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SOUTHERN COMPANY
Energy to Serve Your World℠

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NL-07-1418

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant – Units 1 and 2
Fourth Ten-Year Interval Inservice Testing Program Update

Ladies and Gentlemen:

Pursuant to 10CFR50.55a(f)(5)(i), Southern Nuclear Operating Company (SNC) hereby submits the Fourth 10-Year Interval Inservice Testing (IST) Program for Farley Nuclear Plant (FNP) Units 1 and 2 for NRC review and approval. In accordance with 10 CFR 50.55a(f)(4)(ii), the updated IST program was written to meet the requirements of the ASME OM Code 2001 edition though 2003 addenda, except where proposed requests for alternatives and/or proposed requests for relief are documented in the Farley IST Program. The current IST Interval (Third) began on December 1, 1997 and will end on November 30, 2007. The Fourth IST Interval begins on December 1, 2007 and ends on November 30, 2017.

SNC intends to utilize the guidance provided in NRC NUREG-1482, Revision 1, paragraph 3.3.3 when implementing the updated Fourth Interval IST Program. A phase-in implementation is proposed because update of the IST Program Document results in the required revision of approximately 100 surveillance procedures. Using the NUREG guidance, SNC will phase-out the Third Interval IST requirements and phase-in the Fourth Interval requirements over a 12-month period according to the following schedule.

- SNC will revise affected IST surveillance procedures in accordance with Enclosure 2.

  - Enclosure 2 includes a listing of all affected procedures for Units 1 and 2.
  - This schedule requires approximately 25% of the procedures to be updated and made effective each quarter, beginning December 1, 2007 and ending November 30, 2008.

- SNC will begin implementation of the updated IST Program Document on December 1, 2007 using a phased-in approach.

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- A combination of existing IST procedures and Fourth Interval procedures will be performed during the phase-in period.
- Existing procedures will be replaced with updated procedures in accordance with the schedule proposed above.

- All surveillance procedures will be updated and the Fourth Interval IST Program will be in compliance with the updated IST Program Document by December 1, 2008.

Since phased-in implementation is discussed in NUREG-1482, Revision 1, Section 3.3.3, SNC has determined that relief or exemption is not required. SNC plans to follow the schedule as outlined above and as described in the second paragraph of "NRC Recommendations" in NUREG-1482, Revision 1, Section 3.3.3. The attached phase-in schedule shows that only procedures performed during refueling outages will be updated prior to each unit's outage, as required. All other procedures will be phased in during the remainder of the phase-in period. If progress of procedure updates fall significantly behind the attached schedule, then SNC will notify the NRC.

Should the NRC staff not agree with this plan for implementation, SNC requests notification by October 1, 2007 due to the significant work load associated with revising procedures prior to December 1, 2007.

This same type of phase-in implementation plan was previously agreed upon by the NRC for the Edwin I. Hatch Nuclear Plant (HNP) in February 2006. The phase-in implementation plan for HNP was documented in SNC letter NL-05-2304.

This letter contains no NRC commitments. Should you have any questions in this regard, please advise.

Sincerely,

B. J. George
Manager, Nuclear Licensing

BJG/JLS/daj

Enclosures:

1. FNP Units 1 and 2 Fourth 10-Year Interval IST Program
2. Detailed Phase-in Schedule for FNP Units 1 & 2 Affected Procedures

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Joseph M. Farley Nuclear Plant – Units 1 and 2

Enclosure 1

FNP Units 1 and 2 Fourth 10-Year Interval IST Program

Joseph M. Farley Nuclear Plant
Units 1 & 2
4th 10-Year Interval
Inservice Testing Program

VER	DATE	DESCRIPTION	M&IS PREP'D BY	M&IS REV'D BY	M&IS APPV BY
1.0	06/08/07	Initial issue of program manual to NRC for review and approval.	JRR BCT	BCT	

FNP IST APPROVAL
Written By: M&IS Department
Reviewed By:
Programs. Supv:
Mgr. Engr:
PRB Review:

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1.0 IST PROGRAM INTRODUCTION

1.1 GENERAL

This document describes the Pump and Valve Inservice Testing (IST) Program for the Farley Nuclear Plant (FNP) Units 1 and 2. The IST Program is in accordance with the requirements of 10CFR50.55a and Improved Technical Specification 5.5.8. Provided below are important dates relative to the IST Program.

	FNP Unit 1	FNP Unit 2
Construction Permit Issued Date	08/16/72	08/16/72
Commercial Operation	12/01/1977	07/30/1981
1st 10-year Interval	12/01/1977 to 11/30/1987	07/30/1981 to 07/29/1991
2nd 10-year Interval	12/01/1987 to 11/30/1997	07/30/1991 to 11/30/1997
3rd 10-year Interval	12/01/1997 to 11/30/2007	12/01/1997 to 11/30/2007
4th 10-year Interval	12/01/2007 to 11/30/2017	12/01/2007 to 11/30/2017

In order to utilize the same Code edition for both units, a relief request was submitted to update FNP Unit 2 at the same time as Unit 1 for the 2nd 10 year interval. In a letter dated March 20, 1997, the Nuclear Regulatory Commission (NRC) approved an alternative to the requirement of 10CFR50.55a(f)(4)(ii) that changed the date of record by which the Unit 2 program is required to be updated, making it consistent with Unit 1. Therefore, the Code of record for IST for the 4th 10-year interval is the same for both units.

According to 10CFR50.55a(f)(4)(ii), following completion of the first 10-year inspection interval, successive 10-year inspection intervals must comply with the requirements of the latest edition and addenda of the American Society of Mechanical Engineers (ASME) Code incorporated by reference in paragraph (b) of 10CFR50.55a twelve months prior to the start of the 10-year inspection interval. The Edition of 10CFR50.55a in effect 12/01/2006 (October 1, 2004 version) references the ASME OM Code 2001 Edition with Addenda through OMb-2003, as the applicable Code. The OM Code, or the Code, in this document corresponds to the aforementioned Edition and Addenda.

This program document includes IST requirements for safety-related ASME Code Class 1, 2 and 3 pumps and valves. NRC NUREG-1482, Rev.1, was used, to the extent practical, for guidance in the development of this program.

This document includes inservice testing requirements for pumps and valves. The inservice testing of dynamic restraints (snubbers) is not included in this program and at the present time is considered to be part of the Plant Technical Requirements Manual.

1.2 EFFECTIVE DATE

The IST Program for the 4th 10-year interval is effective beginning December 1, 2007 and will be utilized through November 30, 2017.

1.3 SCOPE

10CFR50.55a(f)(4) and the OM Code, paragraph ISTA-1100, establish the scope of inservice testing to be Class 1, 2, and 3 pumps, valves, and pressure relief devices which are required in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. More specifically:

- Pumps with an emergency power source required to perform the above.
- Active or passive valves required to perform the above.
- Pressure relief devices which protect systems or portions of systems that are required to perform the above.

The license safe shutdown condition for FNP Units 1 and 2 is the hot shutdown condition. NRC communications agree that the scope of IST should be commensurate with the licensing basis. Although the scope of IST components is legally based on bringing the unit to the licensed safe shutdown condition, the implemented scope of IST is based on the cold shutdown condition.

For FNP, SNC considers the total scope of inservice testing to include testing of all safety related Class 1, 2, and 3 pumps and valves.

1.4 COMPONENT UPGRADING

Appendix 3A of the FNP Final Safety Analysis Report (FSAR) commits Southern Nuclear Operating Company (SNC) to meet the requirements of Regulatory Guide 1.26 (or Safety Guide 26), dated March 23, 1972. Appendix 3A also permits use of the classification system stated in the August 1970 draft of ANSI N18.2 as an alternative to Safety Guide 26. Several systems which perform a safety-related function, as defined above, are excluded from the criteria of either Safety Guide 26 or ANSI N18.2 as applied to the Farley Nuclear Plant.

Plant components have been reviewed to determine the appropriate classification for inservice testing. The aforementioned documents were used for guidance in determining component classifications.

Note that the classification of pumps and valves as ASME Class 1, 2, or 3 equivalent for this program does not imply that the components were designed in accordance with ASME requirements. Pump and valve design remains as stated in the FSAR.

1.5 SUBSEQUENT PROGRAM REVISIONS

It is anticipated that this document will be reviewed again near the end of the 10 year inspection interval and compared to a later NRC approved version of the ASME Code applicable for IST. At that time, the program will be modified, if required, to comply to the extent practical with the latest NRC endorsed edition of the Code. Any additional relief requests for impractical requirements will be submitted in accordance with the applicable regulations.

1.6 RESPONSIBILITY

SNC bears the overall responsibility for the implementation of the inservice testing activities contained in this program per the ASME OM Code, Subsection ISTA-1500.

1.7 RECORDS

Records and documentation of information and test results, which provide the basis for evaluation and which facilitate comparison with results from previous and subsequent tests, will be maintained and available for the active life of the component or system in accordance with the ASME OM Code, Subsection ISTA-9000.

1.8 METHODS OF TESTING

The method of testing applicable to each pump and valve is listed adjacent to the component identification in the Pump and Valve Tables. The ASME OM Code does not stipulate any specific training/certification requirements for personnel involved in pump or valve testing. At FNP, all pump and valve testing is performed by operations, maintenance or engineering personnel who have been trained to perform specific testing tasks.

1.9 STANDARDS FOR TESTING EVALUATION

The acceptance criteria applicable for each pump and valve to be tested have been developed in accordance with the ASME OM Code requirements as modified by any applicable relief requests. Acceptance criteria are not provided in the IST Program document, but are provided in implementation plans and applicable surveillance testing procedures which are available for review at the plant site.

2.0 ABBREVIATIONS

ABBREVIATION	DEFINITION
A	Active
A	Angle Valve
Accum	Accumulator
ACCW	Auxiliary Component Cooling Water
ACT	Active
Act.	Actuation
Add	Addition
Admis	Admission
AFW	Auxiliary Feedwater
AI	As Is
AJ	10CFR50 Appendix J
Alt	Alternate
AO	Air Operated
AP	Active or Passive
ARFD	As Required, Following Disassembly
ARV	Atmospheric Steam Relief Valve
ASME	American Society of Mechanical Engineers
AT	Actuator
Aug	Augmented
Aux	Auxiliary
B	Butterfly valve
BA	Boric Acid
BDTC	Bi-Directional Test Close
BDTO	Bi-Directional Test Open
BI	Biennial
BIT	Boron Injection Tank
Bldg	Building
BTRS	Boron Thermal Regeneration System
C	Close
Cat	Category
Cav	Cavity
CB	Control Building
CC	Code Classification
CCW	Component Cooling Water
Cent	Centrifugal
Chg	Charging
Chem	Chemical
Chlor	Chlorination
Chlr	Chiller
CIV	Containment Isolation Valve
CK	Check valve
CL	Cold Leg
Cond	Condensate
Coord	Coordinate

2.0 ABBREVIATIONS

ABBREVIATION	DEFINITION
CPT	Comprehensive Pump Test
CSD	Cold Shutdown
CSD/RF	Cold Shutdown and Refueling
CSJ	Cold Shutdown Justification
CTB	Containment Building
CTMT	Containment
Ctrl	Control
CVCS	Chemical and Volume Control System
D	Diaphragm valve
DG	Diesel Generator
Demin	Demineralized
Disch	Discharge
Disp	Dispersant
Drn	Drain
EH	Electro-Hydraulic
EMERG	Emergency
ESF	Engineered Safety Feature
Ess	Essential
ET	Exercise Test
ETC	Exercise Test Close
ETO	Exercise Test Open
ETPO	Exercise Test Partial Open
ETSP	Relief Valve Test
Evap	Evaporator
Exh	Exhaust
Exp	Expansion
FCV	Flow Control Valve
FNP	Farley Nuclear Plant
FP	Fail Position
Freq	Frequency
FS	Fail Safe Test
FSAR	Final Safety Analysis Report
FSVC	Fail Safe Valve Close
FSVO	Fail Safe Valve Open
FW	Main Feedwater
GA	Gate valve
Gen	Generator
GFFD	Gross Failed Fuel Detector
GL	Globe valve
H_2	Hydrogen
HDR	Header

