CONDENSER CONTAMINATED DEMIN FILL

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1501-19A | 6 | 29-1 | 7B | SR | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I TORUS SPRAY | | | | | | | | | | | | | | | |
| 2-1501-19B | 6 | 29-1 | 2B | SR | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II TORUS SPRAY | | | | | | | | | | | | | | | |
| 2-1599-61 | 3 | 29-1 | 4D | SR | B | GA | AO | C | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS TO HOTWELL | | | | | | | | | | | | | | | |
| 2-1599-62 | 3 | 29-1 | 4D | SR | B | GA | AO | C | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS TO HOTWELL | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1601-20A | 20 | 25 | 8D | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING TO TORUS VACUUM RELIEF | | | | | | | | | | | | | | | |
| 2-1601-20B | 20 | 25 | 8E | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING TO TORUS VACUUM RELIEF | | | | | | | | | | | | | | | |
| 2-1601-21 | 18 | 25 | 6C | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL VENT AND PURGE | | | | | | | | | | | | | | | |
| 2-1601-22 | 18 | 25 | 6C | SR | A | BTF | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL/TORUS VENT | | | | | | | | | | | | | | | |
| 2-1601-23 | 18 | 25 | 3B | SR | A | BTF | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL VENT TO REACTOR BUILDING | | | | | | | | | | | | | | | |
| 2-1601-24 | 18 | 25 | 2B | SR | A | BTF | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS/DRYWELL VENT | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED; RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1601-31A | 20 | 25 | 9D | SR | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| REACTO BUILDING TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-31B | 20 | 25 | 9E | SR | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| REACTOR BUILDING TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-32A | 18 | 25 | 3D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-32B | 18 | 25 | 3D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-32C | 18 | 25 | 3D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-32D | 18 | 25 | 3E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: -SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1601-32E | 18 | 25 | 3E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-32F | 18 | 25 | 3E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-33A | 18 | 25 | 7D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-33B | 18 | 25 | 7D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-33C | 18 | 25 | 7D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-33D | 18 | 25 | 7E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1601-33E | 18 | 25 | 7E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-33F | 18 | 25 | 7E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-1601-55 | 4 | 25 | 6B | SR | A | BTF | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DW/TORUS N2 PURGE AND PUMP BACK SUCTION | | | | | | | | | | | | | | | |
| 2-1601-56 | 18 | 25 | 6D | SR | A | BTF | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS VENT AND PURGE | | | | | | | | | | | | | | | |
| 2-1601-57 | 1.5 | 25 | 8D | SR | A | GL | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL/TORUS N2 MAKE-UP | | | | | | | | | | | | | | | |
| 2-1601-58 | 1.5 | 25 | 7D | SR | A | GL | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| N2 MAKE-UP TO TORUS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1601-59 | 1.5 | 25 | 6D | SR | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| N2 MAKE-UP TO DRYWELL | | | | | | | | | | | | | | | |
| 2-1601-60 | 18 | 25 | 2E | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS VENT TO REACTOR BUILDING VENT SYSTEM | | | | | | | | | | | | | | | |
| 2-1601-61 | 2 | 25 | 2E | SR | A | GA | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS MAIN VENT BYPASS | | | | | | | | | | | | | | | |
| 2-1601-62 | 2 | 25 | 3B | SR | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL VENT BYPASS | | | | | | | | | | | | | | | |
| 2-1601-63 | 6 | 25 | 2A | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS/DRYWELL VENT | | | | | | | | | | | | | | | |
| 2-1601-91 | 18 | 25 | B2 | NSR | B | BTF | AO | O | C | A | BT | CS | | | CS-16A |
| | | | | | | | | | | | PIT | RR | | | |
| VENT TO RX BLDG EXHAUST SYSTEM (HARDENED VENT MOD) | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1601-92 | 10 | 25 | B2 | NSR | B | BTF | AO | C | O/C | A | BT PIT | CS RR | | | CS-16A |

VENT TO MAIN CHIMNEY (HARDENED VENT MOD)

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: FUEL POOL COOLING

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1901-16A | 6 | 31 | 6A | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| FUEL POOL DEMIN RETURN TO DIFFUSER | | | | | | | | | | | | | | | |
| 2-1901-16B | 6 | 31 | 6A | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| FUEL POOL DEMIN RETURN TO DIFFUSER | | | | | | | | | | | | | | | |
| 2-1901-27A | 6 | 31 | 3E | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| "A" FUEL POOL COOLING PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1901-27B | 6 | 31 | 3E | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| "B" FUEL POOL COOLING PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-1901-55 | 6 | 31 | 10D | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| FUEL POOL DEMIN RETURN TO DIFFUSER | | | | | | | | | | | | | | | |

TEST: -SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: RADWASTE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2001-106 | 3 | 39 | 7F | SR | A | GA | AO | O/C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL FLOOR DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 2-2001-6 | 3 | 39 | 3E | SR | A | GA | AO | O/C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL EQUIPMENT DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2301-15 | 12 | 51 | 4F | NSR | B | GA | MO | C | C | A | BT-O | OP | | | |
| U2 HPCI RETURN TO CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 2-2301-30 | 1 | 51 | 10B | SR | B | GL | AO | O | C | A | BT | OP | | | |
| U2 HPCI INLET DRN POT 2A OTBD DRN TO MN CDSR | | | | | | | | | | | | | | | |
| 2-2301-65 | 1 | 51 | 6A | SR | B | GL | AO | O | C | A | BT<br>PIT<br>FST | OP<br>RR<br>OP | | | |
| HPCI TURBINE SV ABOVE SEAT DRAIN | | | | | | | | | | | | | | | |
| 2-2399-77A | 1 | 51 | 8D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | | TV-23B | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 2-2399-77B | 1 | 51 | 8D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | | TV-23B | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-2599-79 | 1.25 | 707 | 6A | SR | C | CK | SA | C | O | A | CT-O | OP | | | |
| ACAD AIR COMPRESOR DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-2599-8 | 0.5 | 707 | 8F | SR | C | CK | SA | C | O | A | CT-O | OP | | | |
| ACAD VENT HEADER TO SBGT CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: SERVICE AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-4699-311A | 0.5 | 173 | 4F | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR COMPRESSOR 'A' DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-4699-311B | 0.5 | 173 | 6F | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR 'B' COMPRESSOR DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2-4699-312 | 1.5 | 173 | 5D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR RECEIVER TANK OUTLET CHECK | | | | | | | | | | | | | | | |
| 2-4699-313A | 0.5 | 173 | 3D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR A1 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 2-4699-313B | 0.5 | 173 | 5D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR B1 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 2-4699-314A | 0.5 | 173 | 4D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR A2 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: SERVICE AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-4699-314B | 0.5 | 173 | 6D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR B2 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 2-4699-316 | 1.5 | 173 | 5D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR RECEIVER TANK OUTLET CHECK | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: INSTRUMENT AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-4720 | 1 | 37-2 | 7C | SR | A | GA | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL PNUEMATIC COMPRESSOR SUCTION | | | | | | | | | | | | | | | |
| 2-4721 | 1 | 37-2 | 7C | SR | A | GA | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL PNUEMATIC COMPRESSOR SUCTION | | | | | | | | | | | | | | | |
| 2-4722 | 1 | 37-2 | 2E | SR | A | GL | AO | O | C | A | AT | RR | RV-00A | | CS-47A |
| | | | | | | | | | | | BT | CS | | | |
| | | | | | | | | | | | FST | CS | | | |
| | | | | | | | | | | | PIT | RR | | | |
| INSTRUMENT AIR TO DRYWELL | | | | | | | | | | | | | | | |
| 2-4799-514 | 0.5 | 37-2 | 4F | SR | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | | TV-47A | |
| TIP VALVE PURGE ASSY OUTLET CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: DIESEL OIL

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-5202A-501 | 1.5 | 41-2 | 5E | SR | C | CK | SA | C | O | A | CT-O | OP | | | |

D/G FUEL OIL TRANSFER PUMP DISCHARGE CHECK

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: RX. BLDG. VENTILATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-5741A | 48 | 269 | 1A | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING VENT SUPPLY ISOLATION | | | | | | | | | | | | | | | |
| 2-5741B | 48 | 269 | 1A | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING VENT SUPPLY ISOLATION | | | | | | | | | | | | | | | |
| 2-5742A | 48 | 269 | 0B | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING VENT EXHAUST ISOLATION | | | | | | | | | | | | | | | |
| 2-5742B | 48 | 269 | 0B | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING VENT EXHAUST ISOLATION | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: D/G STARTING AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-6699-103 | .375 | 173 | 0A | SR | B | GA | SO | C | O | A | BT | OP | | TV-66A | |
| | | | | | | | | | | | FST | OP | | | |
| D/G STARTING AIR | | | | | | | | | | | | | | | |
| 2-6699-104 | .375 | 173 | 0A | SR | C | CK | SA | C | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| D/G STARTING AIR CHECK | | | | | | | | | | | | | | | |
| 2-6699-105 | .375 | 173 | 0A | SR | B | GA | AO | C | O | A | BT | OP | | TV-66A | |
| | | | | | | | | | | | FST | OP | | | |
| D/G STARTING AIR RELAY | | | | | | | | | | | | | | | |

TEST: BT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-8501-1A | 0.5 | 25 | 2E | SR | A | CV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD TORUS SAMPLE | | | | | | | | | | | | | | | |
| 2-8501-1B | 0.5 | 25 | 2E | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD TORUS SAMPLE | | | | | | | | | | | | | | | |
| 2-8501-3A | 0.5 | 25 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-8501-3B | 0.5 | 25 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-8501-5A | 0.5 | 25 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-8501-5B | 0.5 | 25 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-8526 | .75 | 25 | 8D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| NITROGEN INERTING RELIEF | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: HRSS

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-8941-709 | 0.5 | 1234-1 | 5E | SR | B | GA | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| "A" LPCI HEAT EXCH. TO HRSS AND GRAB SAMPLE | | | | | | | | | | | | | | | |
| 2-8941-710 | 0.5 | 1234-1 | 5D | SR | B | GA | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| "B" LPCI HEAT EXCH. TO HRSS AND GRAB SAMPLE | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-9205A | 0.5 | 25 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-9205B | 0.5 | 25 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-9206A | 0.5 | 25 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-9206B | 0.5 | 25 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-9207A | 0.5 | 25 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-9207B | 0.5 | 25 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-9208A | 0.5 | 25 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 2-9208B | 0.5 | 25 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |

AUGMENTED VALVE LISTING

SYSTEM: SERVICE AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-4699-311A | 0.5 | 173 | 4F | SR | C | CK | SA | C | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| D/G STARTING AIR "A" COMPRESSOR DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2/3-4699-311B | 0.5 | 173 | 6F | SR | C | CK | SA | C | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| D/G STARTING AIR COMPRESSOR B DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 2/3-4699-312 | 1.5 | 173 | 5D | SR | C | CK | SA | C | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| D/G STARTING AIR RECEIVER TANK OUTLET CHECK | | | | | | | | | | | | | | | |
| 2/3-4699-313A | 0.5 | 173 | 3D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR A1 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 2/3-4699-313B | 0.5 | 173 | 5D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR B1 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 2/3-4699-314A | 0.5 | 173 | 4D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR A2 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: SERVICE AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-4699-314B | 0.5 | 173 | 6D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR B2 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 2/3-4699-316 | 1.5 | 173 | 5D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR RECEIVER TANK OUTLET CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: DIESEL OIL

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-5202A-501 | 1.5 | 41-2 | 1D | SR | C | CK | SA | C | O | A | CT-O | OP | | | |

D/G FUEL OIL TRANSFER PUMP DICHARGE CHECK

TEST: RT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONTROL ROOM VENTILATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-5741-35 | 2.5 | 3121 | D7 | SR | B | GL | AO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| INSTRUMENT AIR TO CONTROL ROOM HVAC | | | | | | | | | | | | | | | |
| 2/3-5741-55 | 10 | 3121 | 5C | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| "A" CONTROL ROOM FILTRATION UNIT FAN OUTLET DAMPER | | | | | | | | | | | | | | | |
| 2/3-5741-56 | 10 | 3121 | 5C | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| "B" CONTROL ROOM FILTRATION UNIT FAN OUTLET DAMPER | | | | | | | | | | | | | | | |
| 2/3-5741-57 | 10 | 3121 | 6B | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| CONTROL ROOM FILTRATION UNIT BYPASS DAMPER | | | | | | | | | | | | | | | |
| 2/3-5741-58 | 10 | 3121 | 7C | SR | B | BTF | AO | C | O | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| CONTROL ROOM FILTRATION UNIT INLET DAMPER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: D/G STARTING AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-6699-103 | .375 | 173 | 0A | SR | B | GA | SO | C | O | A | BT | OP | | TV-66A | |
| | | | | | | | | | | | FST | OP | | | |
| D/G STARTING AIR | | | | | | | | | | | | | | | |
| 2/3-6699-104 | .375 | 173 | 0A | SR | C | CK | SA | C | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| D/G STARTING AIR CHECK | | | | | | | | | | | | | | | |
| 2/3-6699-105 | .375 | 173 | 0A | SR | B | GA | AO | C | O | A | BT | OP | | TV-66A | |
| | | | | | | | | | | | FST | OP | | | |
| D/G STARTING AIR RELAY | | | | | | | | | | | | | | | |

TEST: ST-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: SBGT

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BACK DRAFT DMP | 24 | 49 | 9A | SR | C | CK | SA | C | O | A | CT-O | OP | | | |
| 2/3 "B" BACK DRAFT DAMPER | | | | | | | | | | | | | | | |
| BACK DRAFT DMP | 24 | 49 | 9C | SR | C | CK | SA | C | O | A | CT-O | OP | | | |
| 2/3 "A" BACK DRAFT DAMPER | | | | | | | | | | | | | | | |
| 2/3-7505A | 24 | 49 | 3A | SR | B | BTF | MO | C | O | A | BT<br>PIT | OP<br>RR | | | |
| "A" SBGT INLET | | | | | | | | | | | | | | | |
| 2/3-7505B | 24 | 49 | 3A | SR | B | BTF | MO | C | O | A | BT<br>PIT | OP<br>RR | | | |
| "B" SBGT INLET | | | | | | | | | | | | | | | |
| 2/3-7507A | 24 | 49 | 9C | SR | B | BTF | MO | C | O | A | BT<br>PIT | OP<br>RR | | | |
| "A" SBGT BLOWER OUTLET | | | | | | | | | | | | | | | |
| 2/3-7507B | 24 | 49 | 9A | SR | B | BTF | MO | C | O | A | BT<br>PIT | OP<br>RR | | | |
| "B" SBGT BLOWER OUTLET | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: SBGT

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/3-7510A | 24 | 49 | 9C | SR | B | BTF | MO | O | O | P | N/A | | | | |
| 'A' SBGT BLOWER INLET | | | | | | | | | | | | | | | |
| 2/3-7510B | 24 | 49 | 9A | SR | B | BTF | MO | O | O | P | N/A | | | | |
| 'B' SBGT BLOWER INLET | | | | | | | | | | | | | | | |

AUGMENTED VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-84A | 0.5 | 345-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 3-0220-84B | 0.5 | 345-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 3-0220-84C | 0.5 | 345-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 3-0220-84D | 0.5 | 345-1 | 3F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 3-0220-85A | 0.5 | 345-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 3-0220-85B | 0.5 | 345-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: RX RECIRC/MAIN STEAM/FEEDWATER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0220-85C | 0.5 | 345-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |
| 3-0220-85D | 0.5 | 345-2 | 7F | SR | C | CK | SA | O | C | A | CT-C | RR | | TV-02A | |
| MSIV ACCUMULATOR INLET | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0301-122 | 1 | 365 | 7E | SR | C | CK | SA | C | O/C | A | CT-O | RR | | TV-03A | |
| | | | | | | | | | | | CT-C | RR | | TV-03A | |
| CRD BACKUP SCRAM BYPASS | | | | | | | | | | | | | | | |
| 3-0302-19A | 0.5 | 365 | 7E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| BACKUP SCRAM | | | | | | | | | | | | | | | |
| 3-0302-19B | 0.5 | 365 | 7E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| BACKUP SCRAM | | | | | | | | | | | | | | | |
| 3-0302-20A | 0.5 | 365 | 8E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| SCRAM DUMP | | | | | | | | | | | | | | | |
| 3-0302-20B | 0.5 | 365 | 8E | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03A | |
| | | | | | | | | | | | FST | RR | | TV-03A | |
| SCRAM DUMP | | | | | | | | | | | | | | | |
| 3-0305-117 | 0.5 | 365 | 0D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03B | |
| | | | | | | | | | | | FST | RR | | TV-03B | |
| SCRAM PILOT | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0305-118 | 0.5 | 365 | 0D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03B | |
| | | | | | | | | | | | FST | RR | | TV-03B | |
| SCRAM PILOT | | | | | | | | | | | | | | | |
| 3-0399-524A | 1 | 365 | 8D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 3-0399-524B | 1 | 365 | 8D | SR | B | TWV | SO | O | C | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 3-0399-525 | 1 | 365 | 8D | SR | C | CK | SA | C | O | A | CT-O | RR | | TV-03C | |
| SCRAM AIR HEADER ARI BYPASS | | | | | | | | | | | | | | | |
| 3-0399-548A | 1 | 365 | 9C | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 3-0399-548B | 1 | 365 | 9C | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONTROL ROD DRIVE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0399-549A | 1 | 365 | 8E | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |
| 3-0399-549B | 1 | 365 | 8E | SR | B | GA | SO | C | O | A | BT | RR | | TV-03C | |
| | | | | | | | | | | | FST | RR | | TV-03C | |
| ATWS-ARI | | | | | | | | | | | | | | | |