2.0 ABBREVIATIONS

ABBREVIATION	DEFINITION
HHSI	High Head Safety Injection
HL	Hot Leg
HV	Hydraulic Valve
HVAC	Heating Ventilation and Air Conditioning
HX	Heat exchanger
ID	Identification
Inbrd	Inboard
Inj	Injection
INST	Instrument
IRC	Inside Reactor Containment
ISO	Isolation
IST	Inservice Testing
Jac	Jacket
LA	Category A Valve Test
LHSI	Low Head Safety Injection
LJ	Appendix J leak rate test only
LJ-C	Appendix J type C leak Test
LOCA	Loss of Coolant Accident
LOSP	Loss of Offsite Power
LT	Leakage Test
LTA	PIV Test
Ltdwn	Letdown
Lub	Lubrication
M	Manual
Max	Maximum
MDAFW	Motor Driven Auxiliary Feedwater
MFIV	Main Feedwater Isolation Valve
Min	Minimum
MO	Motor Operated
MOV	Motor Operated Valve
Mot	Motor
MS	Main Steam
MSIV	Main Steam Isolation Valve
N_2	Nitrogen
NA	Not Applicable
NP	Normal Position
NSCW	Nuclear Service Cooling Water
O	Open
O/C	Open and Close
Obrd	Outboard

2.0 ABBREVIATIONS

ABBREVIATION	DEFINITION
OM	O&M - Operation and Maintenance
ORC	Outside Reactor Containment
P	Passive
Pan	Panel
PAS	Passive
PASS	Post-Accident Sampling System
PC	Project Class
PCS	Partial stroke test exercised Cold Shutdown
PDP	Positive Displacement Pump
Pen	Penetration
PIT	Position Indication Test
PID	Pipe and Instrumentation Diagram
PIV	Pressure Isolation Valve
PORV	Power Operated Relief Valve
PFR	Penetration Filtration Room
Proc	Processing
Prot	Protection
PRT	Pressurizer Relief Tank
PRZR	Pressurizer
PQ	Partial-stoke exercised Quarterly
Pur	Purification
Purif	Purification
Q	Flowrate
Q	Quarterly
RC	Reactor Coolant
RCDT	Reactor Coolant Drain Tank
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RD	Rupture Disk
Recirc	Recirculation
Reg	Regulating
Ret	Return
RF	Refueling
RHR	Residual Heat Removal
RMW	Reactor Makeup Water
RO	Refueling Outage
ROJ	Refueling Outage Justification
RPV	Reactor Pressure Vessel
RR	Relief Request
RV	Relief valve
RWST	Refueling Water Storage Tank
RX	Reactor

2.0 ABBREVIATIONS

ABBREVIATION	DEFINITION
S	Self actuating
Sam	Sample
SC	Stop Check Valve
SED	System Evaluation Document
Ser	Service
SFP	Spent Fuel Pool
SFPCPS	Spent Fuel Pool Cooling and Purification System
SG	Steam Generator
SI	Safety Injection
SO	Solenoid
SP	Safety Position
SR	Safety and Relief Valve
STC	Stroke Time Close
STO	Stroke Time Open
Suc	Suction
Sup	Supply
SW	Service Water
SYS	System
T	Relief Valve Test Freq
TDAFW	Turbine Driven Auxiliary Feedwater
TC	Temperature Control
Test	Testable
TPNS	Total Plant Numbering System
Tran	Transfer
TW	3-way valve
Vac	Vacuum
VCT	Volume Control Tank
Vlv	Valve
VR	Vacuum Relief
XCONN	Cross Connection
18M	18 Month
2Y	2-Year

3.0 INSERVICE TESTING OF PUMPS

3.1 GENERAL

The IST Program was developed to comply with the requirements of 10 CFR 50.55a(f), dated October 1, 2004. This section of the IST program delineates the testing requirements for ASME Class 1, 2, and 3 pumps included for inservice testing (IST) at Southern Nuclear Operating Company's (SNC) Farley Nuclear Plant (FNP) Units 1 and 2. The Code of record required by 10 CFR 50.55a(b)(3) for 4th Interval IST is the ASME OM Code - 2001 Edition with Addenda trough OMb-2003. The supplemental guidance of NRC NUREG-1482, Rev. 1, has been applied, to the extent practical, in the development of IST of pumps. For pumps which are within the scope of IST, as stipulated in 10 CFR 50.55a, where specific Code requirements can not be meet, relief has been requested from the specific Code requirements.

As required by OM Code, ISTB-1300, pumps within the scope of this program shall be categorized as either Group A or Group B pumps.

Group A pumps are defined as pumps that are operated continuously or routinely during normal operation, cold shutdown, or refueling operation.

Group B pumps are defined as pumps in standby systems that are not operated routinely except for testing.

Group A and Group B pump testing is required quarterly. In addition to the quarterly Group A or Group B pump tests, the OM Code imposed a biennial Comprehensive Pump Test and a Preservice Pump Test for pumps that are overhauled or replaced. The IST Program Pump Tables list the parameters measured during Group A, Group B, and Comprehensive Pump Testing.

Preservice Testing is equivalent to Comprehensive Pump Testing, except Preservice Testing requires the development of a five point pump curve for centrifugal and vertical line shaft pumps in which flow and differential pressure is measured. Vibration measurements are only required to be taken at the reference value(s).

3.2. SCOPE

Safety-related ASME Code Class 1, 2 and 3 pumps, meeting the scope criteria of ASME OM Code ISTA-1100 and falling under the Regulatory Position of Regulatory Guide 1.26 or Safety Guide 26 (March 1972), are included within the scope of this program. Special scope features of the Farley IST Program are discussed below.

It was recognized that 10 CFR 50, Appendix A, General Design Criteria 1, and Appendix B, Criterion XI, intended that all pumps necessary for safe operation of the plant be tested to demonstrate that they will perform satisfactorily in service. The testing is to be performed to a level commensurate with the safety significance of the pump. This testing is generally performed per the requirements of the plant

Technical Specifications or other requirements. In cases where Code requirements are impractical for certain pumps, or an alternate testing method is considered an improvement over OM Code requirements, a relief request has been developed. Pump relief requests are located under a separate tab.

3.2.1 River Water Pumps

The service water pond comprises the ultimate heat sink at FNP. The river water pumps provide normal make-up to the service water pond, but the accident analyses indicate that make-up is not required for a period of at least 30-days post accident. Therefore, the river water pumps do not meet the scope criteria of the OM Code, Subsection ISTA-1100, and are not required to be included in the IST Program.

3.2.2 Diesel Fuel Oil Transfer Pumps

Safety Guide 26 provides criteria for determining the safety classification of nuclear power plant components. Safety Guide 26 is applicable only to water, steam, and radioactive containing components. Therefore, the fuel oil transfer pumps are not within the safety classification scope of Safety Guide 26 and are thus not required to be included within the scope of the IST Program.

FNP has decided to include the diesel generator fuel oil transfer pumps in the IST Program and has designated them as "augmented". The diesel generator fuel oil transfer system was not designed to facilitate inservice testing of the transfer pumps. System design did not include any flow or pressure measuring instrumentation to allow establishment of reference values for test comparison. The pumps provided have a rated capacity of approximately 20 gpm where as the design capacity requirement is less than 5 gpm. There is significant redundancy in the number of pumps provided to supply fuel to the emergency diesel generators and the possibility of not being able to meet their operating requirements is virtually non-existent.

The fuel oil transfer pumps are tested in conjunction with emergency diesel generator testing to satisfy Technical Specification requirements which provide a level of assurance that the pumps are capable of performing their intended function. The flow rate, differential pressure, and vibration amplitude of each pump is measured or determined every 18-months to evaluate operational readiness and to monitor for potential degradation. This once per operating cycle testing should provide adequate assurance that the emergency diesel generators are capable of being provided with sufficient fuel quantities to meet any accident requirements.

4.0 PUMP TEST NOTES

1. Augmented components do not fall within the scope of the ASME OM Code as implemented by 10 CFR 50.55a (i.e. not ASME Class 1, 2, or 3), are not covered by the Regulatory Position of Regulatory Guide 1.26 (September 1974), and were not designed to facilitate performance of OM Code type pump testing. Therefore, they are only included in this program document to provide a readily accessible, controlled mechanism for testing. As discussed in Section 3.2 of this document, testing will be performed in a manner similar to that of the OM Code, and such testing should adequately detect degradation.

2. Pumps shared between Units 1 and 2 such as the Diesel Generator Fuel Oil Transfer Pumps are included in the FNP-1 Pump Test Tables.

FNP-1 PUMP TESTING TABLES
Quarterly Group A and Group B Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameters	Test Frequency	RR/Remarks
Q1E11P001A Q1E11P001B	Residual Heat Removal (RHR) Group A	D175041 G-7; E-7	2	P_d	N/A	N/A
				Q	Q	N/A
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A
Q1E13P001A Q1E13P001B	Containment Spray (CS) Group B	D175038-3 B-8; G-8	2	P_d	N/A	N/A
				Q	Q	N/A
				V	N/A	N/A
				N	N/A	NA
				ΔP	Q	N/A
Q1E21P002A Q1E21P002B Q1E21P002C	Charging/ High Head Safety Injection (HHSI) Group A	D175039-6 F-5; G-5; H-5	2	P_d	N/A	N/A
				Q	Q	N/A
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A

FNP-1 PUMP TESTING TABLES
Quarterly Group A and Group B Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameters	Test Frequency	RR/Remarks
Q1E21P005A Q1E21P005B	Boric Acid Transfer (BAT) Group A	D175039-3 G-6; H-6	3	P_d	N/A	N/A
				Q	Q	RR-P-2
				V	Q	N/A
				N	NA	N/A
				ΔP	Q	N/A
Q1N23P001A Q1N23P001B	Motor Driven AFW Pump Auxiliary Feedwater System (AFW) Group A	D175007 B-5; E-5	3	P_d	N/A	N/A
				Q	Q	RR-P-3
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A
Q1N23P002	Turbine Driven AFW Pump Auxiliary Feedwater System (AFW) Group B	D175007 H-5	3	P_d	N/A	N/A
				Q	Q	N/A
				V	N/A	N/A
				N	Q	N/A
				ΔP	Q	N/A

FNP-1 PUMP TESTING TABLES
Quarterly Group A and Group B Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameter	Test Frequency	RR/Remarks
Q1P16P001A Q1P16P001B Q1P16P001C Q1P16P001D Q1P16P001E	Service Water Pump Group A	D170119-1 H-3; H-5; H-7; H-9; H-11	3	P_d	N/A	N/A
				Q	Q	RR-P-1
				V	Q	RR-P-1
				N	N/A	N/A
				ΔP	Q	RR-P-1
Q1P17P001A Q1P17P001B Q1P17P001C	Component Cooling Water Group A	D175002-1 C-2; E-2; G-2	3	P_d	N/A	N/A
				Q	Q	N/A
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A

FNP-1 PUMP TESTING TABLES
Quarterly Group A and Group B Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameter	Test Frequency	RR/Remarks
QSY52P501A	Diesel Generator	D170060	3	P_d	N/A	N/A
QSY52P501B	Fuel Oil Transfer					
QSY52P503A	(Augmented)	G-3; G-2;		Q	18M	Notes 1, 2
QSY52P503B		G-5; G-4;				
QSY52P504A	Group B			V	18M	Notes 1, 2
QSY52P504B						
Q1Y52P502A		G-12; G-11;		N	N/A	N/A
Q1Y52P502B		G-10; G-9				
				ΔP	18M	Notes 1, 2

FNP-1 PUMP TESTING TABLES
Biennial Comprehensive Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameters	Test Frequency	RR/Remarks
Q1E11P001A Q1E11P001B	Residual Heat Removal (RHR) Group A	D175041 G-7; E-7	2	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A
Q1E13P001A Q1E13P001B	Containment Spray (CS) Group B	D175038-3 B-8; G-8	2	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A
Q1E21P002A Q1E21P002B Q1E21P002C	Charging Pump (HHSI) Group A	D175039-6 F-5; G-5; H-5;	2	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A

FNP-1 PUMP TESTING TABLES
Biennial Comprehensive Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameter	Test Frequency	RR/Remarks
Q1E21P005A Q1E21P005B	Boric Acid Transfer Pump Group A	D175039-3 G-6; H-6	3	P_d	N/A	N/A
				Q	Refueling	N/A
				V	Refueling	N/A
				N	N/A	N/A
				ΔP	Refueling	N/A
Q1N23P001A Q1N23P001B	Motor Driven AFW Pump Group A	D175007 B-5; E-5; H-5	3	P_d	N/A	N/A
				Q	Refueling	N/A
				V	Refueling	N/A
				N	N/A	N/A
				ΔP	Refueling	N/A
Q1N23P002	Turbine Driven AFW Pump Group B	D175007 H-5	3	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	Biennially	N/A
				ΔP	Biennially	N/A