TEST: LT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: TRAVERSING IN-CORE PROBE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0733-A | 0.5 | 367-2 | 1F | SR | A | BAL | SO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 3-0733-B | 0.5 | 367-2 | 1F | SR | A | BAL | SO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 3-0733-C | 0.5 | 367-2 | 1F | SR | A | BAL | SO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 3-0733-D | 0.5 | 367-2 | 1F | SR | A | BAL | SO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 3-0733-E | 0.5 | 367-2 | 1F | SR | A | BAL | SO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TIP BALL VALVE | | | | | | | | | | | | | | | |
| 3-0736-1 | 0.5 | 367-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: TRAVERSING IN-CORE PROBE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-0736-2 | 0.5 | 367-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |
| 3-0736-3 | 0.5 | 367-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |
| 3-0736-4 | 0.5 | 367-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |
| 3-0736-5 | 0.5 | 367-2 | 1F | SR | D | GA | EXP | O | C | A | DT | RR | | | |
| TIP SHEAR VALVE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: ISOLATION CONDENSER

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1301-10 | 4 | 359 | 3C | SR | B | GA | MO | C | O/C | A | BT<br>PIT | OP<br>RR | | | |

ISO CONDENSER CONTAMINATED DEMIN WATER FILL

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: LPCI/CCSW

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1501-19A | 6 | 360-1 | 7B | SR | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP I TORUS SPRAY | | | | | | | | | | | | | | | |
| 3-1501-19B | 6 | 360-1 | 2B | SR | A | GA | MO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| LPCI LOOP II TORUS SPRAY | | | | | | | | | | | | | | | |
| 3-1599-61 | 3 | 360-1 | 4D | SR | B | GA | AO | C | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS TO HOTWELL | | | | | | | | | | | | | | | |
| 3-1599-62 | 3 | 360-1 | 4D | SR | B | GA | AO | C | C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS TO HOTWELL | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1601-20A | 20 | 356 | 8D | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING TO TORUS VACUUM RELIEF | | | | | | | | | | | | | | | |
| 3-1601-20B | 20 | 356 | 8E | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| REACTOR BUILDING TO TORUS VACUUM RELIEF | | | | | | | | | | | | | | | |
| 3-1601-21 | 18 | 356 | 6C | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL VENT AND PURGE | | | | | | | | | | | | | | | |
| 3-1601-22 | 18 | 356 | 6C | SR | A | BTF | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL/TORUS VENT | | | | | | | | | | | | | | | |
| 3-1601-23 | 18 | 356 | 3B | SR | A | BTF | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL VENT TO REACTOR BUILDING | | | | | | | | | | | | | | | |
| 3-1601-24 | 18 | 356 | 2B | SR | A | BTF | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS/DRYWELL VENT | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1601-31A | 20 | 356 | 9D | SR | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| REACTOR BUILDING TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-31B | 20 | 356 | 9E | SR | AC | CK | SA | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| REACTOR BUILDING TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-32A | 18 | 356 | 3D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-32B | 18 | 356 | 3D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-32C | 18 | 356 | 3D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-32D | 18 | 356 | 3E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1601-32E | 18 | 356 | 3E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-32F | 18 | 356 | 3E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-33A | 18 | 356 | 7D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-33B | 18 | 356 | 7D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-33C | 18 | 356 | 7D | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-33D | 18 | 356 | 7E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1601-33E | 18 | 356 | 7E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-33F | 18 | 356 | 7E | SR | AC | CK | SA | C | O/C | A | AT | RR | | | |
| | | | | | | | | | | | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| TORUS TO DRYWELL VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-1601-55 | 4 | 356 | 6B | SR | A | BTF | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DW/TORUS N2 PURGE AND PUMP BACK SUCTION | | | | | | | | | | | | | | | |
| 3-1601-56 | 18 | 356 | 6D | SR | A | BTF | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS VENT AND PURGE | | | | | | | | | | | | | | | |
| 3-1601-57 | 1.5 | 356 | 8D | SR | A | GL | MO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL/TORUS N2 MAKE-UP | | | | | | | | | | | | | | | |
| 3-1601-58 | 1.5 | 356 | 7D | SR | A | GL | AO | C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| N2 MAKE-UP TO TORUS | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1601-59 | 1.5 | 356 | 6D | SR | A | GL | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| N2 MAKE-UP TO DRYWELL | | | | | | | | | | | | | | | |
| 3-1601-60 | 18 | 356 | 2E | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS VENT TO REACTOR BUILDING VENT SYSTEM | | | | | | | | | | | | | | | |
| 3-1601-61 | 2 | 356 | 2E | SR | A | GA | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS MAIN VENT BYPASS | | | | | | | | | | | | | | | |
| 3-1601-62 | 2 | 356 | 3B | SR | A | GL | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL VENT BYPASS | | | | | | | | | | | | | | | |
| 3-1601-63 | 6 | 356 | 2A | SR | A | BTF | AO | C | O/C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| TORUS/DRYWELL VENT | | | | | | | | | | | | | | | |
| 3-1601-91 | 18 | 356 | B2 | NSR | B | BTF | AO | O | C | A | BT | CS | | | CS-16A |
| | | | | | | | | | | | PIT | RR | | | |
| VENT TO RX BLDG EXHAUST SYSTEM (HARDENED VENT MOD) | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: CONT. & PRESSURE SUPPRESSION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1601-92 | 10 | 356 | B2 | NSR | B | BTF | AO | C | O/C | A | BT<br>PIT | CS<br>RR | | | CS-16A |

VENT TO MAIN CHIMNEY (HARDENED VENT MOD)

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: FUEL POOL COOLING

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-1901-16A | 6 | 362 | 6A | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| FUEL POOL DEMIN RETURN TO DIFFUSER | | | | | | | | | | | | | | | |
| 3-1901-16B | 6 | 362 | 6A | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| FUEL POOL DEMIN RETURN TO DIFFUSER | | | | | | | | | | | | | | | |
| 3-1901-27A | 6 | 362 | 3E | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| "A" FUEL POOL COOLING PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-1901-27B | 6 | 362 | 3F | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| "B" FUEL POOL COOLING PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-1901-55 | 6 | 362 | 10D | NSR | C | CK | SA | O/C | O | A | CT-O | OP | | TV-19A | |
| FUEL POOL DEMIN RETURN TO DIFFUSER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: RADWASTE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2001-106 | 3 | 369 | 7F | SR | A | GA | AO | O/C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL FLOOR DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |
| 3-2001-6 | 3 | 369 | 3E | SR | A | GA | AO | O/C | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| DRYWELL EQUIPMENT DRAIN SUMP PUMP DISCHARGE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: HPCI

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2301-15 | 12 | 374 | 4F | NSR | B | GA | MO | C | C | A | BT-O | OP | | | |
| U3 HPCI RETURN TO CONDENSATE STORAGE | | | | | | | | | | | | | | | |
| 3-2301-30 | 1 | 374 | 10B | SR | B | GL | AO | O | C | A | BT | OP | | | |
| U3 HPCI INLET DRN POT 2A OTBD DRN TO NN CDSR | | | | | | | | | | | | | | | |
| 3-2301-65 | 1 | 374 | 6A | SR | B | GL | AO | O | C | A | BT<br>FST<br>PIT | OP<br>OP<br>RR | | | |
| HPCI TURBINE SV ABOVE SEAT DRAIN | | | | | | | | | | | | | | | |
| 3-2399-77A | 1 | 374 | 8D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | | TV-23B | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |
| 3-2399-77B | 1 | 374 | 8D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | RR<br>RR | | TV-23B | |
| HPCI TURBINE EXHAUST TO TORUS VACUUM BREAKER | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: ACAD

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-2599-79 | 1.25 | 707-2 | 6A | SR | C | CK | SA | C | O | A | CT-O | OP | | | |
| ACAD AIR COMPRESOR DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-2599-8 | 0.5 | 707-2 | A8 | SR | C | CK | SA | C | O | A | CT-O | OP | | | |
| ACAD VENT HEADER TO SBGT CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: SERVICE AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-4699-311A | 0.5 | 173 | 4F | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR COMPRESSOR A DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-4699-311B | 0.5 | 173 | 6F | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR COMPRESSOR B DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-4699-312 | 1.5 | 173 | 5D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |
| D/G STARTING AIR RECEIVER TANK OUTLET CHECK | | | | | | | | | | | | | | | |
| 3-4699-313A | 0.5 | 173 | 3D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR A1 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 3-4699-313B | 0.5 | 173 | 5D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR B1 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 3-4699-314A | 0.5 | 173 | 4D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR A2 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: SERVICE AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-4699-314B | 0.5 | 173 | 6D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| D/G STARTING AIR B2 RECEIVER TANK RELIEF | | | | | | | | | | | | | | | |
| 3-4699-316 | 1.5 | 173 | 5D | SR | C | CK | SA | C | O/C | A | CT-O<br>CT-C | OP<br>OP | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: INSTRUMENT AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-4720 | 1 | 367-2 | 7C | SR | A | GA | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL PNUEMATIC COMPRESSOR SUCTION | | | | | | | | | | | | | | | |
| 3-4721 | 1 | 367-2 | 7C | SR | A | GA | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| DRYWELL PNUEMATIC COMPRESSOR SUCTION | | | | | | | | | | | | | | | |
| 3-4722 | 1 | 367-2 | 2E | SR | A | GL | AO | O | C | A | AT | RR | RV-00A | | CS-47A |
| | | | | | | | | | | | BT | CS | | | |
| | | | | | | | | | | | FST | CS | | | |
| | | | | | | | | | | | PIT | RR | | | |
| INSTRUMENT AIR TO DRYWELL | | | | | | | | | | | | | | | |
| 3-4799-514 | 0.5 | 367-2 | 4F | SR | AC | CK | SA | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | CT-C | RR | | TV-47A | |
| TIP VALVE PURGE ASSY OUTLET CHECK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: DIESEL OIL

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-5202A-501 | 1.5 | 41-2 | 5B | SR | C | CK | SA | C | O | A | CT-O | OP | | | |
| D/G FUEL OIL TRANSFER PUMP DISCHARGE CHECK | | | | | | | | | | | | | | | |
| 3-5202C-500 | 1.5 | 41-2 | 5C | SR | B | GA | SO | C | O/C | A | BT | OP | | TV-52A | |
| D/G FUEL OIL TRANSFER PUMP TO DAY TANK | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: RX. BLDG. VENTILATION

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-5741A | 48 | 529 | 1A | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| REACTOR BUILDING VENT SUPPLY ISOLATION | | | | | | | | | | | | | | | |
| 3-5741B | 48 | 529 | 1A | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| REACTOR BUILDING VENT SUPPLY ISOLATION | | | | | | | | | | | | | | | |
| 3-5742A | 48 | 529 | 0B | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| REACTOR BUILDING VENT EXHAUST ISOLATION | | | | | | | | | | | | | | | |
| 3-5742B | 48 | 529 | 0B | SR | B | BTF | AO | O | C | A | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| REACTOR BUILDING VENT EXHAUST ISOLATION | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: D/G STARTING AIR

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-6699-103 | .375 | 173 | 0A | SR | B | GA | SO | C | O | A | BT | OP | | TV-66A | |
| | | | | | | | | | | | FST | OP | | | |
| D/G STARTING AIR | | | | | | | | | | | | | | | |
| 3-6699-104 | .375 | 173 | 0A | SR | C | CK | SA | C | O/C | A | CT-O | OP | | | |
| | | | | | | | | | | | CT-C | OP | | | |
| D/G STARTING AIR CHECK | | | | | | | | | | | | | | | |
| 3-6699-105 | .375 | 173 | 0A | SR | B | GA | AO | C | O | A | BT | OP | | TV-66A | |
| | | | | | | | | | | | FST | OP | | | |
| D/G STARTING AIR RELAY | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-8501-1A | 0.5 | 356 | 2E | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD TORUS SAMPLE | | | | | | | | | | | | | | | |
| 3-8501-1B | 0.5 | 356 | 2E | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD TORUS SAMPLE | | | | | | | | | | | | | | | |
| 3-8501-3A | 0.5 | 356 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-8501-3B | 0.5 | 356 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-8501-5A | 0.5 | 356 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-8501-5B | 0.5 | 356 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-8526 | .75 | 356 | 8D | SR | C | RV | SA | C | O | A | RT | 10Y | | | |
| NITROGEN INERTING RELIEF | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: HRSS

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-8941-709 | 0.5 | 1239-1 | 5E | SR | B | GA | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| "A" LPCI HEAT EXCH. TO HRSS AND GRAB SAMPLE | | | | | | | | | | | | | | | |
| 3-8941-710 | 0.5 | 1239-1 | 5D | SR | B | GA | AO | C | O/C | A | BT | OP | | | |
| | | | | | | | | | | | FST | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| "B" LPCI HEAT EXCH. TO HRSS AND GRAB SAMPLE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-9205A | 0.5 | 356 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-9205B | 0.5 | 356 | 3D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-9206A | 0.5 | 356 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-9206B | 0.5 | 356 | 4D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-9207A | 0.5 | 356 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-9207B | 0.5 | 356 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |

TEST: AT-SEAT LEAKAGE TEST; BT-FULL STROKE EXERCISE; CT-O-CHECK VALVE EXERCISE OPEN, CT-C-CHECK VALVE EXERCISE CLOSED;
RT-RELIEF VALVE TEST; DT-EXPLOSIVE VALVE TEST; FST-FAIL SAFE TEST; PIT-POSITION INDICATOR CHECK.
TEST SCHED: OP-NORMAL OPERATION; CS-COLD SHUTDOWN; RR-REACTOR REFUELING; SAM-SAMPLING PLAN TECHNIQUE; XY-ONCE EVERY X YEARS.

REVISION 3

AUGMENTED VALVE LISTING

SYSTEM: PROCESS SAMPLE

| EPN | SIZE | PID | CORD | CLS | CAT | VALVE TYPE | ACT TYPE | NOR POS | STR DIR | A/P | TEST | TEST SCHED | REL REQ | TECH POS. | CS JUST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-9208A | 0.5 | 356 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| INBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |
| 3-9208B | 0.5 | 356 | 6D | SR | A | FCV | AO | O | C | A | AT | RR | RV-00A | | |
| | | | | | | | | | | | BT | OP | | | |
| | | | | | | | | | | | PIT | RR | | | |
| | | | | | | | | | | | FST | OP | | | |
| OUTBOARD PROCESS SAMPLE | | | | | | | | | | | | | | | |

## VALVE RELIEF REQUEST INDEX/SUMMARIES

(Page 1 of 4)

| Relief Request | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| RV-00A | 14-1 | 0 | 03/92 | **Primary Containment Isolation Valves** Local leak rate tests will be conducted in accordance with 10CFR50, Appendix J. |
| RV-00B | 14-2 | 0 | 03/92 | **Excess Flow Check Valves** Exercise during reactor refueling outages in accordance with Technical Specification 4.7.D.1.b. |
| RV-00C | 14-3 | 3 | 08/95 | **FW and RWCU Check Valves** Verified closed during reactor refueling outages. |
| RV-02A | 14-4 to 14-5 | 3 | 08/95 | **Electromatic Relief Valves** Exercise without timing at least once per operating cycle in accordance with the Technical Specifications. |
| RV-02B | NA | 3 | 08/95 | Deleted. |
| RV-02C | 14-6 | 0 | 03/92 | **Feedwater Check Valves** Exercise closed during reactor refueling outages. |
| RV-02D | NA | 3 | 08/95 | Converted to Technical Approach and Position TV-02A. |
| RV-02E | 14-7 to 14-8 | 0 | 03/92 | **Main Steam Relief Valve Discharge Piping Vacuum Breakers** Full stroke exercise without measuring the torque and visually inspect the internals during cold shutdowns. |
| RV-02F | 14-9 | 0 | 03/92 | **Reactor Head Spray Check Valves** Exercise and leak test during reactor refueling outages. |
| RV-02G | 14-10 to 14-11 | 3 | 08/95 | **RVWLIS Backfill Check Valves** Exercise and leak test during reactor refueling outages. |
| RV-02H | 14-12 | 3 | 08/95 | **MSIV** Partial stroke quarterly, full stroke at Cold Shutdown. |

## VALVE RELIEF REQUEST INDEX/SUMMARIES

(Page 2 of 4)

| Relief Request | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| RV-03A | NA | 3 | 08/95 | Converted to Technical Approach and Position TV-03A. |
| RV-03B | 14-14 to 14-15 | 3 | 08/95 | **CRD Scram Inlet and Outlet Valves** Individual scram insertion times and exercising will be performed in accordance with the Technical Specifications. |
| RV-03C | NA | 3 | 08/95 | Converted to Technical Approach and Position TV-03C. |
| RV-11A | 14-16 to 14-17 | 0 | 03/92 | **SBLC Injection Check Valves** Exercise open with the injection test and closed with local leak rate testing during reactor refueling outages. |
| RV-13A | 14-18 | 3 | 08/95 | **Isolation Condenser Make Up Valves** Disassemble and inspect in accordance with the sampling technique. |
| RV-14A | 14-19 to 14-20 | 0 | 03/92 | **Core Spray Minimum Flow Check Valves** Disassemble and inspect in accordance with the sampling technique. |
| RV-14B | 14-21 | 3 | 08/95 | **Core Spray Keep Fill Check Valves** Test as a series combination with both being repaired or replaced as necessary. |
| RV-14C | 14-22 | 3 | 08/95 | **Core Spray Injection Check Valves** Verify closure function with leakage test on refuel outage basis. |
| RV-15A | 14-23 to 14-24 | 0 | 03/92 | **LPCI Minimum flow Check Valves** Disassemble and inspect in accordance with the sampling technique. |
| RV-15B | 14-25 | 3 | 08/95 | **LPCI Keep Fill Check Valves** Test as a series combination with both being repaired or replaced as necessary. |

## VALVE RELIEF REQUEST INDEX/SUMMARIES

(Page 3 of 4)

| Relief Request | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| RV-23A | 14-26 to 14-27 | 3 | 08/95 | **HPCI Pump Torus Suction Valves** Partial Stroke exercise each quarter and disassemble and inspect in accordance with the sampling technique |
| RV-23B | 14-28 to 14-29 | 3 | 08/95 | **HPCI Injection Check Valve** Full stroke exercise open and closed during reactor refueling outages and measure the torque required to full stroke exercise open during cold shutdowns. |
| RV-23C | 14-30 | 3 | 08/95 | **HPCI Keep Fill Check Valves** Test as a series combination with both being repaired or replaced as necessary. |
| RV-23D | 14-31 to 14-32 | 3 | 08/95 | **HPCI Turbine Exhaust Vacuum Breakers** Functionally test open and closed each refueling outage as an assembly. |
| RV-23E | 14-33 to 14-34 | 3 | 08/95 | **HPCI Turbine Exhaust Check Valves** Leak test during reactor refueling outages. |
| RV-23F | 14-35 | 0 | 03/92 | **HPCI Minimum Flow Check Valves** Disassemble and inspect according to the sampling techniques. |
| RV-23G | 14-36 to 14-37 | 0 | 03/92 | **HPCI Gland Seal Condenser Check Valves** Disassemble and inspect according to the sampling technique. |
| RV-23H | 14-38 to 14-39 | 3 | 08/95 | **HPCI Drain Pot Solenoid** Exercise valve quarterly without timing. |
| RV-24A | 14-40 | 3 | 08/95 | **CAM System Isolation Valves** Exercise closed during reactor refueling outages. |
| RV-25A | 14-41 to 14-42 | 3 | 08/95 | **ACAD Containment Isolation Valves** Exercise during reactor refueling outages . |
| RV-37A | 14-43 | 3 | 08/95 | **RBCCW Supply Check Valve** Exercise closed during reactor refueling outages. |

## VALVE RELIEF REQUEST INDEX/SUMMARIES

(Page 4 of 4)

| Relief Request | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| RV-47A | NA | 3 | 08/95 | Converted to Technical Approach and Position TV-47A. |
| RV-57A | 14-44 | 3 | 08/95 | **C.R. HVAC Cooling Water Flow Control Valve** Fail Safe test and monitor stem travel for degradation without timing. |
| RV-66A | NA | 3 | 08/95 | Converted to Technical Approach and Position TV-66A. |

## RELIEF REQUEST NUMBER RV-00A

(Page 1 of 1)

### DESCRIPTION

Relief from ASME Code leak test requirements to do tests in accordance with 10CRF50 Appendix J, Type C, Local Leak Rate Testing.

### COMPONENTS IDENTIFICATION/FUNCTION

All Category A and AC Primary Containment Isolation valves

### CODE REQUIREMENTS(S)

| | |
|---|---|
| IWV-3426 | Analysis of Leakage Rates. |
| IWV-3427(b) | Corrective Actions if a leakage rate exceeds the rate determined by the previous test. |

### BASIS FOR RELIEF

Primary containment Category A and AC isolation valves will be seat leak tested in accordance with the requirements of Technical Specification Sections 3.7 and 4.7 and 10 CFR 50 Appendix J.

Failure to meet the maximum allowable leakage rates as defined by the Technical Specifications shall require compliance with ASME Section XI, IWV 3427(a).

Data trending, as required by IWV-3427(b) for valves 6 inches and larger, does not provided meaningful information that would justify the burden of taking corrective action. With the increased frequency, constraints would be placed upon the plant requiring extended shutdowns. Therefore, corrective action per IWV-3427(b) will not be used.

### ALTERNATIVE TEST

Perform seat leakage testing in accordance with the requirements of 10 CFR 50 Appendix J, or as amended by Technical Specifications.

The seat leakage results of the primary containment isolation valves will be analyzed in accordance with 10 CFR 50 Appendix J, Technical Specification Section 3.7/4.7 and IWV-3426.

Containment isolation valves will be repaired or replaced as required when the leakage rate exceeds the maximum allowable as stated in the Dresden Nuclear Station Technical Specifications or IWV-3427(a).

## RELIEF REQUEST NUMBER RV-00B

(Page 1 of 1)

### DESCRIPTION

Relief is requested from partial and full stroke exercising of all excess flow check valves during quarterly or cold shutdown periods.

### COMPONENT IDENTIFICATION/FUNCTION

All excess flow check valves as listed in the IST Program. Excess flow check valves are denoted as XFC in the Valve Type column.

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

These are reactor process instrument line excess flow check valves that are tested in accordance with Technical Specification 4.7.D.1.B. requirements which consist of a leakage test conducted every reactor refueling outage. The testing involves uncoupling the instrument lines and verifying that each valve strokes to the closed position. The test also verifies that the valve limits flow to an acceptable level. These excess flow check valves are designed to automatically close in the event of a down stream line rupture. Valving operations and instrument line disconnections during the performance of the inservice testing can result in a reactor scram and an emergency core cooling system initiation, or other automatic actions during the time the vessel is pressurized. This would result in uncontrolled rapid pressure transients in the reactor vessel and/or other undesirable consequences. The optimum time for the inservice testing of these valves is during reactor refueling.

### ALTERNATIVE TEST

The valves will be exercised during reactor refueling in accordance with Technical Specification 4.7.D.1.B.

## RELIEF REQUEST NUMBER RV-00C

(Page 1 of 1)

### DESCRIPTION

Relief is requested for full stroke exercising closed the following valves quarterly or during cold shutdown.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-220-59 | 18.0 | C | 2 | 14/2F | FW Check Valve |
| 2-1201-158 | 8.0 | C | 2 | 30/5A | RWCU Check Valve |
| 3-220-59 | 18.0 | C | 2 | 347/2F | FW Check Valve |
| 3-1201-158 | 8.0 | C | 2 | 361/5A | RWCU Check Valve |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

To verify the above check valves closed requires quantifying leakage with a reverse flow test or seat leakage test.

Because the 220-59 valve is normally open and valve 1201-158 cannot be isolated, no direct or indirect methods exist for quantifying leakage during power operation or cold shutdowns.

During cold shutdowns, the condensate/feedwater system is required to be operable in order to maintain reactor water inventory. The normal make-up path to the reactor during cold shutdowns is through the 2(3)-220-59 check valve and therefore the volume containing the above valves cannot be isolated.

### ALTERNATE TEST

Operability of the above check valves in the closed position will be verified each reactor refueling outage.

Closure will be verified during performance of a leakage rate test in which seat leakage will be quantified for the above valves.

## RELIEF REQUEST NUMBER RV-02A

(Page 1 of 2)

### DESCRIPTION

Relief from Code timing and information on valve exercising during Cold Shutdown.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0203-3A | 6" | BC | 1 | 12-1/7F | Main Steam Target Rock Safety Relief Valve |
| 2-0203-3B | 6" | BC | 1 | 12-1/7E | Main Steam Electromatic Relief Valve |
| 2-0203-3C | 6" | BC | 1 | 12-1/7C | " |
| 2-0203-3D | 6" | BC | 1 | 12-1/7B | " |
| 2-0203-3E | 6" | BC | 1 | 12-1/6E | " |
| 3-0203-3A | 6" | BC | 1 | 345-1/7F | Main Steam Target Rock Safety Relief Valve |
| 3-0203-3B | 6" | BC | 1 | 345-1/7E | Main Steam Electromatic Relief Valve |
| 3-0203-3C | 6" | BC | 1 | 345-1/7C | " |
| 3-0203-3D | 6" | BC | 1 | 345-1/7B | " |
| 3-0203-3E | 6" | BC | 1 | 345-1/6E | " |

### CODE REQUIREMENT(S)

IWV-3411 Test Frequency: Category A and B valves shall be exercised at least once every three months.

IWV-3412 Exercising Procedure: Valves shall be exercised during plant operations.

IWV-3413 Power Operated Valves: Limiting values of full-stroke times shall be specified by the owner.

### BASIS FOR RELIEF

**Valve Timing**

Relief is requested for the timing requirement for these valves. These valves provide steam blowdown (relief) to the torus which is initiated either automatically or manually by the use of a key operated switch. Because of the ability to be manually operated, they are categorized as both "B" and "C" valves.

## RELIEF REQUEST NUMBER RV-02A



These valves are exercised once each operating cycle with the reactor at pressure. Each valve is manually opened and is indirectly verified open by observing a compensating turbine bypass valve or control valve closure, positive indication of steam flow change, and by indication from discharge acoustic monitors or tailpipe temperature monitors. Consistent timing of this event for the purpose of determining the operational readiness of these valves is not practical because they are not equipped with direct position indication. Additionally, these valves are rebuilt after every other outage.

**Valve Exercising**

Each relief valve discharges at one location in the torus and should the valve remain open for longer than five minutes, there is a concern that the extended blowdown at a given point could overheat the water locally, resulting in the release of free steam. This can create localized problems with the interior coating.

Manually exercising these valves requires steam pressure behind the disk before cycling and thus must be performed with the reactor at pressure. Thus, the plant must be in an operating or startup condition with the required steam pressure in the main steam lines.

Additionally, under IST Category C safety valve and relief valve tests, all these valves are rebuilt every other outage or approximately 36 months. Dresden Station believes the combination of rebuilding (once every 36 months) and insitu exercising (once each operating cycle) adequately verifies the valves operational readiness.

Exercising and timing these valves beyond technical specification requirements places undue burden on the utility and provides no corresponding increase in the level of plant safety.

## ALTERNATE TEST

These valves will be full stroke exercised at least once per operating cycle in accordance with the Technical Specifications. Enhanced maintenance activities as recommended in NUREG 1482, Sec. 4.3.4, including examination for degradation, will be conducted on each valve while being rebuilt every other outage. In lieu of the Code stroke timing requirements, a limiting stroke time will be assigned to each valve. Each valve will be verified to stroke in less than the limiting stroke time based on indirect indications of SRV position, such as turbine bypass/control valve position change, steam flow change, and acoustic or temperature monitors. The limiting stroke times will be based on a reasonable deviation from the reference or average stroke times determined during the next inservice test. The SRVs will be declared inoperable if the limiting stroke time is exceeded.

## RELIEF REQUEST NUMBER RV-02C

(Page 1 of 1)

### DESCRIPTION

Relief is requested from verifying closed the inboard and outboard Feedwater check valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0220-58A | 18.0" | AC | 1 | M-14/4F | Inboard FW Check |
| 2-0220-58B | 18.0" | AC | 1 | M-14/4F | Inboard FW Check |
| 2-0220-62A | 18.0" | AC | 1 | M-14/3E | Outboard FW Check |
| 2-0220-62B | 18.0" | AC | 1 | M-14/3F | Outboard FW Check |
| 3-0220-58A | 18.0" | AC | 1 | M-347/4E | Inboard FW Check |
| 3-0220-58B | 18.0" | AC | 1 | M-347/4F | Inboard FW Check |
| 3-0220-62A | 18.0" | AC | 1 | M-347/3E | Outboard FW Check |
| 3-0220-62B | 18.0" | AC | 1 | M-347/3F | Outboard FW Check |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdown.

### BASIS FOR RELIEF

These valves are normally open and cannot be exercised closed during normal operation because the feedwater system is required to be operable to maintain reactor coolant inventory.

To exercise these vales closed during cold shutdown would require isolating the feedwater system, deinerting the drywell and backpressurizing the check valves individually to verify closure.

This testing is impractical to perform during cold shutdowns due to the Reactor Water Cleanup path and Feedwater being required (means of maintaining reactor coolant inventory) during cold shutdowns. Additionally, approximately 2,200 gallons of feedwater would need to be drained from the feedwater system headers prior to performing the necessary backflow test. This added operational and testing burden would invariably delay unit startup.

### ALTERNATE TEST

These valves will be exercised closed each reactor refueling.

## RELIEF REQUEST NUMBER RV-02E
(Page 1 of 2)

### DESCRIPTION

Relief is requested from measuring the force or torque required to exercise the vacuum breaker check valves.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0220-105A | 8" | C | 3 | 25/5E | Main Steam relief valve discharge piping vacuum breaker check valves |
| 2-0220-105B | 8" | C | 3 | 25/5E | " |
| 2-0220-105C | 8" | C | 3 | 25/5E | " |
| 2-0220-105D | 8" | C | 3 | 25/5E | " |
| 2-0220-105E | 8" | C | 3 | 25/5E | " |
| 3-0220-105A | 8" | C | 3 | 356/5E | " |
| 3-0220-105B | 8" | C | 3 | 356/5E | " |
| 3-0220-105C | 8" | C | 3 | 356/5E | " |
| 3-0220-105D | 8" | C | 3 | 356/5E | " |
| 3-0220-105E | 8" | C | 3 | 356/5E | " |

### CODE REQUIREMENT(S)

IWV-3522 Exercising Procedure: The force required to open a check valve shall be measured.

### BASIS FOR RELIEF

These valves provide vacuum relief on the main steam electromatic and target rock relief valve piping to the torus. They are normally closed and are required to open when steam is blown down to the torus. The steam condenses and creates a vacuum.

The requirements of IWV-3522 to measure the force or torque used by a mechanical exerciser to move the disk is not applicable in this case because the valve does not have a manual exerciser and can only be exercised by reaching into the valve and pushing the disk off the seat. These valves are designed to open on a differential pressure of less than 1 psid and therefore manually exercising the disk requires only slight hand pressure. Obtaining and adapting a device to measure the force exerted on the disk while exercising it is impractical.

## RELIEF REQUEST NUMBER RV-02E

(Page 2 of 2)

### ALTERNATE TEST

These valves will be manually full stroke exercised during each cold shutdown when the drywell is de-inerted.

Additionally, since the valve internals are visible without disassembly, the valve disk, seat, pin and spring will be visually inspected during the stroke test.

## RELIEF REQUEST NUMBER RV-02F

(Page 1 of 1)

### DESCRIPTION

Relief is requested from partial and full stroke exercising the inboard isolation reactor head spray check valves quarterly or during cold shutdown periods.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0205-27 | 2.5" | AC | 1 | 26-1/5E | Inboard isolation function for the reactor head spray line. |
| 3-0205-27 | 2.5" | AC | 1 | 357-1/5E | Inboard isolation function for the reactor head spray line. |

### CODE REQUIREMENT(S)

IWV-3412 Exercising Procedure: Valves shall be exercised during operations.

### BASIS FOR RELIEF

These valves are normally closed during both reactor operation and extended shutdown periods. The designated safety position of these valves is closed; however, reactor head spray could be used for injecting into the vessel. Credit for this feature is not taken.

To exercise these valves during operations or cold shutdowns would require injecting water, with a temperature of approximately 70°F, into the reactor. Injecting cold water into the reactor could cause cracks in the reactor vessel due to thermal shock.

### ALTERNATE TEST

These valves will be exercised and leak tested during reactor refueling.

## RELIEF REQUEST NUMBER RV-02G

(Page 1 of 2)

### DESCRIPTION

Relief from close stroke testing Reactor Vessel Water Indication System (RVWLIS) keep fill check valves quarterly or during cold shutdown.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0299-97A | 3/8" | AC | 1 | 26-3/7E | RVWLIS "A" Medium Range Backfill Outboard Check Valve |
| 2-0299-97B | 3/8" | AC | 1 | 26-3/3E | RVWLIS "B" Medium Range Backfill Outboard Check Valve |
| 2-0299-98A | 3/8" | AC | 1 | 26-3/6E | RVWLIS "A" Narrow Range Backfill Outboard Check Valve |
| 2-0299-98B | 3/8" | AC | 1 | 26-3/4E | RVWLIS "B" Narrow Range Backfill Outboard Check Valve |
| 2-0299-99A | 3/8" | AC | 1 | 26-3/7E | RVWLIS "A" Medium Range Backfill Inboard Check Valve |
| 2-0299-99B | 3/8" | AC | 1 | 26-3/3E | RVWLIS "B" Medium Range Backfill Inboard Check Valve |
| 2-0299-100A | 3/8" | AC | 1 | 26-3/6E | RVWLIS "A" Narrow Range Backfill Inboard Check Valve |
| 2-0299-100B | 3/8" | AC | 1 | 26-3/4E | RVWLIS "B" Narrow Range Backfill Inboard Check Valve |
| 3-0299-97A | 3/8" | AC | 1 | 357-3/7E | RVWLIS "A" Medium Range Backfill Outboard Check Valve |
| 3-0299-97B | 3/8" | AC | 1 | 357-3/7E | RVWLIS "B" Medium Range Backfill Outboard Check Valve |
| 3-0299-98A | 3/8" | AC | 1 | 357-3/7E | RVWLIS "A" Narrow Range Backfill Outboard Check Valve |
| 3-0299-98B | 3/8" | AC | 1 | 357-3/7E | RVWLIS "B" Narrow Range Backfill Outboard Check Valve |
| 3-0299-99A | 3/8" | AC | 1 | 357-3/7E | RVWLIS "A" Medium Range Backfill Inboard Check Valve |
| 3-0299-99B | 3/8" | AC | 1 | 357-3/7E | RVWLIS "B" Medium Range Backfill Inboard Check Valve |
| 3-0299-100A | 3/8" | AC | 1 | 357-3/7E | RVWLIS "A" Narrow Range Backfill Inboard Check Valve |
| 3-0299-100B | 3/8" | AC | 1 | 357-3/7E | RVWLIS "B" Narrow Range Backfill Inboard Check Valve |

## RELIEF REQUEST NUMBER RV-02G

(Page 2 of 2)

### CODE REQUIREMENT(S)

IWV-3411 Test Frequency: Category A and B valves shall be exercised at least once every three months.