FNP-1 PUMP TESTING TABLES
Biennial Comprehensive Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameter	Test Frequency	RR/Remarks
Q1P16P001A Q1P16P001B Q1P16P001C Q1P16P001D Q1P16P001E	Service Water Pump Group A	D170119-1 H-3; H-5; H-7; H-9; H-11	3	P_d	N/A	N/A
				Q	Refueling	N/A
				V	Refueling	N/A
				N	N/A	N/A
				ΔP	Refueling	N/A
Q1P17P001A Q1P17P001B Q1P17P001C	Component Cooling Water Group A	D175002-1 C-2; E-2; G-2	3	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A

FNP-2 PUMP TESTING TABLES
Quarterly Group A and Group B Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameters	Test Frequency	RR/Remarks
Q2E11P001A Q2E11P001B	Residual Heat Removal (RHR) Group A	D205041 G-7; E-7	2	P_d	N/A	N/A
				Q	Q	N/A
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A
Q2E13P001A Q2E13P001B	Containment Spray (CS) Group B	D205038-3 B-8; G-8	2	P_d	N/A	N/A
				Q	Q	N/A
				V	N/A	N/A
				N	N/A	NA
				ΔP	Q	N/A
Q2E21P002A Q2E21P002B Q2E21P002C	Charging/ High Head Safety Injection (HHSI) Group A	D205039-6 F-5; G-5; H-5	2	P_d	N/A	N/A
				Q	Q	N/A
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A

FNP-2 PUMP TESTING TABLES
Quarterly Group A and Group B Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameters	Test Frequency	RR/Remarks
Q2E21P005A Q2E21P005B	Boric Acid Transfer (BAT) Group A	D205039-3 G-6; H-6	3	P_d	N/A	N/A
				Q	Q	RR-P-2
				V	Q	N/A
				N	NA	N/A
				ΔP	Q	N/A
Q2N23P001A Q2N23P001B	Motor Driven AFW Pump Auxiliary Feedwater System (AFW) Group A	D205007 B-5; E-5	3	P_d	N/A	N/A
				Q	Q	RR-P-3
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A
Q2N23P002	Turbine Driven AFW Pump Auxiliary Feedwater System (AFW) Group B	D205007 H-5	3	P_d	N/A	N/A
				Q	Q	N/A
				V	N/A	N/A
				N	Q	N/A
				ΔP	Q	N/A

FNP-2 PUMP TESTING TABLES
Quarterly Group A and Group B Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameter	Test Frequency	RR/Remarks
Q2P16P001A Q2P16P001B Q2P16P001C Q2P16P001D Q2P16P001E	Service Water Pump Group A	D200013-2 H-3; H-5; H-7; H-9; H-11	3	P_d	N/A	N/A
				Q	Q	RR-P-1
				V	Q	RR-P-1
				N	N/A	N/A
				ΔP	Q	RR-P-1
Q2P17P001A Q2P17P001B Q2P17P001C	Component Cooling Water Group A	D205002-1 C-2; E-2; G-2	3	P_d	N/A	N/A
				Q	Q	N/A
				V	Q	N/A
				N	N/A	N/A
				ΔP	Q	N/A
Q2Y52P505A Q2Y52P503B	Diesel Generator Fuel Oil Transfer (Augmented) Group B	D170060 G-3; G-2; G-5; G-4; G-12; G-11; G-10; G-9	3	P_d	N/A	N/A
				Q	18 months	Note 1
				V	18 months	Note 1
				N	N/A	N/A
				ΔP	18 months	Note 1

FNP-2 PUMP TESTING TABLES
Biennial Comprehensive Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameters	Test Frequency	RR/Remarks
Q2E11P001A Q2E11P001B	Residual Heat Removal (RHR) Group A	D205041 G-7; E-7	2	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A
Q2E13P001A Q2E13P001B	Containment Spray (CS) Group B	D205038-3 B-8; G-8	2	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A
Q2E21P002A Q2E21P002B Q2E21P002C	Charging Pump (HHSI) Group A	D205039-6 F-5; G-5; H-5;	2	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A

FNP-2 PUMP TESTING TABLES
Biennial Comprehensive Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameter	Test Frequency	RR/Remarks
Q2E21P005A Q2E21P005B	Boric Acid Transfer Pump	D205039-3 G-6; H-6	3	P_d	N/A	N/A
	Group A			Q	Refueling	N/A
				V	Refueling	N/A
				N	N/A	N/A
				ΔP	Refueling	N/A
Q2N23P001A Q2N23P001B	Motor Driven AFW Pump	D205007 B-5; E-5; H-5	3	P_d	N/A	N/A
	Group A			Q	Refueling	N/A
				V	Refueling	N/A
				N	N/A	N/A
				ΔP	Refueling	N/A
Q2N23P002	Turbine Driven AFW Pump	D205007 H-5	3	P_d	N/A	N/A
	Group B			Q	Biennially	N/A
				V	Biennially	N/A
				N	Biennially	N/A
				ΔP	Biennially	N/A

FNP-2 PUMP TESTING TABLES
Biennial Comprehensive Pump Tests

TPNS	Description/Group	P&ID/ Coord	Code Class	Test Parameter	Test Frequency	RR/Remarks
Q2P16P001A Q2P16P001B Q2P16P001C Q2P16P001D Q2P16P001E	Service Water Pump Group A	D200013-2 H-3; H-5; H-7; H-9; H-11	3	P_d	N/A	N/A
				Q	Refueling	N/A
				V	Refueling	N/A
				N	N/A	N/A
				ΔP	Refueling	N/A
Q2P17P001A Q2P17P001B Q2P17P001C	Component Cooling Water Group A	D205002-1 C-2; E-2; G-2	3	P_d	N/A	N/A
				Q	Biennially	N/A
				V	Biennially	N/A
				N	N/A	N/A
				ΔP	Biennially	N/A

7.0 PUMP RELIEF REQUEST LOG

Relief Request	Component	Status
RR-P-1	Q1(2)P16P001A, B, C, D, E	Submitted to NRC for review.
RR-P-2	Q1(2)E21P005A, B	Submitted to NRC for review.
RR-P-3	Q1(2)N23P001A, B	Submitted to NRC for review.

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM – RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(ii)
RR-P-1

PLANT/UNIT: Joseph M. Farley Nuclear Plant / Units 1 and 2.

INTERVAL: 4th Interval beginning December 1, 2007 and ending November 30, 2017.

COMPONENTS AFFECTED: Q1P16P001A, B, C, D, & E (Vertical Line Shaft Service Water Pumps) Group A

Q2P16P001A, B, C, D, & E (Vertical Line Shaft Service Water Pumps) Group A

CODE EDITION AND ADDENDA: ASME OM Code-2001 Edition with Addenda through OMb-2003

REQUIREMENTS: ISTB-5221 requires a Group A pump test to be conducted with the pump operating at a specified reference point. The test parameters shown in Table ISTB-3000-1 shall be determined and recorded as required by this paragraph.

REASON FOR REQUEST: This alternative is a re-submittal of NRC approved 3rd Interval relief request RR-P-2 that was based on the ASME OM Code-1990 Edition, no addenda. This 4th Interval request for relief, RR-P-1, is based on the ASME OM Code-2001 Edition with Addenda through OMb-2003. There have been no substantive changes to this alternative, to the OM Code requirements (with the exception of Group A, Group B and Comprehensive tests) or to the basis for use, which would alter the previous NRC Safety Evaluation conclusions. (See References for SER date and TAC numbers associated with 3rd Interval relief request RR-P-2.)

The Service Water System is designed so that during normal operation there are two pumps in each of the two trains operating, with a standby pump available to swing to either train. Each pump has pressure gages; however flow instrumentation is installed only to measure the flow from each of the two trains.

Since flow instrumentation was not provided for each pump, the only viable means of individually testing these pumps is by removal of one pump from service and measuring flow through the train with only one pump aligned. However, a flow of 32,186 gpm, which requires four pumps (or both trains operable), is required for normal operation per the FSAR. A condition where only one pump is aligned at a time to a train would result in

degraded cooling water flow to essential or safety related equipment and is therefore an unacceptable method of operation.

Furthermore, removal of one pump from the service water train could lead to an isolation of the turbine building service water supply lines due to low flow and potentially cause a plant trip.

Since hydraulic performance of a degrading pump may be masked by the other pump when service water pumps are tested in pairs, FNP has developed analytical methods which can be used to determine individual pump flow rate. These analytical methods involve solving three equations involving dual pump flows for three individual pump flow rates. These analytical methods have proven reliable in determining individual pump operational readiness and monitoring for degradation.

PROPOSED ALTERNATIVE AND BASIS:

Quarterly combined flow, differential pressure and vibration will be measured and compared to reference values. This request is not applicable to Comprehensive or Preservice Testing.

Whenever combined flow measurements are not in the acceptable range, individual pump evaluations, which consist of performing three dual pump combination tests at a reference differential pressure and solving analytical equations for individual flows, will be performed. If three pumps are not immediately available to support this testing, then tests will be performed as soon as three pumps are available. For the case in which three pumps are not immediately available to support testing, and flow is in the ALERT Range, dual pump testing of the two pumps in the ALERT Range will be performed at double the required frequency until three pumps are available. Corrective action will be taken on the individual pumps as a result of the evaluation in accordance with ISTB-6200.

Individual service water pump testing will be performed during the Comprehensive pump test at least once every two years. Individual pump testing will consist of monitoring pump flow, differential pressure, and vibration and comparison of test data to reference values for each parameter.

The above proposed alternative provides reasonable assurance that the mechanical condition of the pumps demonstrated during the quarterly Group A tests support operational readiness. Based on the determination that compliance with the Code requirements

results in a hardship without a compensating increase in the level of quality and safety, this proposed alternative should be granted pursuant to 10 CFR 50.55a(a)(3)(ii).

DURATION: 4th IST Interval, December 1, 2007 through November 30, 2017.

PRECEDENTS: This Relief Request was approved as RR-P-2 for the Third 10 Year IST Interval.

REFERENCES: NRC Safety Evaluation dated October 29, 1998 – TAC Nos. M99186 and M99187.

STATUS: Submitted for NRC review.

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM – RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(ii)
RR-P-2

PLANT/UNIT: Joseph M. Farley Nuclear Plant / Units 1 and 2.

INTERVAL: 4th Interval beginning December 1, 2007 and ending November 30, 2017.

COMPONENTS AFFECTED: Q1E21P005A, B (Horizontal Centrifugal Boric Acid Transfer Pumps) Group A

Q2E21P005A, B (Horizontal Centrifugal Boric Acid Transfer Pumps) Group A

CODE EDITION AND ADDENDA: ASME OM Code-2001 Edition with Addenda through OMb-2003

REQUIREMENTS: ISTB-5121 requires a Group A pump test to be conducted with the pump operating at a specified reference point. The test parameters shown in Table ISTB-3000-1 shall be determined and recorded as required by this paragraph. Table ISTB-3000-1 identifies flow rate as a required test parameter.

REASON FOR REQUEST: This alternative is a re-submittal of NRC approved 3rd Interval relief request RR-P-4 that was based on the ASME OM Code-1990 Edition, no addenda. This 4th Interval request for relief, RR-P-2, is based on the ASME OM Code-2001 Edition with Addenda through OMb-2003. There have been no substantive changes to this alternative, to the OM Code requirements (with the exception of Group A, Group B and Comprehensive tests) or to the basis for use, which would alter the previous NRC Safety Evaluation conclusions. (See References for SER date and TAC numbers associated with 3rd Interval relief request RR-P-4.)

Quarterly Group A pump testing is performed using the orificed pump discharge test line which runs back to the boric acid storage tank. This line does not have any installed flow measuring instrumentation. To utilize the system flow meter would require a test flow path which would transfer highly concentrated boric acid from the boric acid tank into the CVCS and into the RCS through the operating CVCS charging pump. The addition of concentrated boric acid to the RCS during normal operations would adversely affect the boric acid concentration in the RCS and could cause a forced plant shutdown.

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM – RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(ii)
RR-P-2

PROPOSED ALTERNATIVE AND BASIS: Pump differential pressure and vibration readings will be measured on a quarterly basis during the Group A pump test. This request is not applicable to Comprehensive or Preservice Testing.