IWV-3521 Test Frequency: Check valves shall be exercised at least once every three months.

### BASIS FOR RELIEF

These valves can only be tested for closure via a leakage type test, which is impractical to perform at intervals other than refueling outages. Verification of closure capability for these valves would isolate the Reactor Vessel Water Level Instrumentation piping and restrict the ability to maintain the system filled. This may result in loss of level indication or protective action which is undesirable in an operating or cold shutdown plant. Establishing the test conditions, conducting the test, and returning the system to normal line-up renders leak testing impractical during power operation and cold shutdown outages as described in NUREG-1482, Section 4.1.4.

### ALTERNATE TEST

These valves will be seat leakage tested during reactor refueling outages, as described in NUREG-1482, Section 4.1.4, to verify the ability to go closed. These valves are continuously monitored to be operable in the open position based on water level parameters.

## RELIEF REQUEST NUMBER RV-02H

(Page 1 of 1)

### DESCRIPTION

Relief from full stroke testing the Main Steam Isolation Valves (MSIVs) quarterly.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-203-1A | 20 | AB | 1 | 12-1/4E | 1A INBD MSIV |
| 2-203-1B | 20 | AB | 1 | 12-1/4D | 1B INBD MSIV |
| 2-203-1C | 20 | AB | 1 | 12-1/4C | 1C INBD MSIV |
| 2-203-1D | 20 | AB | 1 | 12-1/4B | 1D INBD MSIV |
| 2-203-2A | 20 | AB | 1 | 12-2/7F | 2A OTBD MSIV |
| 2-203-2B | 20 | AB | 1 | 12-2/7E | 2B OTBD MSIV |
| 2-203-2C | 20 | AB | 1 | 12-2/7D | 2C OTBD MSIV |
| 2-203-2D | 20 | AB | 1 | 12-2/7C | 2D OTBD MSIV |
| 3-203-1A | 20 | AB | 1 | 345-1/4E | 1A INBD MSIV |
| 3-203-1B | 20 | AB | 1 | 345-1/4D | 1B INBD MSIV |
| 3-203-1C | 20 | AB | 1 | 345-1/4C | 1C INBD MSIV |
| 3-203-1D | 20 | AB | 1 | 345-1/4B | 1D INBD MSIV |
| 3-203-2A | 20 | AB | 1 | 345-2/7F | 2A OTBD MSIV |
| 3-203-2B | 20 | AB | 1 | 345-2/7E | 2B OTBD MSIV |
| 3-203-2C | 20 | AB | 1 | 345-2/7D | 2C OTBD MSIV |
| 3-203-2D | 20 | AB | 1 | 345-2/7C | 2D OTBD MSIV |

### CODE REQUIREMENT(S)

IWV-3411 Test Frequency: Category A and B valves shall be exercised at least once every three months.

### BASIS FOR RELIEF

Full stroke testing these valves during normal reactor operation sequentially isolates the main steam lines. Isolation of these lines results in primary system pressure spikes, abnormal reactor power fluctuations, and increased flow in the remaining steam lines. This unstable operation can lead to a reactor trip. As discussed in NUREG-0626, pressure transients resulting from full stroke testing MSIVs increase the chances of actuating primary system relief valves. Furthermore, partial stroking the MSIVs under power is also undesirable since it increases the risk of valve closure when the unit is generating power. It is proposed that these valves be full stroked and timed during cold shutdowns.

**ALTERNATE TEST**

These valves are stroked and timed quarterly as required by the Technical Specifications at the time this relief request was written. In the fall of 1995, Dresden will convert to the standardized Technical Specifications. Upon approval of the applicable sections of Technical Specifications, these valves will only be full stroke exercised during cold shutdowns as referred to in the Note in NUREG-1482 Section 4.2.4.

## RELIEF REQUEST NUMBER RV-03B

(Page 1 of 2)

### DESCRIPTION

Relief from Code timing and information on valve exercising frequency in accordance with Technical Specification frequency.

### COMPONENT IDENTIFICATION/FUNCTION

There are 177 of each of the valve numbers listed below for each of the CRD Hydraulic Control Units (HCU).

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0305-114 | 0.5" | C | 2 | 34/9D | CRD Scram Outlet Check |
| 2-0305-126 | 0.5" | B | 1 | 34/0D | CRD Scram Inlet Valve |
| 2-0305-127 | 0.5" | B | 1 | 34/9D | CRD Scram Outlet Valve |
| 3-0305-114 | 0.5" | C | 2 | 365/9D | CRD Scram Outlet Check |
| 3-0305-127 | 0.5" | B | 1 | 365/0E | CRD Scram Inlet Valve |
| 3-0305-127 | 0.5" | B | 1 | 365/9D | CRD Scram Outlet Valve |

### CODE REQUIREMENT(S)

IWV-3400 Test Frequency: Category A and B vales shall be exercised at least once every 3 months.

IWV-3413 Power Operated Valves: Stroke times shall be set by the owner.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

To exercise these valves requires scramming the individual CRD's.

The proper operation of each of the valves is demonstrated by the Technical Specification required scram testing. To exercise these valves more than the current Technical Specification requirements is not practical.

## RELIEF REQUEST NUMBER RV-03B

(Page 2 of 2)

**BASIS FOR RELIEF** (Con't)

These valves are exercised and each individual control rod drive scram insertion is timed and must meet specific time increments as stated in the Technical Specifications. This individual rod timing ensures that the valves function properly.

**ALTERNATE TEST**

Individual scram insertion times and subsequent valve exercising will be performed per the Technical Specification requirements. The required frequency is as follows:

1. After each refueling outage, prior to operation greater than 30 percent of rated thermal power, all control rods shall be subject to scram-time tests from the fully withdrawn position with reactor pressure above 800 psig; and

2. At 16-week intervals, 50% of the control rod drives shall be tested so that every 32 weeks, all the control rods shall have been tested.

In the fall of 1995 Dresden will convert to standardized Technical Specifications. At this time the required frequency will be:

1. Following core alteration or shutdown greater than 120 days and with reactor pressure greater than 800 psig, and prior to thermal power exceeding 40% of rated thermal power, all control rods shall be subject to scram-time tests.

2. At least 10% of the control rods, on a rotating basis, at least once per 120 days of power operation.

## RELIEF REQUEST NUMBER RV-11A

(Page 1 of 2)

### DESCRIPTION

Relief is requested from partial and full stroke exercising the Standby Liquid Control (SBLC) check valves during quarterly or cold shutdown periods.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1101-15 | 1.5" | AC | 1 | 33/3C | SBLC Injection Check Valve |
| 2-1101-16 | 1.5" | AC | 1 | 33/3C | SBLC Injection Check Valve |
| 3-1101-15 | 1.5" | AC | 1 | 364/3C | SBLC Injection Check Valve |
| 3-1101-16 | 1.5" | AC | 1 | 364/3C | SBLC Injection Check Valve |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

Exercising these valves requires firing the squib valves and injecting demineralized water into the reactor vessel.

Injecting ambient water into the reactor vessel during operations is undesirable because the SBLC system would be inoperative during this test due to the isolation of the sodium pentaborate solution (neutron poison). In addition to SBLC being inoperative and placing the plant in a seven day Technical Specifications Limiting Condition of Operation (LCO), injecting cold water into the reactor could eventually fatigue and crack the injection nozzles due to the induced thermal shock. In addition to the nozzle cracking concerns, a cold water transient in the vessel could cause a reactor trip.

Because sodium pentaborate is a neutron poison, it is imperative that there be a physical separation between the poison and the primary system. To attempt a full flow test during a cold shutdown period would require a thorough system flushing and either removal or firing of one explosive valve. This work is beyond the scope of a normal cold shutdown period.

## RELIEF REQUEST NUMBER RV-11A

(Page 2 of 2)

### ALTERNATE TEST

These valves will be exercised during reactor refueling outages. This will be done in conjunction with the firing of one explosive squib valve and injecting demineralized water into the reactor vessel at rated system flow. These valves are also leak tested during reactor refueling outages.

## RELIEF REQUEST NUMBER RV-13A

(Page 1 of 1)

### DESCRIPTION

Relief is requested from full and partial stroke exercising the Isolation Condenser Make up check valves quarterly.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1301-11 | 4.0" | C | 3 | M-28/3C | Iso Condenser Makeup |
| 3-1301-11 | 4.0" | C | 3 | M-359/3C | Iso Condenser Makeup |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. Confirmation shall be obtained by visual observation, position indication, appropriate pressure, or flow indications, or other positive means.

### BASIS FOR RELIEF

To properly exercise these valves requires running the Diesel Fire pump and discharging the water to the shell side of the isolation condenser.

During normal operations, the isolation condenser shell side contains approximately 22,000 gallons of clean demineralized water. By conducting the required flow test to verify valve operability with the diesel fire pump, untreated service water would be introduced to the isolation condenser shell at a rate of 3000 gallons per minute.

The isolation condenser tubes are the primary boundary between the reactor vessel water and outside secondary containment. Service water contains chlorides, sulfates and minerals which would deposit on the tubes and cause pitting and eventual tube failure.

To drain, clean, and refill the isolation condenser with clean demineralized water every 3 months after verifying valve operability by flow testing is not possible since the isolation condenser is required for normal reactor operations and the time to drain and fill the condenser may possibly exceed the Limiting Condition for Operation.

### ALTERNATE TEST

These valves will be disassembled and inspected to verify valve operability in accordance with the sampling technique discussed in TV-00C

## RELIEF REQUEST NUMBER RV-14A

(Page 1 of 2)

### DESCRIPTION

Relief is requested from full and partial stroke exercising the Core Spray minimum flow check valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1402-13A | 1.5" | C | 2 | M27/0C | Core Spray Pump Min. Flow Check |
| 2-1402-13B | 1.5" | C | 2 | M27/7D | Core Spray Pump Min. Flow Check |
| 3-1402-13A | 1.5" | C | 2 | M358/0C | Core Spray Pump Min. Flow Check |
| 3-1402-13B | 1.5" | C | 2 | M358/7D | Core Spray Pump Min. Flow Check |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

Exercising open the Core Spray pump minimum flow check valves requires verifying a flow rate of 185 gpm. This verification cannot be repeated quarterly since the minimum flow valve 1402-38A(B) closes within an extremely short time (10 seconds) making it difficult to obtain repeatable flow data due to the hydraulic instability of the 1.5" minimum flow piping.

To verify check valve operability requires operating the Core Spray pumps at minimum flow conditions. During this mode of operation, hydraulic instability and impeller recirculating flow conditions may exist. This unsteady flow phenomena becomes progressively more pronounced as the flow is further decreased and can result in pump damage due to excessive vibration, excessive forces on the impeller and pump cavitation. Original minimum flow sizing was established without considering the hydraulic phenomena.

Special tests performed at minimum flow conditions indicate vibration levels of 2 to 3 times normal levels on the Core Spray pumps. This level of vibration will eventually cause damage to pump impeller and bearings. NRC Bulletin No. 88-04: Potential Safety-Related Pump Loss is in support of this evidence.

## RELIEF REQUEST NUMBER RV-14A

(Page 2 of 2)

### ALTERNATE TEST

Core Spray minimum flow check valves will be disassembled and inspected on a refueling outage basis to verify valve operability in accordance with the sampling technique discussed in TV-00C.

## RELIEF REQUEST NUMBER RV-14B

(Page 1 of 1)

### DESCRIPTION

Relief is requested from individually stroke testing the Core Spray keep fill check valves.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1402-34A | 0.75" | C | 2 | M27/8D | Core Spray Keep Fill |
| 2-1402-34B | 0.75" | C | 2 | M27/6D | Core Spray Keep Fill |
| 2-1402-36A | 0.75" | C | 2 | M27/8D | Core Spray Keep Fill |
| 2-1402-36B | 0.75" | C | 2 | M27/6D | Core Spray Keep Fill |
| 3-1499-34A | 0.75" | C | 2 | M358/8D | Core Spray Keep Fill |
| 3-1402-34B | 0.75" | C | 2 | M358/6D | Core Spray Keep Fill |
| 3-1402-36A | 0.75" | C | 2 | M358/8D | Core Spray Keep Fill |
| 3-1402-36B | 0.75" | C | 2 | M358/6D | Core Spray Keep Fill |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

Independently exercising closed the Core Spray keep fill check valves is not possible because two check valves are in series combination and both cannot be back pressurized during normal Core Spray pump tests. In addition, test connections between the valves do not exist, therefore, no method of independent valve position verification exists.

### ALTERNATE TEST

These valves will be tested closed as a series combination. Should the series combination fail to operate satisfactory, both valves in the series will be disassembled, inspected, and repaired or replaced as necessary as described in NUREG 1482 Section 4.1.1.

## RELIEF REQUEST NUMBER RV-14C

(Page 1 of 1)

### DESCRIPTION

Relief is requested for full stroke exercising closed the following valves quarterly or during cold shutdown.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1402-9A | 10.0 | AC | 1 | 27/3C | Core Spray Injection Check |
| 2-1402-9B | 10.0 | AC | 1 | 27/4C | Core Spray Injection Check |
| 3-1402-9A | 10.0 | AC | 1 | 358/3C | Core Spray Injection Check |
| 3-1402-9B | 10.0 | AC | 1 | 358/4C | Core Spray Injection Check |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

To verify the above check valves closed requires quantifying leakage with a reverse flow test or seat leakage test.

The 1402-9A(B) valves are located on the third floor of the drywell. Since testing these valves under power would require primary containment to be violated and radiological concerns make access to the drywell impractical, no direct or indirect methods exist for quantifying leakage during power operation. In addition, performing closure test during cold shutdowns requires removing the system from service, draining the piping, performing a seat leakage test, returning the system to service and filling and venting the piping. These tasks could delay plant startup as described in NUREG-1482 Section 4.1.4.

### ALTERNATE TEST

Operability of the above check valves in the closed position will be verified each reactor refueling outage. Closure will be verified during performance of a high pressure seat leakage test in which seat leakage will be quantified.

## RELIEF REQUEST NUMBER RV-15A

(Page 1 of 2)

### DESCRIPTION

Relief is requested from full and partial stroke exercising the Low Pressure Coolant Injection (LPCI) minimum flow check valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1501-65A | 2.0" | C | 2 | M29-1/7F | LPCI Pump Min. Flow Check |
| 2-1501-65B | 2.0" | C | 2 | M29-1/7E | LPCI Pump Min. Flow Check |
| 2-1501-65C | 2.0" | C | 2 | M29-1/2F | LPCI Pump Min. Flow Check |
| 2-1501-65D | 2.0" | C | 2 | M29-1/2E | LPCI Pump Min. Flow Check |
| 3-1501-65A | 2.0" | C | 2 | M360-1/7F | LPCI Pump Min. Flow Check |
| 3-1501-65B | 2.0" | C | 2 | M360-1/7E | LPCI Pump Min. Flow Check |
| 3-1501-65C | 2.0" | C | 2 | M360-1/2E | LPCI Pump Min. Flow Check |
| 3-1501-65D | 2.0" | C | 2 | M360-1/2F | LPCI Pump Min. Flow Check |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications or other positive means.

### BASIS FOR RELIEF

Exercising open the LPCI pump minimum flow check valves requires verifying a flow rate of 450 gpm. This verification can not be repeated quarterly since the minimum flow valve (1501-13A, B) closes within a very short time (10 seconds) making it very difficult to obtain repeatable flow data due to hydraulic instability in the minimum flow piping.

To verify check valve operability requires operating the LPCI pumps at minimum flow conditions. During this mode of operation, hydraulic instability and impeller recirculation flow conditions may exist. This unsteady flow phenomena becomes progressively more pronounced as the flow is further decreased and can result in pump damage due to excessive vibration, excessive forces on the impellers, and pump cavitation. Original minimum flow sizing was established without considering the hydraulic phenomena.

## RELIEF REQUEST NUMBER RV-15A

(Page 2 of 2)

**BASIS FOR RELIEF** (Con't)

Special tests performed at minimum flow conditions indicate vibration levels of 2 to 3 times normal levels on the LPCI pumps. This level of vibration will eventually cause damage to the pump impeller and bearings. NRC Bulletin No. 88-04: Potential Safety-Related Pump Loss is in support of this evidence.

**ALTERNATE TEST**

The LPCI minimum flow check valves will be disassembled and inspected on a refueling outage basis to verify valve operability in accordance with the sampling technique discussed in TV-00C.

## RELIEF REQUEST NUMBER RV-15B

(Page 1 of 1)

### DESCRIPTION

Relief is requested from individually stroke testing the Low Pressure Coolant Injection keep fill check valves.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1501-66A | 2.0" | C | 2 | M29-1/8F | LPCI Keep Fill |
| 2-1501-66B | 2.0" | C | 2 | M29-1/2F | LPCI Keep Fill |
| 2-1501-67A | 2.0" | C | 2 | M29-1/8F | LPCI Keep Fill |
| 2-1501-67B | 2.0" | C | 2 | M29-1/2F | LPCI Keep Fill |
| 3-1501-66A | 2.0" | C | 2 | M360-1/8F | LPCI Keep Fill |
| 3-1501-66B | 2.0" | C | 2 | M360-1/2F | LPCI Keep Fill |
| 3-1501-67A | 2.0" | C | 2 | M360-1/8F | LPCI Keep Fill |
| 3-1501-67B | 2.0" | C | 2 | M360-1/2F | LPCI Keep Fill |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

Independently exercising closed the Low Pressure Coolant Injection keep fill check valves is not possible because two check valves are in series combination and both cannot be back pressurized during normal Low Pressure Coolant Injection pump tests. In addition, test connections between the valves do not exist, therefore, no method of independent valve position verification exists.

### ALTERNATE TEST

These valves will be tested closed as a series combination. Should the series combination fail to operate satisfactory, both valves in the series will be disassembled, inspected, and repaired or replaced as necessary as described in NUREG 1482 Section 4.1.1.

## RELIEF REQUEST NUMBER RV-23A

(Page 1 of 2)

### DESCRIPTION

Relief is requested from full and partial stroke exercising closed the High Pressure coolant Injection (HPCI) pump suction check valve quarterly or during cold shutdown periods.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2301-39 | 16.0" | C | 2 | M51/8E | HPCI Torus Suction |
| 3-2301-39 | 16.0" | C | 2 | M374/8E | HPCI Torus Suction |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

To full stroke exercise these valves open requires a flow test using suppression pool (torus) water as the HPCI pump suction.

The normal test flow path uses the condensate storage tank (CST) as the pump suction rather than the torus. The torus is not used as the HPCI pump suction for testing because the system test loop is not designed to recirculate water from the torus to the torus.

The only flow path available to verify full flow valve operability would involve pumping torus water to the condensate storage tank. Since torus water is untreated, low quality water and the condensate storage tank water is demineralized, the tank would have to be drained (approximately 100,000 gallons), flushed and refilled to restore water chemistry back to specifications after each test. This testing would be extremely burdensome because of the time involved in draining and refilling the CST and processing the large amount of waste water that would be generated.

## RELIEF REQUEST NUMBER RV-23A

(Page 2 of 2)

### ALTERNATE TEST

These valves will be disassembled and inspected on a refueling outage basis to verify valve operability. The disassembly and inspection will be performed in accordance with the sampling technique discussed in TV-00C.

## RELIEF REQUEST NUMBER RV-23B
(Page 1 of 2)

### DESCRIPTION

Relief is requested from full and partial stroke exercising the High Pressure Coolant Injection (HPCI) valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2301-7 | 14.0" | C | 2 | M51/6E | HPCI Injection Check |
| 3-2301-7 | 14.0" | C | 2 | M374/6E | HPCI Injection Check |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

The HPCI check valves have both an open and closed safety function. These valves are required to be closed during normal power operation to prevent flow diversion of reactor coolant (feedwater). These valves are also required to open upon a HPCI initiation to provide the injection path for HPCI.

To full stroke exercise these valves open quarterly or during cold shutdowns requires injecting approximately 5,000 gpm of condensate storage tank water at 70°F into the reactor vessel at 540°F. This type of test is impractical because repeating this test will eventually fatigue and crack the injection nozzles due to the induced thermal shock. In addition to the nozzle cracking concerns, a cold water transient in the vessel will cause a reactor trip.

A reverse flow test (back pressurizing) is required to verify the closed position of the HPCI injection check valves.

To accurately perform a reverse flow test on these valves during normal power operation (quarterly) requires entering the X-area, mounting a temporary gauge and monitoring the pressure upstream of the injection valve. This test is impractical because of the extremely high dose rates in the area coupled with the amount of time necessary to determine valve operability.

## RELIEF REQUEST NUMBER RV-23B

(Page 2 of 2)

**BASIS FOR RELIEF** (Con't)

Two technicians will be required to preform the test. The test would take approximately 30 minutes barring any operational problems. The average dose rates for these areas is considered to be extremely high. The estimated radiation exposure to perform this test each quarter is considered extremely impractical.

To verify closure of the HPCI injection check valve during cold shutdown periods requires isolating the Feedwater and Reactor Water Cleanup systems, draining and venting the respective test volume and leak rate testing the HPCI injection valve. This test is impractical to conduct during cold shutdowns because Reactor Water cleanup flow path and Feedwater being required (means of maintaining reactor coolant inventory) during cold shutdown. Additionally, the added operational and testing burden would delay unit start-up.

**ALTERNATE TEST**

The 2301-7 valve will be full stroke exercised open and closed each reactor refueling. Additionally, these valves will be full stroke exercised open during cold shutdowns and the torque measured as required by IWV-3522.

## RELIEF REQUEST NUMBER RV-23C

(Page 1 of 1)

### DESCRIPTION

Relief is requested from individually stroke testing the High Pressure Coolant Injection keep fill check valves.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2354-500 | 0.75" | C | 2 | M51/7C | HPCI Keep Fill |
| 2-2354-501 | 0.75" | C | 2 | M51/7C | HPCI Keep Fill |
| 3-2354-500 | 0.75" | C | 2 | M374/7C | HPCI Keep Fill |
| 3-2354-501 | 0.75" | C | 2 | M374/7C | HPCI Keep Fill |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

Independently exercising closed the High Pressure Coolant Injection keep fill check valves is not possible because two check valves are in series combination and both cannot be back pressurized during normal Low Pressure Coolant Injection pump tests. In addition, test connections between the valves do not exist, therefore, no method of independent valve position verification exists.

The keep fill line to HPCI discharge piping is normally isolated and is not required to be operable under normal conditions. The discharge piping is maintained full from the static head of the Condensate Storage Tank.

### ALTERNATE TEST

When required to be operable, these valves will be tested closed as a series combination. Should the series combination fail to operate satisfactory, both valves in the series will be disassembled, inspected, and repaired or replaced as necessary as described in NUREG 1482 Section 4.1.1.

## RELIEF REQUEST NUMBER RV-23D

(Page 1 of 2)

### DESCRIPTION

Relief is requested from individually partial and full stoke exercising the High Pressure Coolant Injection (HPCI) turbine exhaust vacuum breakers quarterly or at cold shutdown.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2399-76A | 1.0" | C | 2 | M51/8C | HPCI Vacuum Breaker |
| 2-2399-76B | 1.0" | C | 2 | M51/8D | HPCI Vacuum Breaker |
| 3-2399-76A | 1.0" | C | 2 | M374/8C | HPCI Vacuum Breaker |
| 3-2399-76B | 1.0" | C | 2 | M374/8D | HPCI Vacuum Breaker |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety function. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

The vacuum breaker assembly consists of two parallel trains of two check valves in series. The trains are cross connected between the series check valves. Test connections and isolations are not available to individually test each of the four valves, or individual trains. Because normal system instrumentation does not exist to verify operability of the valve assembly, the torus must be entered to conduct functional testing.

This testing is impractical during power operations since the torus is inaccessible because it is inerted and at a negative pressure. This testing would require the violation of Primary Containment to enter.

Functional testing of these valves during cold shutdowns is extremely burdensome because entering the torus requires removal of the 4.0 ft. diameter manway cover. Once the cover is replaced, a local leak rate test must be performed to verify the primary containment boundary. This added maintenance and testing burden would invariably delay unit startup.

## RELIEF REQUEST NUMBER RV-23D

(Page 2 of 2)

### ALTERNATE TEST

This set of valves will be functionally tested open and closed each refueling outage. When functional testing indicates that the operability of the valve assembly is questionable, all valves in the assembly will be repaired or replaced.

## RELIEF REQUEST NUMBER RV-23E

(Page 1 of 2)

### DESCRIPTION

Relief is requested from exercising closed the High Pressure Coolant Injection (HPCI) turbine exhaust valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2301-34 | 2" | AC | 2 | 51/8D | HPCI Exhaust Drain to Torus |
| 2-2301-45 | 24" | AC | 2 | 51/8D | HPCI Exhaust to Torus |
| 2-2301-71 | 2" | AC | 2 | 51/8D | HPCI Exhaust Stop Check to Torus |
| 2-2301-74 | 12" | AC | 2 | 51/8C | HPCI Exhaust Check to Torus |
| 3-2301-34 | 2" | AC | 2 | 374/8D | HPCI Exhaust Drain to Torus |
| 3-2301-45 | 24" | AC | 2 | 347/8D | HPCI Exhaust to Torus |
| 3-2301-71 | 2" | AC | 2 | 374/8D | HPCI Exhaust Stop Check to Torus |
| 3-2301-74 | 12" | AC | 2 | 374/8C | HPCI Exhaust Check to Torus |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

These valves have a safety function in the closed direction for primary containment isolation and are stroke closed during the 10 CFR 50, Appendix J, LLRT. Testing these valves in this fashion requires moving the LLRT test apparatus into an area located just off of the torus catwalk. Establishing the test conditions, conducting the test, and returning the system to normal line-up renders leak testing impractical during power operation and cold shutdown outages as described in NUREG-1482, Section 4.1.4.

Additionally, conduct of this test during cold shutdown could unnecessarily delay Unit startup.

## RELIEF REQUEST NUMBER RV-23E

(Page 2 of 2)

### ALTERNATE TEST

These valves will be exercised closed each reactor refueling outage during the Appendix J leak rate test as described in NUREG 1482, Section 4.1.4.

## RELIEF REQUEST NUMBER RV-23F

(Page 1 of 1)

### DESCRIPTION

Relief is requested for full stroke exercising the High Pressure Coolant Injection (HPCI) minimum flow check valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2301-40 | 4" | AC | 3 | 51/C7 | HPCI Min Flow Check |
| 3-2301-40 | 4" | AC | 3 | 374/C7 | HPCI Min Flow Check |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety functions. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

Exercising open the HPCI minimum flow check valve requires verifying design accident flow during quarterly testing. This test cannot be accurately repeated since the minimum flow valve, 2(3)-2301-14, closes prior to obtaining stable flow data.

To verify operability would require operating HPCI for extended periods at minimum flow conditions. These low flow conditions result in hydraulic instability and may cause damage to the HPCI pump.

### ALTERNATE TEST

Operability of the HPCI minimum flow check valve will be verified by disassembly and inspection in accordance with the sampling technique discussed in TV-00C.

## RELIEF REQUEST NUMBER RV-23G

(Page 1 of 2)

### DESCRIPTION

Relief is requested from full stroke exercising the High Pressure Coolant Injection (HPCI) Gland Seal Condenser (GSC) Check valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2301-50A | 4" | C | 2 | 51/C4 | HPCI Booster Pump to the GSC Check |
| 2-2301-51 | 4" | C | 2 | 51/C4 | HPCI Aux Cooling Water Pump Discharge Check |
| 2-2301-75 | 4" | C | 2 | 51/B4 | HPCI GSC Outlet Check |
| 2-2301-76 | 2" | C | 2 | 51/C4 | HPCI GSLO Pump Discharge Check |
| 3-2301-50A | 4" | C | 2 | 374/C4 | HPCI Booster Pump to the GSC Check |
| 3-2301-51 | 4" | C | 2 | 347/C4 | HPCI Aux Cooling Water Pump Discharge Check |
| 3-2301-75 | 4" | C | 2 | 374/B4 | HPCI GSC Outlet Check |
| 3-2301-76 | 2" | C | 2 | 374/C4 | HPCI GSLO Pump Discharge Check |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Check valves shall be exercised to the position required to fulfill their safety functions. Confirmation shall be obtained by visual observation, position indication, appropriate pressure or flow indications, or other positive means.

### BASIS FOR RELIEF

The HPCI Aux Cooling Water pump and the HPCI Booster pump supply cooling water to the gland seal condenser through the 2301-50A and 2301-51 check valves. The cooling water exits the gland seal condenser through the 2301-75 check valve either to the HPCI Booster Pump suction line or the condensate storage tank. The steam being cooled in the condenser is pumped by the Gland Seal Leak Off (GSLO) Pump through the 2301-76 check valve either to the HPCI Booster Pump suction line or the condensate storage tank.

Exercising open these check valve requires verifying design accident flow during testing. Since there are no pressure or flow instruments in any of these lines, no direct or indirect method is available to quantitatively prove these valves open.

## RELIEF REQUEST NUMBER RV-23G
(Page 2 of 2)

**BASIS FOR RELIEF** (Con't)

To verify closure requires either a reverse flow or seat leakage test. Since there is no instrumentation in the lines, testing for reverse flow cannot be performed. A seat leakage test cannot be performed because boundary valves necessary to pressurize the check valves do not exist.

**ALTERNATE TEST**

Operability of these HPCI check valves will be verified by disassembly and inspection in accordance with the sampling technique discussed in TV-00C.

## RELIEF REQUEST NUMBER RV-23H

(Page 1 of 2)

### DESCRIPTION

Relief is requested from stroke timing the High Pressure Coolant Injection (HPCI) drain pot solenoid valves.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2301-32 | 1" | B | 2 | 51/C7 | HPCI Drain Pot Solenoid |
| 3-2301-32 | 1" | B | 2 | 374/C7 | HPCI Drain Pot Solenoid |

### CODE REQUIREMENT(S)

IWV-3410 Valve exercising Test: Category A and B valves shall be exercised at least once every three months.

### BASIS FOR RELIEF

These valves function as a backup to the exhaust line drain pot steam trap. During normal operation of the turbine using high quality steam, the drain path from the drain pot to the torus via the steam trap is adequate to remove condensate from the turbine exhaust line. However, during turbine operation with low pressure and low quality steam (which is seen during HPCI surveillance testing during plant startup and as would be expected during HPCI operation during a small break LOCA), condensate collects in the drain pot faster than it can be drained through the trap. Under these conditions, valve 2301-32 opens automatically to drain to the gland seal condenser upon receipt of a signal from a drain pot level switch when the drain pot level reaches the high level alarm setpoint. A high level condition sounds an alarm in the control room.

These valves are equipped with hand switches to enable remote manual operation from the control room; however, they are not equipped with position indicators and the valves are totally enclosed, so valve position cannot be verified by direct observation. Therefore, it is impractical to exercise and stroke time these valves in accordance with Code requirements. Valve actuation may be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing that the high level alarm clears. It is impractical to assign a maximum limiting stroke time to these valves using this test method because the time for the alarm to clear would depend primarily on variables such as the rate of filling and the level of the drain pot when the filling is secured. The steam line drain pot is not equipped with direct level indication; therefore, the time required for the alarm to clear may vary significantly and operation of valve 2301-32 cannot be verified by operation of the hand switch.

## RELIEF REQUEST NUMBER RV-23H
(Page 2 of 2)

Failure of these valves to perform their safety function would be indicated by a drain pot high level alarm during operation with low pressure steam. Functional tests are conducted on the drain pot level alarm switches at least once each cycle to verify their operability. Additionally, condensate entrapped in the steam would cause significant fluctuations in exhaust steam header pressure.

Compliance with the quarterly exercising and stroke timing requirements of the Code would require either system modifications to replace these valves with ones of testable design, or to purchase non-intrusive test equipment and develop new test methods and procedures. These alternatives would be burdensome due to the costs involved.

## ALTERNATE TEST

These valves will be exercised quarterly using the handswitch. They will also be functionally tested each refueling outage by filling the drain pot and verifying that valve 2301-32 actuates as indicated by the high level alarm clearing.

Because exercising of these valves without stroke timing provides no measure of valve degradation, maintenance activities were instituted to compensate for testing deficiencies. Following discussions with the manufacturer regarding valve design and application, it was decided to disassemble, inspect and repair or replace these valves every third cycle in addition to the above testing.

## RELIEF REQUEST NUMBER RV-24A

(Page 1 of 1)

### DESCRIPTION

Relief is requested for exercising the Containment Air Monitor (CAM) containment isolation valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2499-28A | 0.5" | AC | 2 | 706-1/7C | CAM System Containment Isolation |
| 2-2499-28B | 0.5" | AC | 2 | 706-1/2C | CAM System Containment Isolation |
| 3-2499-28A | 0.5" | AC | 2 | 706-2/7C | CAM System Containment Isolation |
| 3-2499-28B | 0.5" | AC | 2 | 706-2/2C | CAM System Containment Isolation |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

These check valves open during operation of the containment atmosphere monitor system (CAM) and are required to close for containment isolation. To verify closure would require disassembling the process line and back pressurizing with air. Establishing the test conditions, conducting the test, and returning the system to normal line-up renders leak testing impractical during power operation and cold shutdown outages as described in NUREG-1482, Section 4.1.4.

Additionally, disassembling the piping during cold shutdowns could delay the Unit startup.

### ALTERNATE TEST

These valves will be exercised closed each reactor refueling outage during the Appendix J leak rate test as described in NUREG 1482, Section 4.1.4.