Since it is not feasible to measure the flow rate during the quarterly Group A test due to lack of flow instrumentation in the recirculation line, the above proposed alternative provides reasonable assurance that the mechanical condition of the pumps demonstrated during the quarterly
Group A tests support operational readiness. Based on the determination that compliance with the Code requirements results in a hardship without a compensating increase in the level of quality and safety, this proposed alternative should be granted pursuant to 10 CFR 50.55a(a)(3)(ii).

DURATION: 4th IST Interval, December 1, 2007 through November 30, 2017.

PRECEDENTS: This Relief Request was approved as RR-P-4 for the Third 10 Year IST Interval.

REFERENCES: NRC Safety Evaluation dated October 29, 1998 – TAC Nos. M99186 and M99187.

STATUS: Submitted for NRC review.

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM – RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(ii)
RR-P-3

PLANT/UNIT: Joseph M. Farley Nuclear Plant / Units 1 and 2.

INTERVAL: 4th Interval beginning December 1, 2007 and ending November 30, 2017.

COMPONENTS AFFECTED: Q1N23P001A, B (Horizontal Centrifugal Motor Driven Auxiliary Feedwater (AFW) Pumps) Group A

Q2N23P001A, B (Horizontal Centrifugal Motor Driven Auxiliary Feedwater (AFW) Pumps) Group A

CODE EDITION AND ADDENDA: ASME OM Code-2001 Edition with Addenda through OMb-2003

REQUIREMENTS: ISTB-5121 requires a quarterly Group A pump IST with the pump operating at a specified reference point. The test parameters shown in Table ISTB-3000-1 shall be determined and recorded. Table ISTB-3000-1 identifies flow rate as a required test parameter. (This relief request is not applicable to biennial Comprehensive or Preservice pump IST.)

REASON FOR REQUEST: This alternative is similar to NRC approved 3rd Interval Relief Request RR-P-5 that was based on the ASME OM Code-1990 Edition, no addenda. This 4th Interval request for relief is based on the ASME OM Code-2001 Edition with Addenda through OMb-2003.

ISTB-5121 requires a quarterly Group A pump IST by varying system resistance until either the differential pressure or flow rate equals the corresponding reference value, or by use of a fixed resistance flow path. The only system valve(s) with flow throttling capability is located in the injection line to the steam generators. Use of the injection line(s) is not practical during normal operation because the injection of cold water into the hot steam generators results in a significant thermal shock of the injection nozzles and could result in nozzle cracking.

Use of the 2" minimum flow fixed resistance line limits the flow rate of the 350 gpm AFW pumps to approximately 50 gpm. IST at this significantly low flow rate would provide only minimal data for determining pump operational readiness or monitoring degradation.

Each pump is also provided with a 4" return line to the

Condensate Storage Tank (CST). However, the lines downstream of the first isolation valve are ANSI B31.10, Class III Non-Nuclear and the piping and supports was not designed and installed to be used for full-flow testing of the AFW pumps. FNP attempted to utilize these 4" return lines for AFW pump IST and experienced significant piping vibration that was considered detrimental to long term component integrity. Redesign and modification of these 4" return lines would result in a significant hardship with minimal increase in the level of quality and safety since each motor driven AFW pump is tested every refueling outage at the design flow rate during the Comprehensive Pump Test (CPT).

PROPOSED ALTERNATIVE AND BASIS:

The quarterly AFW pump Group A IST will be performed utilizing the 2" fixed resistance minimum flow line (i.e., approximately 50 gpm) with measurement of differential pressure and vibration only.

Quarterly IST on the 2" fixed resistance minimum flow line provides some assurance of pump operational readiness and will also detect gross degradation. This quarterly IST combined with a CPT each refueling outage, at design flow rate, provides adequate test data to evaluate operational readiness and monitor degradation. Based on SNC's conclusion that compliance with the Code requirements results in a hardship without a compensating increase in the level of quality and safety, this proposed alternative should be granted pursuant to 10 CFR 50.55a(a)(3)(ii).

DURATION: 4th IST Interval, December 1, 2007 through November 30, 2017.

PRECEDENTS: A similar relief request was approved as RR-P-5 for the Third 10 Year IST Interval.

REFERENCES: NRC Safety Evaluation dated October 29, 1998 – TAC Nos. M99186 and M99187.

STATUS: Submitted for NRC review.

8.0 INSERVICE TESTING OF VALVES

8.1. GENERAL

This section of the IST Program was developed to comply with the testing provisions of 10 CFR 50.55a(f), dated October 1, 2004, which delineate the testing requirements for ASME Class 1, 2, and 3 valves. The Code of record required by 10 CFR 50.55a (b)(3) for the 4th Interval valve IST is the ASME OM Code-2001 Edition with Addenda through OMb-2003 (hereafter referred to as the OM Code). The supplemental guidance of NRC NUREG-1482, Revision 1, has been applied to the extent practicable.

Valves in the program are listed by TPNS Number in tables for Units 1 and 2, respectively, and will be tested in accordance with the Code unless otherwise specified in this program.

8.2. SCOPE

Safety-related ASME Class 1, 2, and 3 valves covered by the Regulatory Position of Safety Guide 26 (March 1972) are included within the scope of this program and are tested using the provisions of the OM Code. Containment isolation valves located in non-safety related systems are considered safety-related for containment purposes, and are, therefore, tested under the provisions of the OM Code and 10 CFR 50, Appendix J, as applicable. In cases where specific Code requirements cannot be met or an alternative testing method is considered an improvement over OM Code requirements, relief has been requested from these requirements. Valve relief requests are located under a separate tab.

It is recognized that 10 CFR 50 Appendix A, GDC-1, and Appendix B, Criterion XI intend that all valves necessary for safe operation of the plant be tested to demonstrate that they will perform satisfactorily in service. This testing is required to be performed at a level commensurate with the safety function of the valve, and is generally performed per the requirements of the plant Technical Specifications or other regulatory requirements.

River Water System

The service water pond comprises the ultimate heat sink at FNP. The river water pumps provide normal make-up to the service water pond, but the accident analyses indicate that make-up is not required for a period of at least 30-days post accident. Therefore, the river water system valves do not meet the scope criteria of the OM Code, Subsection ISTA-1100, and are not required to be included in the IST Program.

8.3. LEAKAGE RATE TESTING

8.3.1 PRESSURE ISOLATION VALVES (PIV)

Pressure isolation valves (PIVs) are defined as two normally closed valves in series that isolate the Reactor Coolant System (RCS) from the attached low pressure system. Event V pressure isolation valves (WASH 1400) are defined in Section 4.4.4 of NUREG 1482, Revision 1, as "two check valves in series at a low pressure/RCS interface whose failure may result in a LOCA that bypasses containment."

Pressure isolation valves are not listed in the plant Technical Specifications. However, they are listed in the FNP Technical Requirements Manual (TRM) Table 13.4.5-1. Each pressure isolation valve is designated "PIV" in the "Frequency" column in the valve tables. Some valves function as both pressure and containment isolation valves, and are designated as PIV/CIV.

Instrumentation to monitor the leakage upstream of each pressure isolation valve during power operation was not a design requirement at FNP. Also, while it is practical to test several of the valves individually, the ability to isolate and test each valve separately was not a design consideration. Subsequently, all valves can not be practically tested on an individual basis. A leakage test will be performed at least every 2 years per ISTC-3630(a), or per the surveillance requirements specified in plant Technical Specification SR 3.4.14.1 as follows:

a. A valve that serves as a pressure isolation valve is tested at operating differential pressure or at a reduced pressure as allowed by ISTC-3630(b)(4), using water as a test medium. The leakage observed during a reduced pressure test is then adjusted to a "function maximum pressure differential value" as required by ISTC-3630(b)(4). The allowable leakage at operating differential pressure for RCS/low pressure piping interface valves is 0.5 gpm (1892 cc/min) per inch of valve size up to a maximum of 5 gpm.

b. An RCS/low pressure piping interface valve that also functions as a containment isolation valve (CIV) is Appendix J, type C tested using CIV acceptance criteria since this criteria is more stringent. Acceptable leakage for these valves is always less than the PIV criterion of 1892 cc/min per inch of valve size, even when the adjustment to the "function maximum pressure differential value" is performed.

8.3.2 CONTAINMENT ISOLATION VALVES (CIV)

All containment isolation valves that receive a Type C, Appendix J test are included in this Program and are identified as "CIV" in the "Frequency" column in the valve tables. Any changes in the Appendix J, Type C testing scope will be reflected in this document with appropriate changes to the test tables. CIVs that do not require Type C leakage testing have not been included in the Program Tables as Category A valves. CIVs that are Type A tested only are included in the applicable Intregrated Leak Rate Test procedure and CIVs that do no require any leakage testing (e.g., water sealed) are listed as Category B or C valves.

SNC conforms to the requirements of ISTC-3630(e) to the extent practical by assigning a specific leakage limit to each valve or penetration assembly. Limits are based on the type and size of each valve, the number of valves in the test boundary, and historical leakage data.

As a rule, test configurations have the least number of boundary valves practical to perform the Type C test; however, the piping configuration at FNP generally requires the pressurization of a combination of CIVs and block valves simultaneously. In these cases, the leakage limit is applied to each penetration test configuration. During the testing of the penetration, if the measured leakage exceeds the limit for the penetration, causes are investigated and repairs made to specific valves as necessary. The intent of the OM Code to detect degradation (and repair if necessary) of each valve due to service related conditions is therefore met.

8.3.3 LEAK TEST TYPE AND FREQUENCY DESIGNATION

- All valves that require an Appendix J Type C Leakage Test are designated by "LJ-C" in the "Test" column of the Valve Test Tables.
- All valves that require a PIV Leakage Test are designated by "LJ-A" in the "Test" column of the Valve Tables.
- "LJ" in the "Frequency" column indicates a leakage test frequency in accordance with 10 CFR 50 Appendix J, Option B.
- "LA" in the "Frequency" column indicates a leakage test is required at least every 2-year per ISTC-3630(a) or per TS 3.4.14.1.

8.4 FAIL-SAFE VALVES

If normal exercising of a power operated valve also tests the Fail-Safe function per ISTC-3560, then fail-safe testing is not listed in the Valve Tables (i.e., FSTC or FSTO are not listed.) If normal exercising does not test the Fail-Safe function, then fail-safe testing is listed in the tables along with information related to how ISTC-3560 is satisfied.

8.5 PASSIVE POWER OPERATED VALVES

A passive power operated valve does not perform a mechanical motion during the course of accomplishing a system safety function. These valves are identified as such in the "Active/Passive" column of the Valve Test Tables. Per Table ISTC-3500-1, passive Category B valves do not require any exercising testing. Verification of the actual valve position is indicated by remote position indication lights every two years and is the only testing required. Passive Category B power operated valves that are de-encrgized in their safety position during power operation will not have remote position indication verification.

8.6 CHECK VALVES

It is SNC's position to extend the test frequency of any non safety position tests to refueling outage without a Refueling Outage Justification (ROJ) or without a Cold Shutdown Justification (CSJ).

9.0 VALVE NOTES

1. This valve is not required to be reopened once it is closed; therefore, stroke timing in the open direction is not required.

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1B13SV2213A (HV001) REACTOR VESSEL HEAD VENT	2	B	1	GL	SO	A	D-175037/1 (E-7)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01	
Q1B13SV2213B (HV003) REACTOR VESSEL HEAD VENT	2	B	1	GL	SO	A	D-175037/1 (E-8)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01	
Q1B13SV2214A (HV002) REACTOR VESSEL HEAD VENT	2	B	1	GL	SO	A	D-175037/1 (E-7)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01	
Q1B13SV2214B (HV004) REACTOR VESSEL HEAD VENT	2	B	1	GL	SO	A	D-175037/1 (E-8)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01	
Q1B13V0027A (MOV8000A) PRESSURIZER PORV BLOCK VALVE	1	B	3	GA	MO	A	D-175037/2 (D-2)	O	O/C	AI	PIT STC STO	2Y Q Q		
Q1B13V0027B (MOV8000B) PRESSURIZER PORV BLOCK VALVE	1	B	3	GA	MO	A	D-175037/2 (E-2)	O	O/C	AI	PIT STC STO	2Y Q Q		
Q1B13V0031A PRESSURIZER SAFETY	1	C	6X6	SR	S	A	D-175037/2 (D-5)	C	O/C	NA	ETSP	T		
Q1B13V0031B PRESSURIZER SAFETY	1	C	6X6	SR	S	A	D-175037/2 (D-4)	C	O/C	NA	ETSP	T		
Q1B13V0031C PRESSURIZER SAFETY	1	C	6X6	SR	S	A	D-175037/2 (D-3)	C	O/C	NA	ETSP	T		
Q1B13V0037 (HV8047) PRT N2 SUPPLY ISO VALVE (PEN 64A)	2	A	1	D	AO	A	D-175037/2 (B-10)	O	C	C	PIT LJ-C STC	2Y LJ Q		