## RELIEF REQUEST NUMBER RV-25A

(Page 1 of 2)

### DESCRIPTION

Relief is requested from exercising the Atmospheric Containment Atmosphere Dilution (ACAD) containment isolation valves quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2599-23A | 1" | AC | 2 | 707-1/6C | ACAD Containment Isolation |
| 2-2599-23B | 1" | AC | 2 | 707-1/3C | ACAD Containment Isolation |
| 2-2599-24A | 1" | AC | 2 | 707-1/6C | ACAD Containment Isolation |
| 2-2599-24B | 1" | AC | 2 | 707-1/3C | ACAD Containment Isolation |
| 3-2599-23A | 1" | AC | 2 | 707-2/6C | ACAD Containment Isolation |
| 3-2599-23B | 1" | AC | 2 | 707-2/3C | ACAD Containment Isolation |
| 3-2599-24A | 1" | AC | 2 | 707-2/6C | ACAD Containment Isolation |
| 3-2599-24B | 1" | AC | 2 | 707-2/3C | ACAD Containment Isolation |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

These valves are required to close for containment isolation and they are required to be open for proper operation of the ACAD system. To verify closure would require securing the system, disassembling the process line and back pressurizing with air. Using the installed pressure gauge and the inerted drywell as a pressure source is not practical because containment may be breached, and the drywell pressure is too low to yield repeatable results. This test is impractical to perform during normal operation or cold shutdowns because primary containment would be violated and additionally, disassembling the piping during cold shutdowns could delay the Unit startup.

To full stroke exercise open the ACAD check valves requires injecting air at a rate of 5000 scfh into the drywell and torus while inerted at 1.1 to 1.3 psig with nitrogen. The normal oxygen concentration of containment is 2.0% with alarms set at 3.5%.

## RELIEF REQUEST NUMBER RV-25A
(Page 2 of 2)

**BASIS FOR RELIEF** (Con't)

Allowing oxygen to be injected into the drywell and torus each quarter to perform inservice testing would eventually require venting the drywell and torus and purging with nitrogen so as not to exceed the limits for containment oxygen concentration.

Injection of air into the drywell in this method has a great probability of causing significant airborne contamination in cold shutdowns and refueling conditions. To exercise these valves open during operations or cold shutdowns is undesirable because the drywell is inerted and the addition of oxygen to the drywell would require additional monitoring and operational constraints.

**ALTERNATE TEST**

These valves will be exercised closed each reactor refueling outage. The closed test will be in conjunction with the Appendix J leak rate test as described in NUREG 1482, Section 4.1.4. Open capability of these valves will be assessed during disassembly and inspection as described in TV-00C.

## RELIEF REQUEST NUMBER RV-37A

(Page 1 of 1)

### DESCRIPTION

Relief is requested for exercising the Reactor Building Cooling Water (RBCCW) supply check valve quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-3769-500 | 20" | AC | 2 | M20/3C | RBCCW Containment Isolation |
| 3-3769-500 | 20" | AC | 2 | M353/3C | RBCCW Containment Isolation |

### CODE REQUIREMENT(S)

IWV-3521 Test Frequency: Check valves shall be exercised at least once every 3 months.

IWV-3522 Exercising Procedure: Valves which cannot be exercised during operations shall be exercised during cold shutdowns.

### BASIS FOR RELIEF

These check valves are open during normal operation of RBCCW system. Testing these valves closed quarterly or during cold shutdown requires isolation of RBCCW to containment loads including the Reactor Recirculating pumps. Establishing the test conditions, conducting the test, and returning the system to normal line-up renders leak testing impractical during power operation and cold shutdown outages as described in NUREG-1482, Section 4.1.4.

### ALTERNATE TEST

These valves will be exercised closed each reactor refueling outage during the Appendix J leak rate test as described in NUREG 1482, Section 4.1.4.

## RELIEF REQUEST NUMBER RV-57A

(Page 1 of 1)

### DESCRIPTION

This requests relief for full stroke exercising the Control Room HVAC Refrigerant Heat Exchanger Cooling Water Outlet Flow Control Valve.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2/3-5741-62 | 2.5" | B | 3 | 3121/3B | Control Room HVAC Refrigerant Service Water Outlet Flow Control |

### CODE REQUIREMENT(S)

IWV-3413 Power Operated Valves: The limiting full-stroke time of each power operated valve shall be specified by the owner.

### BASIS FOR RELIEF

This valve controls the cooling water flow through the Control Room HVAC Refrigerant heat exchanger. The valve receives a signal from a pressure transmitter located on the refrigerant side. When the pressure increases due to the refrigerant temperature rising, the 2/3-5741-62 throttles open further to allow more cooling. Similarly, the valve throttles flow down when the pressure drops.

Since the valve open and closes based on a signal from a pressure transmitter, the valve cannot be accurately timed. Forcing the valve to stroke by disconnecting the air tubing from the transducer and connecting an external air source is cumbersome and will not yield repeatable data. The valve stem is readily visible and can easily be observed for degrading conditions.

### ALTERNATE TEST

This valve will be exercised and fail safe tested quarterly by isolating the air to the valve. Stem conditions and motion will be observed for evidence of degrading conditions.

## TECHNICAL APPROACH AND POSITION INDEX/SUMMARIES

(Page 1 of 2)

| Technical Approach & Position | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| TV-00A | 16-1 to 16-2 | 3 | 08/95 | **Power Operated Valves** Position 5 of Generic Letter 89-04 will be followed for stroke timing valves. |
| TV-00B | 16-3 to 16-4 | 3 | 08/95 | **Pressure Isolation Valves** All pressure isolation valves will receive Appendix J type leak tests. |
| TV-00C | 16-5 to 16-7 | 3 | 08/95 | **Check Valves** The check valve disassembly and inspection program is summarized. |
| TV-00D | NA | 3 | 08/95 | Deleted. |
| TV-00E | NA | 3 | 08/95 | Deleted. |
| TV-02A | 16-8 | 3 | 08/95 | **MSIV Accumulator Check Valves** Exercise closed each reactor refueling outage. |
| TV-03A | 16-9 to 16-10 | 3 | 08/95 | **CRD Backup Scram and Scram Dump Valves** Exercise without timing and verify proper venting during cold shutdowns. |

## TECHNICAL APPROACH AND POSITION INDEX/SUMMARIES

(Page 2 of 2)

| Technical Approach & Position | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| TV-03B | 16-11 | 3 | 08/95 | **CRD Scram Inlet and Outlet Valves** Individual scram insertion times and exercising will be performed in accordance with the Technical Specifications. |
| TV-03C | 16-12 to 16-13 | 3 | 08/95 | **ARI/ATWS Valves** Exercise without timing and verify proper operation during cold shutdowns. |
| TV-19A | 16-14 | 3 | 08/95 | **Fuel Pool Cooling Check Valves** Test by verification of adequate total cooling flow during normal operation. |
| TV-23A | NA | 3 | 08/95 | Deleted. |
| TV-23B | 16-15 | 3 | 08/95 | **HPCI Turbine Exhaust Vacuum Breakers** Functionally test open and closed each refueling outage as an assembly. |
| TV-25A | NA | 3 | 08/95 | Deleted. |
| TV-47A | 16-16 | 3 | 08/95 | **TIP Nitrogen Purge Valves** Exercise closed during reactor refueling outages. |
| TV-52A | 16-17 | 3 | 08/95 | **Unit 3 Diesel Fuel Oil Transfer Solenoid Valve** Stroke without timing. |
| TV-66A | 16-18 | 3 | 08/95 | **Diesel Air Start Solenoid and Relay** Verify operable during monthly Diesel Runs. |
| TV-75A | NA | 3 | 08/95 | Deleted. |

## TECHNICAL APPROACH & POSITION NUMBER TV-00A

(Page 1 of 2)

### DESCRIPTION

Valve timing alert ranges for valves with stroke times greater than 2 seconds, and less than 10 seconds.

### DISCUSSION

Most air operated (AO) and motor operated (MO) valves have maximum stroke times that are much longer than actual stroke times. Stroke times could increase moderately (less than 50%) over successive tests and not trigger any closer observations, thus not allowing detection and corrective action. Degradation in such valves could then be severe before corrective actions would be taken[1].

Errors have occurred with analyzing stroke times. Some valves with stroke times that have increased by over 50% from previous tests have not been placed in the Alert Range for closer observation and to allow detection and corrective action should further degradation occur. Providing a known Alert Range and Maximum Stroke Time will eliminate these errors.

### POSITION

Dresden Nuclear Station has adopted Position 5, Limiting Valves of Full-Stroke times for Power Operated Valves, of Generic Letter 89-04.

Specifically, the test method provides for valve timing reference values, alert stroke times and maximum stroke times for the valves tested in the IST Program. A summary of the determination of these timed action ranges are provided below.

Valves that require timing have their reference values established after the first normally scheduled inservice testing of these valves. These valve timing reference values shall then be added to their respective surveillance procedure's acceptance criteria sheet for use.

Stroke time reference values are established during the first normally scheduled inservice testing of the specific valve. These reference values are used to determine the alert stroke time limits for valves under 10 seconds and for establishing a max stroke time for all valves.

Maximum stroke times for the valves tested in the IST Program are calculated through the use of multipliers as specified in the administrative procedure controlling the IST Program at Dresden station. The calculated maximum stroke time will then be compared to the Technical Specifications, FSAR and Principle LOCA Analysis. The most limiting value shall be used for the maximum stroke time.

[1] Institute of Nuclear Power Operations' (INPO), July 1987 Evaluation of Dresden Station. Page 37; Finding (TS.2-1).

## TECHNICAL APPROACH & POSITION NUMBER TV-00A

(Page 2 of 2)

**POSITION** (Con't)

The alert stroke time limit for each valve is determined as follows:

For valves with a reference value stroke time from 2 to 10 seconds, the alert stroke time limit is equal to 1.5 times the reference value. If the alert stroke time limit calculated this way exceeds the maximum stroke time, then the alert stroke time is equal to 1.2 times the reference value.

NOTE: In no case will the alert stroke time limit exceed the maximum stroke time limit.

Measurement of valve stroke times is from the initiation of switch movement to the previously illuminated light going off. This is referred to as "switch-to-light" valve timing.

## TECHNICAL APPROACH & POSITION NUMBER TV-00B

(Page 1 of 2)

### DESCRIPTION

This Technical Approach and Position addressed and identifies Pressure Isolation Valves (PIVs). PIVs are defined for each interface as any two valves in series, within the reactor coolant pressure boundary which separate a high pressure system from an attached low pressure or low temperature system. These valves are normally closed during power operation.

### DISCUSSION

The following PIVs are Category A Valves, and Primary Containment Isolation Valves in the IST Program and receive Appendix J type leak tests.

| VALVE | SIZE | CAT | CLASS | P&ID/CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0220-44 | 3/4" | A | 1 | 26-2/2E | Recirc Loop Sample Inboard |
| 2-0220-45 | 3/4" | A | 1 | 26-2/1E | Recirc Loop Sample Outboard |
| 2-1001-1A | 16" | A | 1 | 32/9B | SDC Inlet Isolation |
| 2-1001-1B | 16" | A | 1 | 32/9E | SDC Inlet Isolation |
| 2-1001-2A | 14" | A | 1 | 32/8A | SDC Pump Suction Isolation |
| 2-1001-2B | 14" | A | 1 | 32/8C | SDC Pump Suction Isolation |
| 2-1001-2C | 14" | A | 1 | 32/8F | SDC Pump Suction Isolation |
| 2-1001-5A | 14" | A | 1 | 32/1E | SDC Outlet Isolation |
| 2-1001-5B | 14" | A | 1 | 32/2E | SDC Outlet Isolation |
| 2-1402-25A | 10" | A | 1 | 27/2C | Core Spray Outboard Injection |
| 2-1402-25B | 10" | A | 1 | 27/5C | Core Spray Outboard Injection |
| 2-1501-22A | 18" | A | 1 | 29-1/7B | LPCI Injection |
| 2-1501-22B | 18" | A | 1 | 29-1/3B | LPCI Injection |
| 2-1501-25A | 14" | AC | 1 | 29-1/5B | LPCI Loop I Injection Check |
| 2-1501-25B | 14" | AC | 1 | 29-1/4B | LPCI Loop II Injection Check |
| 3-0220-44 | 3/4" | A | 1 | 357-2/2E | Recirc Loop Sample Inboard |
| 3-0220-45 | 3/4" | A | 1 | 357-2/1E | Recirc Loop Sample Outboard |
| 3-1001-1A | 16" | A | 1 | 32/9B | SDC Inlet Isolation |
| 3-1001-1B | 16" | A | 1 | 32/9E | SDC Inlet Isolation |
| 3-1001-2A | 14" | A | 1 | 32/8A | SDC Pump Suction Isolation |
| 3-1001-2B | 14" | A | 1 | 32/8C | SDC Pump Suction Isolation |
| 3-1001-2C | 14" | A | 1 | 32/8F | SDC Pump Suction Isolation |
| 3-1001-5A | 14" | A | 1 | 32/1E | SDC Outlet Isolation |
| 3-1001-5B | 14" | A | 1 | 32/2E | SDC Outlet Isolation |
| 3-1402-25A | 10" | A | 1 | 27/2C | Core Spray Outboard Injection |
| 3-1402-25B | 10" | A | 1 | 27/5C | Core Spray Outboard Injection |
| 3-1501-22A | 18" | A | 1 | 29-1/7B | LPCI Injection |
| 3-1501-22B | 18" | A | 1 | 29-1/3B | LPCI Injection |
| 3-1501-25A | 14" | AC | 1 | 29-1/5B | LPCI Loop I Injection Check |
| 3-1501-25B | 14" | AC | 1 | 29-1/4B | LPCI Loop II Injection Check |

## TECHNICAL APPROACH & POSITION NUMBER TV-00B

(Page 2 of 2)

**DISCUSSION**(Con't)

The following PIVs are Category A Valves in the IST program and receive a seat leakage test using high pressure water. These valves are designed to seal at higher pressure. These valves are not primary containment isolation valves.

| VALVE | SIZE | CAT | CLASS | P&ID/CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1402-9A | 10" | AC | 1 | 27/3C | Core Spray Injection Check |
| 2-1402-9B | 10" | AC | 1 | 27/4C | Core Spray Injection Check |
| 3-1402-9A | 10" | AC | 1 | 358/3C | Core Spray Injection Check |
| 3-1402-9B | 10" | AC | 1 | 358/4C | Core Spray Injection Check |

**POSITION**

These valves are tested every 2 years (refueling outage) and after valve maintenance.

## TECHNICAL APPROACH & POSITION NUMBER TV-00C

(Page 1 of 3)

### DESCRIPTION

This information is intended to provide documentation for the disassembly and inspection of Category C check valves for which relief has been requested from ASME Section XI, IWV-3522 requirements.

### DISCUSSION

Specific valve relief requests have been submitted for the valves listed below.

| VALVE | CLASS | RELIEF REQUEST NUMBER | GROUP | FUNCTION |
|---|---|---|---|---|
| 2-1301-11 | 3 | RV-13A | 1 | Iso Condenser Makeup |
| 2-1402-13A | 2 | RV-14A | 2 | Core Spray Min Flow |
| 2-1402-13B | 2 | RV-14A | 2 | Core Spray Min Flow |
| 2-1501-65A | 2 | RV-15A | 3 | LPCI Min Flow |
| 2-1501-65B | 2 | RV-15A | 3 | LPCI Min Flow |
| 2-1501-65C | 2 | RV-15A | 3 | LPCI Min Flow |
| 2-1501-65D | 2 | RV-15A | 3 | LPCI Min Flow |
| 2-2301-39 | 2 | RV-23A | 4 | HPCI Suction from Torus |
| 2-2301-40 | 3 | RV-23F | 5 | HPCI Min Flow |
| 2-2301-50A | 2 | RV-23G | 6 | HPCI GSC Check |
| 2-2301-75 | 2 | RV-23G | 6 | HPCI GSC Check |
| 2-2301-51 | 2 | RV-23G | 7 | HPCI GSC Check |
| 2-2301-76 | 2 | RV-23G | 8 | HPCI GSLO Check |
| 2-2599-23A | 1 | RV-25A | 9 | ACAD Containment Isolation |
| 2-2599-23B | 1 | RV-25A | 9 | ACAD Containment Isolation |
| 2-2599-24A | 1 | RV-25A | 9 | ACAD Containment Isolation |
| 2-2599-24B | 1 | RV-25A | 9 | ACAD Containment Isolation |
| 3-1301-11 | 3 | RV-13A | 10 | Iso Condenser Makeup |
| 3-1402-13A | 2 | RV-14A | 11 | Core Spray Min Flow |
| 3-1402-13B | 2 | RV-14A | 11 | Core Spray Min Flow |
| 3-1501-65A | 2 | RV-15A | 12 | LPCI Min Flow |
| 3-1501-65B | 2 | RV-15A | 12 | LPCI Min Flow |
| 3-1501-65C | 2 | RV-15A | 12 | LPCI Min Flow |
| 3-1501-65D | 2 | RV-15A | 12 | LPCI Min Flow |
| 3-2301-39 | 2 | RV-23A | 13 | HPCI Suction from Torus |
| 3-2301-40 | 3 | RV-23F | 14 | HPCI Min Flow |
| 3-2301-50A | 2 | RV-23G | 15 | HPCI GSC Check |
| 3-2301-75 | 2 | RV-23G | 15 | HPCI GSC Check |

## TECHNICAL APPROACH & POSITION NUMBER TV-00C

(Page 2 of 3)

| VALVE | CLASS | RELIEF REQUEST NUMBER | GROUP | FUNCTION |
|---|---|---|---|---|
| 3-2301-51 | 2 | RV-23G | 16 | HPCI GSC Check |
| 3-2301-76 | 2 | RV-23G | 17 | HPCI GSLO Check |
| 3-2599-23A | 1 | RV-25A | 18 | ACAD Containment Isolation |
| 3-2599-23B | 1 | RV-25A | 18 | ACAD Containment Isolation |
| 3-2599-24A | 1 | RV-25A | 18 | ACAD Containment Isolation |
| 3-2599-24B | 1 | RV-25A | 18 | ACAD Containment Isolation |

### POSITION

**Check Valve Exercising**

ASME Section XI provides an exercise procedure for Category C valves. When direct or indirect methods of exercising check valves are not available or when it is impractical to exercise a valve using system flow, the check valve will be disassembled and inspected using a sampling technique.

For check valves which cannot be verified operable by standard ASME test procedures, Dresden Station will prove operability by disassembly/inspection.

**Test Frequency**

Check valves will be disassembled and inspected on a refueling outage basis only.

**Sampling Technique**

The sampling technique utilized by Dresden requires that one valve from each valve Unit Grouping be disassembled and inspected each reactor refueling outage. A different valve in each valve Group will be disassembled and inspected at subsequent refueling outages. The scheduling will continue for subsequent inspections.

**Check Valve Grouping**

Valve Groups are defined as each valve in a group having the following identical characteristics:

a. Unit
b. Manufacturer
c. Size
d. Model number
e. Material of construction
f. Service conditions (i.e. process fluid, temperature, pressure, flow, etc.)

## TECHNICAL APPROACH & POSITION NUMBER TV-00C



**POSITION (cont.)**

**Disassembly/Inspection (Exercising)**

Upon valve disassembly, a visual inspection of the valve internals is performed to ensure that all parts are intact and structurally sound (no loose or corroded parts).

During the visual inspection, the valve disk is manually exercised to ensure the valve is capable of full-stroking.

**Corrective Actions**

If the disassembled valve's full stroke capability is in question, the remaining valves in that group will be disassembled, inspected and full-stroke exercised during the same refueling outage.

If any valve fails to exhibit full stroke capability, the valve shall be repaired or replaced in accordance with the corrective actions of IWV-3427(a).

## TECHNICAL APPROACH & POSITION NUMBER TV-02A

(Page 1 of 1)

### DESCRIPTION

The Main Steam Isolation Valve (MSIV) Accumulator check valves will not be exercised quarterly or during cold shutdowns.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0220-84A | 0.5" | C | SR | M-12-1/3F | MSIV Accumulator Check |
| 2-0220-84B | 0.5" | C | SR | M-12-1/3F | MSIV Accumulator Check |
| 2-0220-84C | 0.5" | C | SR | M-12-1/3F | MSIV Accumulator Check |
| 2-0220-84D | 0.5" | C | SR | M-12-2/3F | MSIV Accumulator Check |
| 2-0220-85A | 0.5" | C | SR | M-12-2/3F | MSIV Accumulator Check |
| 2-2200-85B | 0.5" | C | SR | M-12-2/7F | MSIV Accumulator Check |
| 2-2200-85C | 0.5" | C | SR | M-12-2/3F | MSIV Accumulator Check |
| 2-2200-85D | 0.5" | C | SR | M-12-2/7F | MSIV Accumulator Check |
| 3-0220-84A | 0.5" | C | SR | M-345-1/3F | MSIV Accumulator Check |
| 3-0220-84B | 0.5" | C | SR | M-345-1/3F | MSIV Accumulator Check |
| 3-0220-84C | 0.5" | C | SR | M-345-1/3F | MSIV Accumulator Check |
| 3-0220-84D | 0.5" | C | SR | M-345-1/3F | MSIV Accumulator Check |
| 3-0220-85A | 0.5" | C | SR | M-345-2/7F | MSIV Accumulator Check |
| 3-0220-85B | 0.5" | C | SR | M-345-2/7F | MSIV Accumulator Check |
| 3-0220-85C | 0.5" | C | SR | M-345-2/7F | MSIV Accumulator Check |
| 3-0220-85D | 0.5" | C | SR | M-345-2/7F | MSIV Accumulator Check |

### DISCUSSION

Verifying closure of these valves during power operation or cold shutdown requires deinerting and entering the drywell and X-area to perform the appropriate leak rate tests. The average dose rates for these areas is considered to be extremely high. Additionally, to perform the necessary leak test, an extensive amount of accumulator piping must be disassembled to isolate the check valves. This extensive maintenance will delay unit startup if the unit is in cold shutdown. This test is impractical to perform during normal operation or cold shutdown due to the dose considerations and the burden of disassembling the MSIV accumulator piping.

### POSITION

These valves will be exercised closed each reactor refueling.

## TECHNICAL APPROACH & POSITION NUMBER TV-03A

(Page 1 of 2)

### DESCRIPTION

The Control Rod Drive Backup Scram and Scram Dump Valves will not be exercised or timed quarterly or during cold shutdown periods.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0302-19A | 0.5" | A | SR | M34/7E | CRD Backup Scram Valve |
| 2-0302-19B | 0.5" | A | SR | M34/7E | CRD Backup Scram Valve |
| 2-0301-122 | 0.5" | C | SR | M34/7E | CRD Backup Scram Bypass |
| 2-0302-20A | 0.5" | A | SR | M34/8E | CRD Scram Dump Valve |
| 2-0302-20B | 0.5" | A | SR | M34/8E | CRD Scram Dump Valve |
| 3-0302-19A | 0.5" | A | SR | M365/7E | CRD Backup Scram Valve |
| 3-0302-19B | 0.5" | A | SR | M365/7E | CRD Backup Scram Valve |
| 3-0301-122 | 0.5" | C | SR | M365/7E | CRD Backup Scram Bypass |
| 3-0302-20A | 0.5" | A | SR | M365/8E | CRD Scram Dump Valve |
| 3-0302-20B | 0.5" | A | SR | M365/8E | CRD Scram Dump Valve |

### DISCUSSION

To exercise these valves requires inserting all of the control rod drives. This is not considered practical during normal operation.

Since all control rods are fully inserted during cold shutdowns, exercising these valves during cold shutdowns could damage the CRD seals by trying to force the control rod further in. The only way to prevent damaging the CRD seals is by draining the water side of each accumulator. To drain the accumulators requires opening 177 manual drain valves, waiting for the water to stop flowing out, and then closing the valve. This operation also requires independent verification by another operator and would be labor intensive during cold shutdowns and could delay the unit startup. Radiation levels at the manual drain valves are significantly high and result in a relatively large dose to the operators.

Approximately 1200 gallons of water would be discharged to radwaste when the accumulators are drained. This is approximately 10% of the radwaste capacity and therefore the potential to overload the radwaste system exists.

These 0.5" valves operate too rapidly and there is no position indication for any practical timing measurements. The backup scram and scram dump valves operate to vent instrument air from the scram valves and the scram discharge volume vent and drain valves. Valves 0302-19A and 0302-19B are in series and each shift to vent air. Check valve, 0301-122, bypasses 0302-19A to provide flow to 0302-19B. The series of valves provide multiple vent paths. Valve 0302-20B and 0302-20A are in series. Valve 0302-20B shifts to provide flow to 0302-20A.

## TECHNICAL APPROACH & POSITION NUMBER TV-03A

(Page 2 of 2)

**DISCUSSION**(cont.)

Valves 0302-19A and 0302-19B vent directly to atmosphere, and air flow can be verified to exit through both ports. Flow through 0302-19B and 0301-122 cannot be independently quantified. Flow only vents from 0302-20A if both 0302-20A and 0302-20B shift. Additional system manipulations are not necessary to verify that all valves stroke.

**POSITION**

These valves will be exercised, without timing, and proper venting will be verified during reactor refuel outages. The time to depressurize the scram air header from 75 psig to 10 psig or under will be measured and verified to be under 15 seconds.

## TECHNICAL APPROACH & POSITION NUMBER TV-03B

(Page 1 of 1)

### DESCRIPTION

These valves will be exercised in accordance with Technical Specifications.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0305-117 | 0.5" | B | SR | 34/0D | CRD Scram Pilot Valve |
| 2-0305-118 | 0.5" | B | SR | 34/0D | CRD Scram Pilot Valve |
| 3-0305-117 | 0.5" | B | SR | 365/0D | CRD Scram Pilot Valve |
| 3-0305-118 | 0.5" | B | SR | 365/0D | CRD Scram Pilot Valve |

### DISCUSSION

To exercise these valves requires scramming the individual CRD's.

The proper operation of each of the valves is demonstrated by the Technical Specification required scram testing. To exercise these valves more than the current Technical Specification requirements is not practical.

These valves are exercised and each individual control rod drive scram insertion is timed and must meet specific time increments as stated in the Technical Specifications. This individual rod timing ensures that the valves function properly.

### POSITION

Individual scram insertion times and subsequent valve exercising will be performed per the Technical Specification requirements.

## TECHNICAL APPROACH & POSITION NUMBER TV-03C

(Page 1 of 2)

### DESCRIPTION

The Alternate Rod Insertion/Anticipated Transient Without Scram (ARI/ATWS) Air Header Bleed Off valves quarterly or during cold shutdown periods will not be exercised or timed quarterly or during cold shutdowns.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0399-524A | 0.5" | A | SR | M34/8D | ARI/ATWS Air Header Bleed Off |
| 2-0399-524B | 0.5" | A | SR | M34/8D | ARI/ATWS Air Header Bleed Off |
| 2-0399-525 | 0.5" | C | SR | M34/8D | ARI/ATWS Air Header Bleed Off Bypass |
| 2-0399-548A | 0.5" | A | SR | M34/9C | ARI/ATWS Air Header Bleed Off |
| 2-0399-548B | 0.5" | A | SR | M34/9C | ARI/ATWS Air Header Bleed Off |
| 2-0399-549A | 0.5" | A | SR | M34/8E | ARI/ATWS Air Header Bleed Off |
| 2-0399-549B | 0.5" | A | SR | M34/8E | ARI/ATWS Air Header Bleed Off |
| 3-0399-524A | 0.5" | A | SR | M365/8D | ARI/ATWS Air Header Bleed Off |
| 3-0399-524B | 0.5" | A | SR | M365/8D | ARI/ATWS Air Header Bleed Off |
| 3-0399-525 | 0.5" | C | SR | M365/8D | ARI/ATWS Air Header Bleed Off Bypass |
| 3-0399-548A | 0.5" | A | SR | M365/9C | ARI/ATWS Air Header Bleed Off |
| 3-0399-548B | 0.5" | A | SR | M365/9C | ARI/ATWS Air Header Bleed Off |
| 3-0399-549A | 0.5" | A | SR | M365/8E | ARI/ATWS Air Header Bleed Off |
| 3-0399-549B | 0.5" | A | SR | M365/8E | ARI/ATWS Air Header Bleed Off |

### DISCUSSION

These solenoid operated valves provide an alternate method of relieving the CRD scram air header pressure so as to provide CRD insertion.

To exercise these valves requires inserting all of the control rod drives. This is not considered practical during normal operation.

Since all control rods are fully inserted during cold shutdowns, exercising these valves during cold shutdowns could damage the CRD seals by trying to force the control rod further in. The only way to prevent damaging the CRD seals is by draining the water side of each accumulator. To drain the accumulators requires opening 177 manual drain valves, waiting for the water to stop flowing out, and then closing the valve. This operation also requires independent verification by another operator and would be labor intensive during cold shutdowns and could delay the unit startup. Radiation levels at the manual drain valves are up to 2 Rem at 6 inches, which results in a relatively large dose to the operators.

## TECHNICAL APPROACH & POSITION NUMBER TV-03C

(Page 2 of 2)

**DISCUSSION**(cont.)

Approximately 1200 gallons of water would be discharge to radwaste when the accumulators are drained. This is approximately 10% of the radwaste capacity and therefore the potential to overload the radwaste system exists.

These 0.5" valves operate too rapidly and there is no position indication for any practical timing measurements. Check valve, 0399-525, bypasses 0399-524A to provide flow to 0399-524B. Valves 0399-524A and 0399-524B vent directly to atmosphere, and air flow can be verified to exit through both ports. Flow through 0399-524B and 0399-525 cannot be independently quantified.

**POSITION**

These valves will be exercised, without timing, and proper venting will be verified during reactor refuel outages. The time to depressurize the scram air header from 75 psig to 10 psig or under will be measured and verified to be under 15 seconds.

## TECHNICAL APPROACH & POSITION NUMBER TV-19A

(Page 1 of 1)

### DESCRIPTION

The full flow through the independent discharge paths into the fuel pool will not be measured. In addition, shifting of the operating pumps will not be performed solely for the collection of IST data.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1901-16A | 6.0" | C | NSR | M31/6A | Fuel Pool Cooling Return |
| 2-1901-16B | 6.0" | C | NSR | M31/6A | Fuel Pool Cooling Return |
| 2-1901-27A | 6.0" | C | NSR | M31/3E | Fuel Pool Cooling Pump Discharge |
| 2-1901-27B | 6.0" | C | NSR | M31/3F | Fuel Pool Cooling Pump Discharge |
| 2-1901-55 | 6.0" | C | NSR | M31/10C | Fuel Pool Filter Return |
| 3-1901-16A | 6.0" | C | NSR | M362/5B | Fuel Pool Cooling Return |
| 3-1901-16B | 6.0" | C | NSR | M362/5B | Fuel Pool Cooling Return |
| 3-1901-27A | 6.0" | C | NSR | M362/3E | Fuel Pool Cooling Pump Discharge |
| 3-1901-27B | 6.0" | C | NSR | M362/3F | Fuel Pool Cooling Pump Discharge |
| 3-1901-55 | 6.0" | C | NSR | M362/10D | Fuel Pool Filter Return |

### DISCUSSION

The fuel pool cooling system is in continuous operation and is monitored by operations personnel. Shifting pumps to test idle check valves causes unnecessary transients on the system including loss of the filter precoats, with no corresponding increase in the level of safety due to additional testing. The return system branches into two separate discharge paths when entering the pool. These independent branch lines are not equipped with any means of measuring flow.

### POSITION

The fuel pool cooling filter d/p, system flow rate, and pool temperature will be monitored by plant operating personnel department.

## TECHNICAL APPROACH & POSITION NUMBER TV-23B

(Page 1 of 1)

### DESCRIPTION

The High Pressure Coolant Injection (HPCI) turbine exhaust vacuum breakers will not be tested individually and will not be partial or full stoke exercised quarterly or at cold shutdown.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2399-77A | 1.0" | C | SR | M51/8D | HPCI Vacuum Breaker |
| 2-2399-77B | 1.0" | C | SR | M51/8D | HPCI Vacuum Breaker |
| 3-2399-77A | 1.0" | C | SR | M374/8D | HPCI Vacuum Breaker |
| 3-2399-77B | 1.0" | C | SR | M374/8D | HPCI Vacuum Breaker |

### DISCUSSION

The vacuum breaker assembly consists of two parallel trains of two check valves in series. The trains are cross connected between the series check valves. Test connections and isolations are not available to individually test each of the four valves, or individual trains. Because normal system instrumentation does not exist to verify operability of the valve assembly, the torus must be entered to conduct functional testing.

This testing is impractical during power operations since the torus is inaccessible because it is inerted and at a negative pressure. This testing would require the violation of Primary Containment to enter.

Functional testing of these valves during cold shutdowns is extremely burdensome because entering the torus requires removal of the 4.0 ft. diameter manway cover. Once the cover is replaced, a local leak rate test must be performed to verify the primary containment boundary. This added maintenance and testing burden would invariably delay unit startup.

### POSITION

This set of valves will be functionally tested open and closed each refueling outage. When functional testing indicates that the operability of the valve assembly is questionable, all valves in the assembly will be repaired or replaced.

## TECHNICAL APPROACH & POSITION NUMBER TV-47A

(Page 1 of 1)

### DESCRIPTION

The Traversing In-core Probe (TIP) containment isolation valves will not be exercised quarterly or during cold shutdowns.

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-4799-514 | 0.5 | AC | SR | 37-2/4F | TIP Nitrogen Purge Containment Isolation |
| 3-4799-514 | 0.5 | AC | SR | 367-2/4F | TIP Nitrogen Purge Containment Isolation |

### DISCUSSION

This valve is normally open and required to close for containment isolation. It is required to be open during operation to maintain a constant Nitrogen purge. To verify closure would require securing the system, disassembling the process line and back pressurizing with air. This test is impractical to perform during normal operation or cold shutdowns because primary containment would be violated and additionally, disassembling the piping during cold shutdowns could delay the Unit startup.

### POSITION

This valve will be exercised closed each reactor refueling outage.

## TECHNICAL APPROACH & POSITION NUMBER TV-52A

(Page 1 of 1)

### DESCRIPTION

The Unit 3 Diesel Fuel Oil Transfer solenoid valve will not be timed.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 3-5202C-500 | 1.5 | B | SR | 41-2/5C | D/G Fuel Oil Transfer Pump to Day |

### DISCUSSION

This valve is solenoid operated and has no external means of position indication to facilitate timing. The valve is directly in line for filling the Emergency Diesel Generator Day Tank, and is operated by a level switch. Audible detection of valve movement can be difficult and inconsistent because of the noise of the Diesel Generator. Filling the day tank during a normal Emergency Diesel Generator Surveillances verifies the valve opens.

### POSITION

This valve will be verified open during normal Emergency Diesel Generator Surveillances.

## TECHNICAL APPROACH & POSITION NUMBER TV-66A

(Page 1 of 1)

### DESCRIPTION

The Diesel Air Start Solenoid valves will not be timed.