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1B13V0038 (V8046)	2	AC	3	CK	S	A	D-175037/2 (B-10)	C	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-01
RMW TO PRT ISO CHECK VALVE (PEN 30)													
Q1B13V0039 (HV8033)	2	A	1	D	AO	A	D-175037/2 (B-11)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRT N2 SUPPLY (PEN 64A)													
Q1B13V0040 (HV8028)	2	A	3	D	AO	A	D-175037/2 (B-11)	C	C	C	PIT STC LJ-C	2Y Q LJ	
RMW TO PRT ISO VALVE (PEN 30)													
Q1B13V0053 (PCV445A)	1	B	3	GL	AO	A	D-175037/2 (D-2)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	
PRESSURIZER PORV													
Q1B13V0054 (V8092)	2	AC	2	CK	S	A	D-175037/2 (C-6)	C	O/C	NA	ETO ETC LJ-C	RF RF LJ	ROJ-V-02 ROJ-V-02
CVCS CHARGING PUMP RELIEF VALVE DISCHARGE TO PRT (PEN 59)													
Q1B13V0061 (PCV444B)	1	B	3	GL	AO	A	D-175037/2 (E-2)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	
PRESSURIZER PORV													
Q1B13V0110	2	AC	3/4X1	SR	S	A	D-175037/2 (B-11)	C	O/C	NA	ETSP LJ-C	T LJ	
REACTOR MAKEUP WATER SYSTEM (PEN 30) RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E11V0001A (MOV8701A)	1	A	12	GA	MO	A	D-175041 (G-3)	C	O/C	AI	PIT STO STC LTA LJ-C	2Y CSD/RF CSD/RF LA LJ	 CSJ-V-02 CSJ-V-02
1A RHR PUMP SUCTION FROM RCS (HL) (PEN 16)													
Q1E11V0001B (MOV8702A)	1	A	12	GA	MO	A	D-175041 (E-3)	C	O/C	AI	PIT STO STC LTA LJ-C	2Y CSD/RF CSD/RF LA LJ	 CSJ-V-02 CSJ-V-02
1B RHR PUMP SUCTION FROM RCS (HL) (PEN 18)													
Q1E11V0009A (MOV8706A)	2	B	8	GA	MO	A	D-175041 (B-8)	C	O	AI	PIT STO	2Y Q/CSD	 CSJ-V-04
CHG PUMP SUCTION FROM RHR HX A													
Q1E11V0009B (MOV8706B)	2	B	8	GA	MO	A	D-175041 (C-8)	C	O	AI	PIT STO	2Y Q/CSD	 CSJ-V-04
CHG PUMP SUCTION FROM RHR HX B													
Q1E11V0015A (V8708A)	2	C	3X4	SR	S	A	D-175041 (G-4)	C	O/C	NA	ETSP	T	
RHR PUMP SUCTION RELIEF													
Q1E11V0015B (V8708B)	2	C	3X4	SR	S	A	D-175041 (E-4)	C	O/C	NA	ETSP	T	
RHR PUMP SUCTION RELIEF													
Q1E11V0016A (MOV8701B)	1	A	12	GA	MO	A	D-175041 (G-2)	C	O/C	AI	STO STC LTA PIT	CSD/RF CSD/RF LA 2Y	CSJ-V-02 CSJ-V-02
1A RHR PUMP SUCTION FROM RCS LOOPS													
Q1E11V0016B (MOV8702B)	1	A	12	GA	MO	A	D-175041 (E-2)	C	O/C	AI	PIT STC LTA STO	2Y CSD/RF LA CSD/RF	 CSJ-V-02 CSJ-V-02
1B RHR PUMP SUCTION													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E11V0021A	1	AC	6	CK	S	A	D-175038/2 (E-1)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-05 ROJ-V-05
RHR PUMP DISCHARGE TO SI(CL)													
Q1E11V0021B	1	AC	6	CK	S	A	D-175038/2 (F-1)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-05 ROJ-V-05
RHR PUMP DISCHARGE TO SI(CL)													
Q1E11V0021C	1	AC	6	CK	S	A	D-175038/2 (G-1)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-05 ROJ-V-05
RHR PUMP DISCHARGE TO SI(CL)													
Q1E11V0023A (MOV8888B)	2	B	10	GA	MO	A	D-175038/2 (G-3)	O	O/C	AI	PIT STO STC	2Y Q Q	
RHR/LHSI DISCHARGE TO RCS(CL)													
Q1E11V0023B (MOV8888A)	2	B	10	GA	MO	A	D-175038/2 (F-3)	O	O/C	AI	PIT STO STC	2Y Q Q	
RHR/LHSI DISCHARGE TO RCS(CL)													
Q1E11V0024A (MOV8887A)	2	B	10	GA	MO	A	D-175038/2 (F-4)	O	O/C	AI	PIT STO STC	2Y Q Q	
RHR/LHSI TO RCS XCONN													
Q1E11V0024B (MOV8887B)	2	B	10	GA	MO	A	D-175038/2 (G-4)	O	O/C	AI	PIT STO STC	2Y Q Q	
RHR/LHSI TO RCS XCONN													
Q1E11V0025A (MOV8811A)	2	A	14	GA	MO	A	D-175038/2 (J-4)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
1A RHR PUMP SUCTION FROM CTMT SUMP (PEN 11)													
Q1E11V0025B (MOV8811B)	2	A	14	GA	MO	A	D-175038/2 (H-4)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
1B RHR PUMP SUCTION FROM CTMT SUMP (PEN 10)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E11V0026A (MOV8812A)	2	A	14	GA	MO	A	D-175038/2 (J-5)	C	O/C	AI	STO STC LJ-C PIT	Q Q LJ 2Y	
1A RHR PUMP SUCTION FROM CTMT SUMP (PEN 11)													
Q1E11V0026B (MOV8812B)	2	A	14	GA	MO	A	D-175038/2 (H-5)	C	O/C	AI	PIT STC LJ-C STO	2Y Q LJ Q	
1B RHR PUMP SUCTION FROM CTMT SUMP (PEN 10)													
Q1E11V0027A (MOV8809A)	2	B	14	GA	MO	A	D-175038/2 (F-10)	O	O/C	AI	PIT STC	2Y Q	Note-1
1A RHR PUMP SUCTION FROM RWST													
Q1E11V0027B (MOV8809B)	2	B	14	GA	MO	A	D-175038/2 (G-10)	O	O/C	AI	PIT STC	2Y Q	Note-1
1B RHR PUMP SUCTION FROM RWST													
Q1E11V0028	2	C	14	CK	S	A	D-175038/2 (F-10)	C	O/C	NA	ETO ETC	Q RF	ROJ-V-06
RHR PUMP SUCTION FROM RWST													
Q1E11V0032A (HCV603A)	2	B	10	B	AO	P	D-175041 (B-7)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER DISCHARGE VALVES													
Q1E11V0032B (HCV603B)	2	B	10	B	AO	P	D-175041 (C-7)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER DISCHARGE VALVES													
Q1E11V0033A (HCV605A)	2	B	8	B	AO	P	D-175041 (C-8)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER BYPASS FLOW CONTROL VALVES													
Q1E11V0033B (HCV605B)	2	B	8	B	AO	P	D-175041 (D-8)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER BYPASS FLOW CONTROL VALVES													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E11V0037A (FCV602A)	2	B	2	GL	MO	A	D-175041 (D-5)	O	C	AI	PIT STC	2Y Q	
1A RHR PUMP MINIFLOW													
Q1E11V0037B (FCV602B)	2	B	2	GL	MO	A	D-175041 (D-5)	O	C	AI	STC PIT	Q 2Y	
1B RHR PUMP MINIFLOW													
Q1E11V0038A	2	C	10	CK	S	A	D-175041 (B-5)	C	O/C	NA	ETO ETC	Q Q	
1A RHR DISCHARGE TO RCS													
Q1E11V0038B	2	C	10	CK	S	A	D-175041 (C-5)	C	O/C	NA	ETO ETC	Q Q	
1B RHR DISCHARGE TO RCS													
Q1E11V0039A	2	AC	.75X1	SR	S	A	D-175038/2 (G-3)	C	O/C	NA	ETSP LJ-C	T LJ	
1B RHR HX DISCHARGE RELIEF (PEN 59)													
Q1E11V0039B	2	AC	.75X1	SR	S	A	D-175038/2 (F-3)	C	O/C	NA	ETSP LJ-C	T LJ	
1A RHR HX DISCHARGE RELIEF (PEN 59)													
Q1E11V0040	2	AC	.75X1	SR	S	A	D-175038/2 (F-3)	C	O/C	NA	ETSP LJ-C	T LJ	
RHR HX DISCHARGE RELIEF (PEN 59)													
Q1E11V0042A	2	AC	10	CK	S	A	D-175038/2 (G-2)	C	O/C	NA	ETO ETC LTA	CSD/RF RF LA	ROJ-V-03 ROJ-V-03
RHR PUMP DISC TO SIS INJECTION CL													
Q1E11V0042B	2	AC	10	CK	S	A	D-175038/2 (E-2)	C	O/C	NA	ETO ETC LTA	CSD/RF 2Y LA	ROJ-V-03 ROJ-V-03
RHR PUMP DISC TO SIS INJECTION CL													
Q1E11V0044 (MOV8889)	2	B	10	GA	MO	A	D-175038/2 (F-3)	C	O/C	AI	PIT STO STC	2Y Q/CSD/RF Q/CSD/RF	 CSJ-V-03 CSJ-V-03
RHR HX DISCHARGE TO RCS(HL)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1E11V0051A (V8998A) RCS LOOP LHSI CL	1	C	6	CK	S	A	D-175038/1 (C-2)	C	O	NA	ETO BDTC	RF RF	ROJ-V-04	
Q1E11V0051B (V8998B) RCS LOOP LHSI CL	1	C	6	CK	S	A	D-175038/1 (D-2)	C	O	NA	ETO BDTC	RF RF	ROJ-V-04	
Q1E11V0051C (V8998C) RCS LOOP LHSI CL	1	C	6	CK	S	A	D-175038/1 (D-2)	C	O	NA	ETO BDTC	RF RF	ROJ-V-04	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1E12V0001A (HV3999A)	Aug	B	36	B	AO	A	D-175010/2 (B-10)	O	C	C	PIT STC	2Y CSD/RF		
1A RX CAVITY COOLING SYSTEM														
Q1E12V0001B (HV3999B)	Aug	B	36	B	AO	A	D-175010/2 (B-10)	O	C	C	PIT STC	2Y CSD/RF		
1B RX CAVITY COOLING SYSTEM														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E13V0002A (V8822A)	2	C	8	CK	S	A	D-175038/3 (C-2)	C	O/C	NA	ETPO ETO ETC	ARFD RF RF	 ROJ-V-07 ROJ-V-07
1A CTMT SPRAY PUMP DISCHARGE													
Q1E13V0002B (V8822B)	2	C	8	CK	S	A	D-175038/3 (F-2)	C	O/C	NA	ETPO ETO ETC	ARFD RF RF	 ROJ-V-07 ROJ-V-07
1B CTMT SPRAY PUMP DISCHARGE													
Q1E13V0003A (MOV8826A)	2	A	12	GA	MO	A	D-175038/3 (H-3)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
CTMT SPRAY PUMP 1A SUCTION FROM CTMT SUMP (PEN 94)													
Q1E13V0003B (MOV8826B)	2	A	12	GA	MO	A	D-175038/3 (H-3)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
CTMT SPRAY PUMP 1B SUCTION FROM CTMT SUMP (PEN 93)													
Q1E13V0004A (MOV8827A)	2	A	12	GA	MO	A	D-175038/3 (H-4)	C	O/C	AI	PIT STC LJ-C STO	2Y Q LJ Q	
CTMT SPRAY PUMP 1A SUCTION FROM CTMT SUMP (PEN 94)													
Q1E13V0004B (MOV8827B)	2	A	12	GA	MO	A	D-175038/3 (H-4)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
CTMT SPRAY PUMP 1B SUCTION FROM CTMT SUMP (PEN 93)													
Q1E13V0005A (MOV8820A)	2	B	8	GA	MO	A	D-175038/3 (B-5)	C	O/C	AI	PIT STO STC	2Y Q Q	
CTMT SPRAY PUMP 1A DISCHARGE													
Q1E13V0005B (MOV8820B)	2	B	8	GA	MO	A	D-175038/3 (G-5)	C	O/C	AI	PIT STO STC	2Y Q Q	
CTMT SPRAY PUMP 1B DISCHARGE													
Q1E13V0012A (MOV8817A)	2	B	10	GA	MO	A	D-175038/3 (E-10)	O	O/C	AI	STC PIT	Q 2Y	Note-1
CTMT SPRAY PUMP 1A SUCTION FROM RWST													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E13V0012B (MOV8817B)	2	B	10	GA	MO	A	D-175038/3 (G-10)	O	O/C	AI	PIT STC	2Y Q	Note-1
CTMT SPRAY PUMP 1B SUCTION FROM RWST													
Q1E13V0014 (V8816)	2	C	12	CK	S	A	D-175038/3 (E-10)	C	O/C	N/A	ETO ETC	RF RF	ROJ-V-08 ROJ-V-08
CTMT SPRAY PUMP SUCTION FROM RWST													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E14HV3657	2	A	1	GL	AO	A	D-175010/2 (A-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE FROM R11/R12 (PEN 55)													
Q1E14HV3658	2	A	1	GL	AO	A	D-175010/2 (B-4)	O	C	C	PIT LJ-C STC	2Y LJ Q	
CTMT AIR SAMPLE TO R11/R12 (PEN 54)													
Q1E14V0001	2	AC	1	CK	S	A	D-175010/2 (A-2)	C	O/C	NA	ETO ETC LJ-C	Q RF LJ	ROJ-V-09
CTMT AIR SAMPLE (PEN 55)													
Q1E14V0002 (MOV3660)	2	A	1	GL	MO	A	D-175010/2 (B-2)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE TO R11/12 (PEN 54)													
Q1E14V0003 (MOV3318A)	2	A	1	GL	MO	A	D-175010/2 (B-2)	O	C	AI	PIT LJ-C STC	2Y LJ Q	
CTMT DIFFERENTIAL PRESSURE INSTRUMENT ISOLATION (PEN 70)													
Q1E14V0004 (MOV3318B)	2	A	1	GL	MO	A	D-175010/2 (C-2)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT DIFFERENTIAL PRESSURE INSTRUMENT ISOLATION (PEN 70)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E15CKDMP002A PRF RECIRC FAN 1A CHECK DAMPER	Aug	C	14	CK	S	A	D-175022 (C-2)	C	O/C	C	ETO ETC	Q Q	
Q1E15CKDMP002B PRF RECIRC FAN 1B CHECK DAMPER	Aug	C	14	CK	S	A	D-175022 (C-8)	C	O/C	C	ETO ETC	Q Q	
Q1E15CKDMP003A PRF EXHAUST FAN 1A CHECK DAMPER	Aug	C	12	CK	S	A	D-175022 (B-2)	C	O/C	C	ETC ETO	Q Q	
Q1E15CKDMP003B PRF EXHAUST FAN 1B CHECK DAMPER	Aug	C	12	CK	S	A	D-175022 (D-8)	C	O/C	C	ETO ETC	Q Q	
Q1E15V0001A (MOV3361B) 1B PRF RECIRC FAN DAMPER	Aug	B	18	B	MO	A	D-175022 (D-4)	C	O	AI	STO PIT	Q 2Y	
Q1E15V0001B (MOV3361A) 1A PRF RECIRC FAN DAMPER	Aug	B	18	B	MO	A	D-175022 (D-5)	C	O	AI	PIT STO	2Y Q	
Q1E15V0001C (MOV3362B) 1B PRF SUCTION DAMPER	Aug	B	18	B	MO	A	D-175022 (D-5)	C	O	AI	PIT STO	2Y Q	
Q1E15V0001D (MOV3362A) 1A PRF SUCTION DAMPER	Aug	B	18	B	MO	A	D-175022 (D-6)	C	O	AI	PIT STO	2Y Q	
Q1E15V0002A (HV3356A) 1A PRF RECIRC FAN EXHAUST DAMPER	Aug	B	14	B	AO	A	D-175022 (C-2)	C	O	O	PIT STO	2Y Q	
Q1E15V0002B (HV3356B) 1B PRF RECIRC FAN EXHAUST DAMPER	Aug	B	14	B	AO	A	D-175022 (B-8)	C	O	O	PIT STO	2Y Q	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E15V0003A (HV3357A)	Aug	B	12	B	AO	A	D-175022 (A-2)	C	O	O	PIT STO	2Y Q	
1A PRF EXHAUST FAN DISCH DAMPER													
Q1E15V0003B (HV3357B)	Aug	B	12	B	AO	A	D-175022 (D-8)	C	O	O	PIT STO	2Y Q	
1B PRF EXHAUST FAN DISCH DAMPER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E21V0016A (MOV8803A)	2	B	3	GA	MO	A	D-175038/1 (G-7)	C	O/C	AI	PIT STC STO	2Y RF RF	 ROJ-V-14 ROJ-V-14
HHSI TO RCS (CL) ISO													
Q1E21V0016B (MOV8803B)	2	B	3	GA	MO	A	D-175038/1 (G-7)	C	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-14 ROJ-V-14
HHSI TO RCS (CL) ISO													
Q1E21V0026	2	C	8	CK	S	A	D-175038/1 (E-12)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-10 ROJ-V-10
RWST TO CHG PUMP SUCT													