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-6699-103 | 3/8" | B | SR | 173/0A | Diesel Air Start Solenoid |
| 2-6699-105 | 3/8" | B | SR | 173/0A | Diesel Air Start Relay |
| 2/3-6699-103 | 3/8" | B | SR | 173/0A | Diesel Air Start Solenoid |
| 2/3-6699-105 | 3/8" | B | SR | 173/0A | Diesel Air Start Relay |
| 3-6699-103 | 3/8" | B | SR | 173/0A | Diesel Air Start Solenoid |
| 3-6699-105 | 3/8" | B | SR | 173/0A | Diesel Air Start Relay |

### DISCUSSION

These solenoid valves and relays must open to allow air to be admitted to the diesel generator air start motors. This causes the diesel engine pinion gear to engage the motor. After the diesel reaches a speed of 200 rpm, the solenoid valves close to disengage the air start motors.

Since the valves full stroke open and closed in less than 1 second and are not equipped with position indicators, the valves cannot be accurately timed.

During monthly diesel surveillance testing, the acceptance criteria for diesel start time is 15 seconds. If the diesel does not start in 15 seconds, the "Fail to Start" alarm will come in and the cause will be investigated.

These 0.375" valves operate too rapidly and there is no positive indication for any practical timing measurements. Their operational readiness and safety-related function are verified during the monthly diesel generated surveillances. Additional timing is considered impractical.

### POSITION

These valves will be verified operable by verifying that the diesel generator meets the start time limits set forth in the monthly surveillance.

# COLD SHUTDOWN JUSTIFICATION INDEX/SUMMARIES

(Page 1 of 1)

| Cold Shutdown Just. | Page(s) | Rev. | Date | Summary |
|---|---|---|---|---|
| CS-00A | 18-1 | 0 | 03/92 | **CS & LPCI Injection Check Valves** Reactor pressure is too high during operations to exercise these valves. |
| CS-00B | NA | 3 | 08/95 | Deleted. |
| CS-02A | 18-2 | 0 | 03/92 | **Recirc Pump Discharge Valves** Load drops during operations would be required to stroke the valves. |
| CS-02B | 18-3 | 0 | 03/92 | **MSIV's** Air lines to the valves must be disconnected in order to perform fail safe testing. |
| CS-02C | 18-4 | 3 | 08/95 | **Main Steam Relief Valve Discharge Piping Vacuum Breakers** Require entry into Primary Containment in order to manually exercise these valves. |
| CS-03A | 18-5 | 0 | 03/92 | **CRD Accumulator Charging Water Check Valve** To verify closure requires securing the CRD pump which could damage the recirc pump mechanical seals. |
| CS-10A | 18-6 | 0 | 03/92 | **SDC Inlet/Outlet Valves** SDC is isolated over 350°F. |
| CS-15A | NA | 3 | 08/95 | Deleted. |
| CS-16A | 18-7 | 0 | 03/92 | **Torus Vent Isolation Valves** Repositioning valves during operation would render system inoperable. |
| CS-23A | 18-8 | 3 | 08/95 | **HPCI Injection Check Valves** Operation at elevated temperature causes excessive thermal shock. |
| CS-37A | 18-9 | 0 | 03/92 | **RBCCW Containment Isolation Valves** Both recirc pumps need to be secured prior to exercising these valves closed. |
| CS-47A | 18-10 | 0 | 03/92 | **Instrument Air Containment Isolation Valves** Closing these valves could cause the MSIV's close. |

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-00A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1402-9A | 10" | AC | 1 | 27/3C | Core Spray Injection Check |
| 2-1402-9B | 10" | AC | 1 | 27/4C | Core Spray Injection Check |
| 2-1501-25A | 14" | AC | 1 | 29-1/5B | LPCI Injection Check |
| 2-1501-25B | 14" | AC | 1 | 29-1/4B | LPCI Injection Check |
| 3-1402-9A | 10" | AC | 1 | 358/3C | Core Spray Injection Check |
| 3-1402-9B | 10" | AC | 1 | 358/4C | Core Spray Injection Check |
| 3-1501-25A | 14" | AC | 1 | 360-1/4B | LPCI Injection Check |
| 3-1501-25B | 14" | AC | 1 | 360-1/4B | LPCI Injection Check |

### JUSTIFICATION

Core Spray and LPCI are both low pressure systems. During normal plant operation, reactor pressure is too high for these systems to be able to inject into the reactor.

Therefore, these valves will be exercised during cold shutdown.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-02A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0202-5A | 28" | B | 1 | 26-2/6D | Recirc Pump Discharge Valve |
| 2-0202-5B | 28" | B | 1 | 26-2/3C | Recirc Pump Discharge Valve |
| 3-0202-5A | 28" | B | 1 | 357-2/6D | Recirc Pump Discharge Valve |
| 3-0202-5B | 28" | B | 1 | 357-2/3D | Recirc Pump Discharge Valve |

### JUSTIFICATION

For Unit 2, the discharge valves cannot be full stroke tested during reactor operation because it would require a load drop (of approximately 400 megawatts) to a minimum recirculation pump speed of 28%. This is deemed impractical.

For Unit 3, the discharge valves cannot be full stroke tested during reactor operation because it would require a load drop to a minimum recirculation pump speed of 28% and insertion of control rods to achieve less than 80% Flow Control Line. The closure logic for these valves would result in the recirculation pump trip and would place the plant in an unwanted system/power transient, in a Technical Specifications LCO, and in an un-analyzed condition for the reactor recirculation piping.

The potential of operating in the prohibited region of the power flow map [above 80% Flow Control Line (FCL), below 39% core flow] exists when one (1) recirculation pump is shut down. The low flow/high power region of the operating map typically exhibits less margin to stability than other regions. Instabilities result in LPRM and APRM Oscillations significantly greater than normal noise levels.

To place the plant in this potential condition is deemed impractical.

Therefore, these valves will be full stroke tested during cold shutdown.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-02B

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0203-1A | 20" | A | 1 | 12-1/4E | Main Steam Isolation Valve |
| 2-0203-1B | 20" | A | 1 | 12-1/4D | Main Steam Isolation Valve |
| 2-0203-1C | 20" | A | 1 | 12-1/4C | Main Steam Isolation Valve |
| 2-0203-1D | 20" | A | 1 | 12-1/4B | Main Steam Isolation Valve |
| 2-0203-2A | 20" | A | 1 | 12-2/7F | Main Steam Isolation Valve |
| 2-0203-2B | 20" | A | 1 | 12-2/7E | Main Steam Isolation Valve |
| 2-0203-2C | 20" | A | 1 | 12-2/7D | Main Steam Isolation Valve |
| 2-0203-2D | 20" | A | 1 | 12-2/7C | Main Steam Isolation Valve |
| 3-0203-1A | 20" | A | 1 | 345-1/4E | Main Steam Isolation Valve |
| 3-0203-1B | 20" | A | 1 | 345-1/4D | Main Steam Isolation Valve |
| 3-0203-1C | 20" | A | 1 | 345-1/4C | Main Steam Isolation Valve |
| 3-0203-1D | 20" | A | 1 | 345-1/4B | Main Steam Isolation Valve |
| 3-0203-2A | 20" | A | 1 | 345-2/7F | Main Steam Isolation Valve |
| 3-0203-2B | 20" | A | 1 | 345-2/7E | Main Steam Isolation Valve |
| 3-0203-2C | 20" | A | 1 | 345-2/7D | Main Steam Isolation Valve |
| 3-0203-2D | 20" | A | 1 | 345-2/7C | Main Steam Isolation Valve |

### JUSTIFICATION

These valves are normally open and are required to close for containment isolation. They provide primary containment isolation for the main steam system. These valves are air operated open and air to close with spring assist. To completely fail-safe exercise these valves to the closed position, the air lines to the valves must be disconnected. Thus, with the loss of air, the fail-safe mechanism (springs) would be demonstrated. The resultant exercising of the MSIV's could place the plant in an unsafe mode of operation causing transient conditions which would result in a reactor scram. Furthermore, the inboard MSIVs are inaccessible during power operation.

These valves will be exercised during cold shutdown.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-02C

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0220-105A | 8" | C | 3 | 25/5E | Main Steam Relief Valve Discharge Piping Vacuum Breakers |
| 2-0220-105B | 8" | C | 3 | 25/5E | " |
| 2-0220-105C | 8" | C | 3 | 25/5E | " |
| 2-0220-105D | 8" | C | 3 | 25/5E | " |
| 2-0220-105E | 8" | C | 3 | 25/5E | " |
| 3-0220-105A | 8" | C | 3 | 25/5E | Main Steam Relief Valve Discharge Piping Vacuum Breakers |
| 3-0220-105B | 8" | C | 3 | 25/5E | " |
| 3-0220-105C | 8" | C | 3 | 25/5E | " |
| 3-0220-105D | 8" | C | 3 | 25/5E | " |
| 3-0220-105E | 8" | C | 3 | 25/5E | " |

### JUSTIFICATION

These valves provide vacuum relief on the main steam electromatic and target rock relief valve piping to the torus. They are normally closed and are required to open on vacuum when steam, which has been blown down to the torus, is condensing.

Exercising these valves during power operations would require reducing reactor power, de-inerting and entering the Drywell, and manually exercising the valves. Entering the Drywell during power operation once each quarter to exercise these valves would expose personnel to undo safety and radiation hazards.

Therefore, these valves will be exercised during cold shutdowns when the drywell is de-inerted and accessible.

Also see Relief Request RV-02E.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-03A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-0305-115 | .5" | C | 1 | 34/0E | CRD Accumulator Backflow Check to Charging Water Line |
| 3-0305-115 | .5" | C | 1 | 365/0E | CRD Accumulator Backflow Check to Charging Water Line |

### JUSTIFICATION

In order to verify closure of these valves, the control rod drive pump would need to be secured. In doing this, the seal purge water flow to the recirculation pump seals and cooling water to the control rod drive seals would be stopped and possible damage to these seals could result. Procedures dictate that loss of CRD pumps require a manual reactor scram.

Therefore, these valves will be exercised during cold shutdowns when the charging water header can be depressurized. Monitoring individual accumulator pressure and alarms will be performed to verify that the check valves have closed on reversed flow.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-10A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1001-1A | 16" | A | 1 | 32/9B | "A" SDC Loop Inlet |
| 2-1001-1B | 16" | A | 1 | 32/9E | "B" SDC Loop Inlet |
| 2-1001-2A | 14" | A | 1 | 32/8A | "A" SDC Pump Suction |
| 2-1001-2B | 14" | A | 1 | 32/8C | "B" SDC Pump Suction |
| 2-1001-2C | 14" | A | 1 | 32/8F | "B" SDC Pump Suction |
| 2-1001-5A | 14" | A | 1 | 32/1E | "A" SDC Loop Outlet |
| 2-1001-5B | 14" | A | 1 | 32/2E | "B" SDC Loop Outlet |
| 3-1001-1A | 16" | A | 1 | 363/9B | "A" SDC Loop Inlet |
| 3-1001-1B | 16" | A | 1 | 363/9E | "B" SDC Loop Inlet |
| 3-1001-2A | 14" | A | 1 | 363/8A | "A" SDC Pump Suction |
| 3-1001-2B | 14" | A | 1 | 363/8C | "B" SDC Pump Suction |
| 3-1001-2C | 14" | A | 1 | 363/8F | "B" SDC Pump Suction |
| 3-1001-5A | 14" | A | 1 | 363/1E | "A" SDC Loop Outlet |
| 3-1001-5B | 14" | A | 1 | 363/2E | "B" SDC Loop Outlet |

### JUSTIFICATION

These SDC inlet and outlet isolation valves are normally closed during operations and open when the SDC system is being used during shutdowns. They are required to close for containment isolation.

Since the primary function of the SDC system is to cool the reactor water from 350°F to 125°F, these valves are interlocked closed when the Recirc Loop temperature exceeds 350°F and therefore cannot be exercised every 3 months.

These valves will be exercised during cold shutdown.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-16A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-1601-91 | 18" | B | NSR | 25/2B | Vent to Rx. Bldg. Exhaust System |
| 2-1601-92 | 10" | B | NSR | 25/2B | Vent to Main Chimney |
| 3-1601-91 | 18" | B | NSR | 356/2B | Vent to Rx. Bldg. Exhaust System |
| 3-1601-92 | 10" | B | NSR | 356/2B | Vent to Main Chimney |

### JUSTIFICATION

These valves are part of the Hardened Vent Modification and are non-safety related. They have been added to the IST Plan in order to ensure testing on a regular basis. Since the 1601-91 valve is required to close and the 1601-92 is required to open during system operation, logic testing will be performed for these two valves during reactor refuel outages. These valves will be exercised and timed during Cold Shutdowns.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-23A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-2301-7 | 14.0" | C | 2 | M51/6E | HPCI Injection Check |
| 3-2301-7 | 14.0" | C | 2 | M374/6E | HPCI Injection Check |

### JUSTIFICATION

To full stroke exercise these valves open quarterly requires injecting approximately 5,000 gpm of condensate storage tank water at 70°F into the reactor vessel at 540°F. This type of test is impractical because repeating this test will eventually fatigue and crack the injection nozzles due to the induced thermal shock. In addition to the nozzle cracking concerns, a cold water transient in the vessel will cause a reactor trip.

The 2301-7 valve will be full stroke exercised open during cold shutdowns and the torque measured as required by IWV-3522.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-37A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-3702 | 6" | A | 2 | 20/3B | Reactor Building Closed Cooling Water Containment Isolation |
| 2-3703 | 6" | A | 2 | 20/1B | " |
| 2-3706 | 6" | A | 2 | 20/1B | " |
| 3-3702 | 6" | A | 2 | 353/3B | Reactor Building Closed Cooling Water Containment Isolation |
| 3-3703 | 6" | A | 2 | 353/1B | " |
| 3-3706 | 6" | A | 2 | 353/1B | " |

### JUSTIFICATION

These valves are normally open and are required to close for containment isolation. They provide primary containment isolation for the reactor building cooling water system. To exercise these valves to the closed position would require both recirculation pumps to be out of service because the recirculation pumps require RBCCW cooling water for the pump seal and lube oil coolers in order to remain operable. This action is considered impractical during normal operation.

These valves will be exercised during cold shutdowns.

## COLD SHUTDOWN JUSTIFICATION NUMBER CS-47A

(Page 1 of 1)

### COMPONENT IDENTIFICATION/FUNCTION

| VALVE | SIZE | CAT | CLASS | P&ID/ CORD | FUNCTION |
|---|---|---|---|---|---|
| 2-4722 | 1" | A | SR | 37-2/2E | Instrument Air Containment Isolation (drywell pneumatic) |
| 3-4722 | 1" | A | SR | 367-2/7C | Instrument Air Containment Isolation (drywell pneumatic) |

### JUSTIFICATION

The 2(3)-4722 valves provide the containment isolation function for the drywell instrument air system which supplies various fail-safe valves, including the Main Steam Isolation Valves (MSIV's). Exercising and fail-safe testing of the 2(3)-4722 valves during reactor operation could cause the instrument air system to bleed down should the 2(3)-4722 fail closed. Without air to hold open the MSIV's, the MSIV's would be exercised to their fail-safe position (closed). Closure of the MSIV's during reactor operation would cause transient conditions which would result in a reactor scram and loss of the reactor's primary heat sink.

Therefore, these valves will be exercised and fail-safe tested during cold shutdown periods.

**ATTACHMENT 4**

**Process Used to Develop Dresden's IST Plan**

This attachment is provided in response to the NRC's Request for Additional Information (cover letter Reference (e)) on the developmental process used in preparing the Dresden IST Plan.

1. The following list contains the documents used in developing the IST Plan:

   a. Technical Specifications
   b. Final Safety Analysis Report
   c. Piping and Instrument Diagrams (P&IDs)
   d. Master Equipment List (MEL)
   e. Generic Letter 89-04
   f. SERs from past IST Programs

2. For determining if a component should be in the IST Program, Section XI of the 1986 Edition of the ASME Code and ANSI/ASME OMa-1988 PART 6 were consulted. Subsection IWV-1000 and Section 1 from ANSI/ASME OMa-1988 PART 6 provide the methodology for selecting pumps and valves. These subsections specify testing the ASME Class 1, 2, and 3 pumps and valves that are required to perform a specific function in shutting down a reactor or in mitigating the consequences of an accident. Additionally, the pumps also have to be powered by an emergency power source. Since Dresden Units 2 and 3 were built prior to the establishment of ASME Class 1, 2, or 3 components, the system classifications for the Inservice Testing Program were based on the requirements set forth in 10 CFR 50 and Regulatory Guide 1.26.

   Additionally, safety-related pumps and valves are included in the IST Plan. These pumps and valves were put in the IST Plan in anticipation of the issuance of Generic Letter 89-04. In addition to safety-related pumps and valves, some non-safety related pumps and valves have been included in the IST Plan per the NRC's request (i.e. Fuel Pool Cooling).

3. The basis for testing required by the IST Plan can be found in the 1986 Edition of the ASME Code, Section XI, Subsection IWV-3000, Test Requirements, and ANSI/ASME OMa-1988 PART 6, Section 4, Testing Requirements.

4. The basis for categorizing valves can be found in IWV-2100, Categories of Valves.

   a. Category A valves are valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function. These include all Appendix J an Pressure Isolation Valves.

   b. Category B valves are valves for which seat leakage in the closed position is inconsequential for fulfillment of their function.

   c. Category C valves include all safety, relief, and check valves.

   d. Category D valves include all explosively actuated valves and rupture disks.

5. In order to keep the IST Plan current, the IST Coordinator review and signs all modifications. This is coordinated by Dresden Administrative Procedure (DAP) 5-1, Plant Modification Program.