Q1E21V0032A	1	AC	12	CK	S	A	D-175038/2 (D-2)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q1E21V0032B	1	AC	12	CK	S	A	D-175038/2 (D-2)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q1E21V0032C	1	AC	12	CK	S	A	D-175038/2 (E-2)	C	O/C	NA	ETO LTA ETC	RF LA RF	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q1E21V0037A	1	AC	12	CK	S	A	D-175038/2 (D-3)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q1E21V0037B	1	AC	12	CK	S	A	D-175038/2 (D-6)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q1E21V0037C	1	AC	12	CK	S	A	D-175038/2 (D-8)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q1E21V0049 (HV8871)	2	A	3/4	GL	AO	A	D-175038/2 (E-9)	C	C	C	PIT STC LJ-C	2Y Q LJ	
SIS ACCUMULATOR TEST TO RWST (PEN 29)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E21V0050 (HV8961)	2	A	3/4	GL	AO	A	D-175038/2 (E-10)	C	C	C	PIT STC LJ-C	2Y Q LJ	
SIS ACCUMULATOR TEST TO RWST (PEN 29)													
Q1E21V0052	2	AC	1	CK	S	A	D-175038/2 (D-9)	C	C	N/A	ETC LJ-C BDTO	RF LJ RF	ROJ-V-11
SIS ACCUMULATOR FILL (PEN 49)													
Q1E21V0058	2	AC	1	CK	S	A	D-175038/2 (A-9)	C	C	NA	ETC LJ-C BDTO	RF LJ RF	ROJ-V-11
NITROGEN SUPPLY TO ACCUMULATOR TANKS (PEN 63)													
Q1E21V0059 (HV8880)	2	A	1	GL	AO	A	D-175038/2 (A-10)	C	C	C	PIT STC LJ-C	2Y Q LJ	
NITROGEN SUPPLY TO ACCUMULATOR TANKS (PEN 63)													
Q1E21V0062A	1	C	2	CK	S	A	D-175038/1 (E-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI TO RCS(CL)													
Q1E21V0062B	1	C	2	CK	S	A	D-175038/1 (E-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI TO RCS(CL)													
Q1E21V0062C	1	C	2	CK	S	A	D-175038/1 (F-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI TO RCS(CL)													
Q1E21V0063 (MOV8885)	2	B	3	GA	MO	A	D-175038/1 (B-6)	C	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-14 ROJ-V-14
CHG (HHSI) PUMPS DISCH TO RCS(CL)													
Q1E21V0066A	1	C	2	CK	S	A	D-175038/1 (A-4)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
CHG (HHSI) PUMPS DISCH TO RCS(CL)													
Q1E21V0066B	1	C	2	CK	S	A	D-175038/1 (B-4)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
CHG (HHSI) PUMPS DISCH TO RCS(CL)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E21V0066C	1	C	2	CK	S	A	D-175038/1 (C-4)	C	O	NA	BDTC ETO	RF RF	 ROJ-V-13
CHG (HHSI) PUMPS DISCH TO RCS(CL)													
Q1E21V0068 (MOV8886)	2	B	3	GA	MO	A	D-175038/1 (H-7)	C	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-14 ROJ-V-14
CHG (HHSI) PUMP DISCH TO RCS(HL)													
Q1E21V0072 (MOV8884)	2	B	3	GA	MO	A	D-175038/1 (J-6)	C	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-14 ROJ-V-14
CHG (HHSI) PUMP DISCH TO RCS(HL)													
Q1E21V0076A	1	AC	6	CK	S	A	D-175038/1 (F-4)	C	O/C	NA	ETO LTA ETC	RF LA RF	ROJ-V-21 ROJ-V-21
WATER FROM RESIDUAL HX TO SI TO RCS LOOP 1													
Q1E21V0076B	1	AC	6	CK	S	A	D-175038/1 (G-4)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-21 ROJ-V-21
WATER FROM RESIDUAL HX TO SI TO RCS LOOP 2													
Q1E21V0077A	1	AC	6	CK	S	A	D-175038/1 (F-2)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-18 ROJ-V-18
HHSI/LHSI AND RHR TO RCS HL LOOP 1													
Q1E21V0077B	1	AC	6	CK	S	A	D-175038/1 (G-2)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-18 ROJ-V-18
HHSI/LHSI AND RHR TO RCS HL LOOP 2													
Q1E21V0077C	1	AC	6	CK	S	A	D-175038/1 (G-1)	C	O/C	NA	ETC LTA ETO	RF LA RF	ROJ-V-18 ROJ-V-18
HHSI/LHSI AND RHR TO RCS HL LOOP 3													
Q1E21V0078A	1	C	2	CK	S	A	D-175038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	 ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q1E21V0078B	1	C	2	CK	S	A	D-175038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	 ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E21V0078C	1	C	2	CK	S	A	D-175038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q1E21V0079A	1	C	2	CK	S	A	D-175038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q1E21V0079B	1	C	2	CK	S	A	D-175038/1 (G-2)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q1E21V0079C	1	C	2	CK	S	A	D-175038/1 (G-2)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q1E21V0091 (HV8860)	2	A	1	GL	AO	A	D-175038/2 (D-10)	C	C	C	PIT STC LJ-C	2Y Q LJ	
SIS ACCUMULATOR TANKS FILL (PEN 49)													
Q1E21V0115A	2	AC	2	CK	S	A	D-175039/1 (G-2)	O	O/C	NA	ETO LJ-C ETC	Q LT RF	ROJ-V-15
CVCS SEAL INJECTION TO RCP (PEN 27)													
Q1E21V0115B	2	AC	2	CK	S	A	D-175039/1 (G-2)	O	O/C	NA	ETO ETC LJ-C	Q RF LT	ROJ-V-15
CVCS SEAL INJECTION TO RCP (PEN 25)													
Q1E21V0115C	2	AC	2	CK	S	A	D-175039/1 (G-2)	O	O/C	NA	ETO ETC LJ-C	Q RF LT	ROJ-V-15
CVCS SEAL INJECTION TO RCP (PEN 26)													
Q1E21V0119	2	AC	3	CK	S	A	D-175039/1 (B-11)	O	O/C	NA	ETO ETC LJ-C	Q RF LJ	ROJ-V-12
CVCS CHARGING PUMP DISCHARGE TO REGENERATIVE HX.													
Q1E21V0121A	2	C	2	CK	S	A	D-175039/6 (C-6)	O/C	O/C	NA	ETPO ETO ETC	ARFD RF Q	ROJ-V-23
1A CHG PUMP MIN FLOW LINE CHECK VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E21V0121B	2	C	2	CK	S	A	D-175039/6 (E-6)	O/C	O/C	NA	ETPO ETO ETC	ARFD RF Q	ROJ-V-23
1B CHG PUMP MIN FLOW LINE CHECK VALVE													
Q1E21V0121C	2	C	2	CK	S	A	D-175039/6 (G-6)	O/C	O/C	NA	ETPO ETO ETC	ARFD RF Q	ROJ-V-23
1C CHG PUMP MIN FLOW LINE CHECK VALVE													
Q1E21V0122A	2	C	3	CK	S	A	D-175039/6 (C-5)	O/C	O/C	NA	ETO ETC	RF Q	ROJ-V-16
1A CHARGING PUMP DISCHARGE													
Q1E21V0122B	2	C	3	CK	S	A	D-175039/6 (E-5)	O/C	O/C	NA	ETO ETC	RF Q	ROJ-V-16
1B CHARGING PUMP DISCHARGE													
Q1E21V0122C	2	C	3	CK	S	A	D-175039/6 (G-5)	O/C	O/C	NA	ETO ETC	RF Q	ROJ-V-16
1C CHARGING PUMP DISCHARGE													
Q1E21V0210	2	C	2	CK	S	A	D-175039/6 (G-10)	C	O	NA	ETO BDTC	CSD/RF RF	CSJ-V-07
CVCS BA FILTER TO CHARGING PUMP SUCTION													
Q1E21V0213	2	AC	3/4	CK	S	A	D-175039/1 (D-11)	C	O/C	NA	ETC LJ-C ETO	RF LJ RF	ROJ-V-20 ROJ-V-20
RCP SEAL TO SEAL WATER HX (PEN 28)													
Q1E21V0220A	3	C	2	CK	S	A	D-175039/3 (F-5)	C	O/C	NA	ETO ETC	CSD/RF Q	CSJ-V-10
BORON TRANSFER PUMP DISCHARGE LINE CHECK VALVE													
Q1E21V0220B	3	C	2	CK	S	A	D-175039/3 (H-5)	C	O/C	NA	ETO ETC	CSD/RF Q	CSJ-V-10
BORON TRANSFER PUMP DISCHARGE LINE CHECK VALVE													
Q1E21V0249A (MOV8112)	2	A	3	GA	MO	A	D-175039/1 (C-11)	O	C	AI	PIT STC LJ-C	2Y RF LJ	ROJ-V-17
RCP SEAL TO SEAL WATER HX (PEN 28)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1E21V0249B (MOV8100)	2	A	3	GA	MO	A	D-175039/1 (C-11)	O	C	AI	STC LJ-C PIT	RF LJ 2Y	ROJ-V-17	
RCP SEAL TO SEAL WATER HX (PEN 28)														
Q1E21V0251	2	C	2X3	SR	S	A	D-175039/1 (C-10)	C	O/C	NA	ETSP	T		
RCP SEAL WATER RETURN LINE RELIEF														
Q1E21V0253A (HV8149A)	2	A	2	GL	AO	A	D-175039/1 (A-7)	O/C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-06	
LETDOWN ORFICE ISO (PEN 23)														
Q1E21V0253B (HV8149B)	2	A	2	GL	AO	A	D-175039/1 (A-7)	O/C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-06	
LETDOWN ORIFICE ISO (PEN 23)														
Q1E21V0253C (HV8149C)	2	A	2	GL	AO	A	D-175039/1 (A-6)	O/C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-06	
LETDOWN ORIFICE ISO (PEN 23)														
Q1E21V0254 (HV8152)	2	A	3	GL	AO	A	D-175039/1 (A-11)	O	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-08	
LETDOWN LINE CTMT ISO (PEN 23)														
Q1E21V0255	2	AC	2X3	SR	S	A	D-175039/1 (A-7)	C	O/C	NA	ETSP LJ-C	T LJ		
LETDOWN ORIFICE RELIEF (PEN 23)														
Q1E21V0257 (MOV8107)	2	A	3	GA	MO	A	D-175039/6 (B-1)	O	C	AI	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-08	
CVCS CHG PUMP DISCH TO REGENERATIVE HX (PEN 24)														
Q1E21V0258 (MOV8108)	2	A	3	GA	MO	A	D-175039/6 (B-2)	O	C	AI	STC LJ-C PIT	CSD/RF LJ 2Y	CSJ-V-08	
CVCS CHG PUMP DISCH TO REGENERATIVE HX (PEN 24)														
Q1E21V0259A (MOV8109A)	2	B	2	GL	MO	A	D-175039/6 (B-5)	O	O/C	AI	PIT STO STC	2Y Q Q		
CHG PUMP MINI FLOW LINE ISO VALVE														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E21V0259B (MOV8109B)	2	B	2	GL	MO	A	D-175039/6 (D-5)	O	O/C	AI	STO STC PIT	Q Q 2Y	
CHG PUMP MINI FLOW LINE ISO VALVE													
Q1E21V0259C (MOV8109C)	2	B	2	GL	MO	A	D-175039/6 (F-5)	O	O/C	AI	PIT STC STO	2Y Q Q	
CHG PUMP MINI FLOW LINE ISO VALVE													
Q1E21V0263A	2	AC	3/4X1	SR	S	A	D-175039/6 (C-9)	C	O/C	NA	ETSP LJ-C	T LJ	
0.75 INCH RELIEF SIS-RHR HX TO CHG PUMP SUCTION (PEN 59)													
Q1E21V0263B	2	AC	3/4X1	SR	S	A	D-175039/6 (H-8)	C	O/C	NA	ETSP LJ-C	T LJ	
0.75 INCH RELIEF SIS-RHR HX TO CHG PUMP SUCTION (PEN 59)													
Q1E21V0264 (MOV8104)	2	B	2	GL	MO	A	D-175039/6 (G-10)	C	O/C	AI	PIT STO STC	2Y Q Q	
EMERGENCY BORATE TO CHG PUMP													
Q1E21V0265 (MOV8106)	2	B	3	GL	MO	A	D-175039/2 (H-4)	O	O/C	AI	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-11 CSJ-V-11
CHARGING PUMP MINI FLOW COMMON LINE ISO VALVE													
Q1E21V0324A (MOV8130A)	2	B	8	GA	MO	A	D-175039/6 (E-8)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													
Q1E21V0324B (MOV8130B)	2	B	8	GA	MO	A	D-175039/6 (E-8)	O	O/C	AI	PIT STC STO	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													
Q1E21V0325A (MOV8131A)	2	B	8	GA	MO	A	D-175039/6 (G-8)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E21V0325B (MOV8131B)	2	B	8	GA	MO	A	D-175039/6 (G-6)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													
Q1E21V0326A (MOV8132A)	2	B	4	GA	MO	A	D-175039/6 (D-5)	O	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-22 ROJ-V-22
CHG PUMP DISCHARGE													
Q1E21V0326B (MOV8132B)	2	B	4	GA	MO	A	D-175039/6 (E-5)	O	O/C	AI	STO STC PIT	RF RF 2Y	ROJ-V-22 ROJ-V-22
CHG PUMP DISCHARGE													
Q1E21V0327A (MOV8133A)	2	B	4	GA	MO	A	D-175039/6 (F-5)	O	O/C	AI	PIT STC STO	2Y RF RF	 ROJ-V-22 ROJ-V-22
CHG PUMP DISCHARGE													
Q1E21V0327B (MOV8133B)	2	B	4	GA	MO	A	D-175039/6 (F-5)	O	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-22 ROJ-V-22
CHG PUMP DISCHARGE													
Q1E21V0336A (LCV115B)	2	B	8	GA	MO	A	D-175039/6 (D-9)	C	O/C	AI	STC PIT STO	CSD/RF 2Y CSD/RF	CSJ-V-09 CSJ-V-09
CHG PUMP SUCTION FROM RWST													
Q1E21V0336B (LCV115D)	2	B	8	GA	MO	A	D-175039/6 (G-9)	C	O/C	AI	STC PIT STO	CSD/RF 2Y CSD/RF	CSJ-V-09 CSJ-V-09
CHG PUMP SUCTION FROM RWST													
Q1E21V0376A (LCV115C)	2	B	4	GA	MO	A	D-175039/2 (H-8)	O	C	AI	PIT STC	2Y CSD/RF	 CSJ-V-09
VCT OUTLET ISO													
Q1E21V0376B (LCV115E)	2	B	4	GA	MO	A	D-175039/2 (H-8)	O	C	AI	PIT STC	2Y CSD/RF	 CSJ-V-09
VCT OULTET ISO													
Q1E21V0565A (HV8175A)	2	B	3	GL	AO	A	D-175039/1 (A-10)	O	C	C	PIT STC	2Y CSD/RF	 CSJ-V-08
CVCS LETDOWN LINE ISOLATION													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1E21V0565B (HV8175B)	2	B	3	GL	AO	A	D-175039/1 (A-10)	O	C	C	PIT STC	2Y CSD/RF	CSJ-V-08	
CVCS LETDOWN LINE ISOLATION														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1E22V0001A (MOV3872A)	Aug	B	2 1/2	GA	MO	A	D-175019 (D-5)	C	O	AI	PIT STO	2Y Q		
1A RX CAVITY H2 DILUTION FAN DAMPER														
Q1E22V0001B (MOV3872B)	Aug	B	2 1/2"	GA	MO	A	D-175019 (E-5)	C	O	AI	PIT STO	2Y Q		
1B RX CAVITY H2 DILUTION FAN DAMPER														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E23V0002 (MOV3740) CTMT POST-LOCA VENT (PEN 103)	2	A	6	GL	MO	A	D-175019 (C-10)	LC	C	AI	STC LJ-C PIT	Q LJ 2Y	
Q1E23V0003 (MOV3530) CTMT POST-LOCA VENT (PEN 103)	2	A	6	GL	MO	A	D-175019 (C-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0022A (MOV3528A) CTMT POST-LOCA SAMPLE (PEN 67)	2	A	3/4	GL	MO	A	D-175019 (B-8)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0022B (MOV3528B) CTMT POST-LOCA SAMPLE (PEN 67)	2	A	3/4	GL	MO	A	D-175019 (C-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0022C (MOV3528C) CTMT POST-LOCA SAMPLE (PEN 61A)	2	A	3/4	GL	MO	A	D-175019 (D-8)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0022D (MOV3528D) CTMT POST-LOCA SAMPLE (PEN 61A)	2	A	3/4	GL	MO	A	D-175019 (D-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0023A (MOV3739A) CTMT AIR SAMPLE (PEN 67)	2	A	3/4	GL	MO	A	D-175019 (C-10)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0023B (MOV3739B) CTMT AIR SAMPLE (PEN 61A)	2	A	3/4	GL	MO	A	D-175019 (D-10)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0024A (MOV3745A) CTMT AIR SAMPLE RETURN (PEN 66)	2	A	3/4	GL	MO	A	D-175019 (G-10)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
Q1E23V0024B (MOV3745B) CTMT AIR SAMPLE RETURN (PEN 61B)	2	A	3/4	GL	MO	A	D-175019 (F-10)	LC	C	AI	STC LJ-C PIT	Q LJ 2Y	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1E23V0025A (MOV3835A)	2	A	3/4	GL	MO	A	D-175019 (G-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA SAMPLE RETURN (PEN 66)													
Q1E23V0025B (MOV3835B)	2	A	3/4	GL	MO	A	D-175019 (F-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA SAMPLE RETURN (PEN 61B)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N1G21V0222	Aug	C	3/4X1	SR	S	A	D-175004/1 (H-9)	C	O/C	NA	ETSP	T	
CTMT SUMP PUMP RELIEF VALVE (PEN 78)													
Q1G21HV3376	2	A	3	GL	AO	A	D-175004/1 (H-8)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT SUMP PUMP DISCHARGE (PEN 78)													
Q1G21HV3377	2	A	3	GL	AO	A	D-175004/1 (H-8)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT SUMP PUMP DISCHARGE (PEN 78)													
Q1G21HV3380	2	A	2	GL	AO	A	D-175004/1 (G-8)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT SUMP RECIRCULATION (PEN 33)													
Q1G21V0001 (HV7150)	2	A	3/4	D	AO	A	D-175042/1 (B-5)	C	C	C	PIT STC LJ-C	2Y Q LJ	
REACTOR COOLANT DRAIN TANK VENT TO WASTE GAS SYSTEM(PEN62)													
Q1G21V0005 (V7135)	2	A	3	D	M	P	D-175042/1 (C-11)	LC	LC	N/A	LJ-C	LJ	
RCDT PUMP DISCH CONTROL VALVE BYPASS(PEN31)													
Q1G21V0006 (HV7136)	2	A	3	D	AO	A	D-175042/1 (C-10)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCDT PUMP DISCH TO RECYCLE HOLDUP TANK(PEN31)													
Q1G21V0064 (LCV1003)	2	A	3	GL	AO	A	D-175042/1 (C-10)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCDT PUMP DISCH CONTROL VALVE(PEN 31)													
Q1G21V0082 (HV7126)	2	A	3/4	D	AO	A	D-175042/1 (C-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCDT VENT TO WASTE GAS SYSTEM(PEN 62)													
Q1G21V0204	2	AC	2	CK	S	A	D-175004/1 (G-9)	O/C	O/C	N/A	ETO ETC LJ-C	RF RF LJ	ROJ-V-24 ROJ-V-24
CTMT SUMP RECIRC (PEN 33)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1G21V0291	2	AC	3/4	CK	S	A	D-175004/1 (H-8)	C	O/C	N/A	ETO ETC LJ-C	RF RF LJ	ROJ-V-25 ROJ-V-25
CTMT SUMP PUMP DISCHARGE													
Q1G21V0950	2	AC	3/4x1	SR	S	A	D-175042 (C-9)	C	O/C	NA	ETSP LJ-C	T LJ	
WASTE PROCESSING SYSTEM (PEN 31) RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1G24V0003A (HV7614A) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-175071/1 (E-3)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0003B (HV7614B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-175071/1 (G-3)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0003C (HV7614C) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-175071/1 (H-3)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0005A (HV7697A) SG BLOWDOWN BLOCK VALVE	2	B	2	GL	AO	A	D-175071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0005B (HV7698A) SG BLOWDOWN BLOCK VALVE	2	B	2	GL	AO	A	D-175071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0005C (HV7699A) SG BLOWDOWN BLOCK VALVE	2	B	2	GL	AO	A	D-175071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0006A (HV7697B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-175071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0006B (HV7698B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-175071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q1G24V0006C (HV7699B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-175071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PtD (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1G31V0012	2	A	2	D	M	P	D-175043 (B-4)	LC	C	N/A	LJ-C	LJ	
SPENT FUEL POOL CLEAN-UP TO REACTOR CAVITY(PEN 95)													
Q1G31V0013	2	AC	2	CK	S	P	D-175043 (B-3)	C	C	N/A	LJ-C	LJ	
SPENT FUEL POOL CLEAN-UP TO REACTOR CAVITY(PEN 95)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1N11PV3371A	2	B	6	GL	AO	A	D-175033 (E-6)	C	O/C	C	STC STO	CSD/RF CSD/RF		
MAIN STEAM LINE ATMOSPHERIC VENT VALVE														
Q1N11PV3371B	2	B	6	GL	AO	A	D-175033 (E-6)	C	O/C	C	STC STO	CSD/RF CSD/RF		
MAIN STEAM LINE ATMOSPHERIC VENT VALVE														
Q1N11PV3371C	2	B	6	GL	AO	A	D-175033 (E-6)	C	O/C	C	STC STO	CSD/RF CSD/RF		
MAIN STEAM LINE ATMOSPHERIC VENT VALVE														
Q1N11V0001A (HV3369A)	2	BC	32	CK	AO/S	A	D-175033/1 (G-7)	O	C	C	BDTO PIT STC	Normal Ops 2Y CSD/RF		CSJ-V-12
MAIN STEAM ISOLATION VALVE														
Q1N11V0001B (HV3369B)	2	BC	32	CK	AO/S	A	D-175033/1 (E-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops		CSJ-V-12
MAIN STEAM ISOLATION VALVE														
Q1N11V0001C (HV3369C)	2	BC	32	CK	AO/S	A	D-175033/1 (B-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops		CSJ-V-12
MAIN STEAM ISOLATION VALVE														
Q1N11V0002A (HV3370A)	2	BC	32	CK	AO/S	A	D-175033/1 (G-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops		CSJ-V-12
MAIN STEAM ISOLATION VALVE														
Q1N11V0002B (HV3370B)	2	BC	32	CK	AO/S	A	D-175033/1 (E-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops		CSJ-V-12
MAIN STEAM ISOLATION VALVE														
Q1N11V0002C (HV3370C)	2	BC	32	CK	AO/S	A	D-175033/1 (B-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops		CSJ-V-12
MAIN STEAM ISOLATION VALVE														
Q1N11V0003A (HV3368A)	2	B	3	GA	AO	A	D-175033/1 (G-7)	C	C	C	PIT STC	2Y CSD/RF		CSJ-V-13
MAIN STEAM ISOLATION BYPASS														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1N11V0003B (HV3368B)	2	B	3	GA	AO	A	D-175033/1 (E-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
MAIN STEAM ISOLATION BYPASS														
Q1N11V0003C (HV3368C)	2	B	3	GA	AO	A	D-175033/1 (C-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
MAIN STEAM ISOLATION BYPASS														
Q1N11V0003D (HV3976A)	2	B	3	GA	AO	A	D-175033/1 (G-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
MAIN STEAM ISOLATION BYPASS														
Q1N11V0003E (HV3976B)	2	B	3	GA	AO	A	D-175033/1 (E-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
MAIN STEAM ISOLATION BYPASS														
Q1N11V0003F (HV3976C)	2	B	3	GA	AO	A	D-175033/1 (C-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
MAIN STEAM ISOLATION BYPASS														
Q1N11V0010A	2	C	6 X 10	SR	S	A	D-175033/1 (G-3)	C	O/C	NA	ETSP	T		
MAIN STEAM SAFETY														
Q1N11V0010B	2	C	6 X 10	SR	S	A	D-175033/1 (G-4)	C	O/C	N/A	ETSP	T		
MAIN STEAM SAFETY														
Q1N11V0010C	2	C	6 X 10	SR	S	A	D-175033/1 (G-4)	C	O/C	N/A	ETSP	T		
MAIN STEAM SAFETY														
Q1N11V0010D	2	C	6 X 10	SR	S	A	D-175033/1 (G-4)	C	O/C	N/A	ETSP	T		
MAIN STEAM SAFETY														
Q1N11V0010E	2	C	6 X 10	SR	S	A	D-175033/1 (G-5)	C	O/C	NA	ETSP	T		
MAIN STEAM SAFETY														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1N11V0011A	2	C	6 X 10	SR	S	A	D-175033/1 (D-3)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0011B	2	C	6 X 10	SR	S	A	D-175033/1 (D-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0011C	2	C	6 X 10	SR	S	A	D-175033/1 (D-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0011D	2	C	6 X 10	SR	S	A	D-175033/1 (D-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0011E	2	C	6 X 10	SR	S	A	D-175033/1 (D-5)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0012A	2	C	6 X 10	SR	S	A	D-175033/1 (B-3)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0012B	2	C	6 X 10	SR	S	A	D-175033/1 (B-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0012C	2	C	6 X 10	SR	S	A	D-175033/1 (B-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0012D	2	C	6 X 10	SR	S	A	D-175033/1 (B-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q1N11V0012E	2	C	6 X 10	SR	S	A	D-175033/1 (B-5)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1N12HV3226	3	B	3	GL	AO	A	D-175033/2 (D-5)	C	O	O	PIT STO	2Y Q	
MAIN STEAM TO TDAFW PUMP													
Q1N12HV3234A	2	B	1	GL	AO	A	D-175033/2 (G-8)	O	C	C	PIT STC	2Y Q	
MAIN STM LINE TO TDAFW PUMP WARM-UP LINE													
Q1N12HV3234B	2	B	1	GL	AO	A	D-175033/2 (C-8)	O	C	C	PIT STC	2Y Q	
MAIN STM LINE TO TDAFW PUMP WARM-UP LINE													
Q1N12MOV3406	3	B	3	GL	MO	P	D-175033/2 (D-4)	O	O	AI	PIT	2Y	
PUMP TURBINE STEAM FLOW THROTTLE AND TRIP													
Q1N12V0001A (HV3235A)	2	BC	3	SC	AO/S	A	D-175033/2 (E-8)	C	O/C	O	ETO PIT ETC	Q 2Y Q	
MAIN STEAM TO TDAFW PUMP SHUTOFF VALVE													
Q1N12V0001B (HV3235B)	2	BC	3	SC	AO/S	A	D-175033/2 (D-8)	C	O/C	O	ETC PIT ETO	Q 2Y Q	
MAIN STEAM TO TDAFW PUMP SHUTOFF VALVE													
Q1N12V0010A	3	C	4	CK	S	A	D-175033/2 (E-6)	C	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-26
MAIN STEAM TO TDAFW PUMP TURBINE													
Q1N12V0010B	3	C	4	CK	S	A	D-175033/2 (C-6)	C	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-26
MAIN STEAM TO TDAFW PUMP TURBINE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1C22FCV478	Aug	B	14	A	AO	A	D-175073 (G-5)	O	C	C	PIT STC	2Y CSD/RF	
MAIN FEEDWATER REGULATOR													
Q1C22FCV479	Aug	B	6	GA	AO	A	D-175073 (F-5)	O	C	C	PIT STC	2Y CSD/RF	
MAIN FEEDWATER REGULATOR BYPASS													
Q1C22FCV488	Aug	B	14	A	AO	A	D-175073 (D-5)	O	C	C	PIT STC	2Y CSD/RF	
MAIN FEEDWATER REGULATOR													
Q1C22FCV489	Aug	B	6	GA	AO	A	D-175073 (D-5)	O	C	C	PIT STC	2Y CSD/RF	
MAIN FEEDWATER REGULATOR BYPASS													
Q1C22FCV498	Aug	B	14	A	AO	A	D-175073 (B-5)	O	C	C	PIT STC	2Y CSD/RF	
MAIN FEEDWATER REGULATOR													
Q1C22FCV499	Aug	B	6	GA	AO	A	D-175073 (A-5)	O	C	C	PIT STC	2Y CSD/RF	
MAIN FEEDWATER REGULATOR BYPASS													
Q1N21V0001A (MOV3232A)	2	BC	14	SC	MO/S	A	D-175073 (G-7)	O	C	NA	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-14
MAIN FEEDWATER SUPPLY													
Q1N21V0001B (MOV3232B)	2	BC	14	SC	MO/S	A	D-175073 (E-7)	O	C	NA	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-14
MAIN FEEDWATER SUPPLY													
Q1N21V0001C (MOV3232C)	2	BC	14	SC	MO/S	A	D-175073 (B-7)	O	C	NA	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-14
MAIN FEEDWATER SUPPLY													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N1N23V0001	Aug	C	3	CK	S	A	D-175007 (F-4)	C	O	NA	ETO	Q	
TDAFW PUMP MINI FLOW CHECK VALVE													
N1N23V0005	Aug	C	3	CK	S	A	D-175007 (C-6)	C	O	NA	ETO	Q	
MDAFW PUMP MINI FLOW													
N1N23V0009	Aug	C	3	CK	S	A	D-175007 (D-6)	C	O	NA	ETO	Q	
MDAFW PUMP MINI FLOW													
N1N23V0013	Aug	C	6	CK	S	A	D-175007 (F-2)	C	O	NA	ETO	Q	
AFW PUMPS TO CONDENSATE STORAGE TANK													
Q1N23HV3227A	3	B	3	GL	AO	A	D-175007 (B-8)	O	O	O	PIT STO	2Y Q	
MDAFW PUMP TO SG 1A FCV													
Q1N23HV3227B	3	B	3	GL	AO	A	D-175007 (D-8)	O	O	O	PIT STO	2Y Q	
MDAFW PUMP TO SG 1B DISCHARGE FCV													
Q1N23HV3227C	3	B	3	GL	AO	A	D-175007 (G-8)	O	O	O	PIT STO	2Y Q	
MDAFW PUMP TO SG 1C DISCHARGE FCV													
Q1N23HV3228A	3	B	3	GL	AO	A	D-175007 (C-8)	O	O	O	PIT STO	2Y Q	
TDAFW PUMP TO SG 1A FCV													
Q1N23HV3228B	3	B	3	GL	AO	A	D-175007 (F-8)	O	O	O	PIT STO	2Y Q	
TDAFW PUMP TO SG 1B FCV													
Q1N23HV3228C	3	B	3	GL	AO	A	D-175007 (H-8)	O	O	O	PIT STO	2Y Q	
TDAFW PUMP TO SG 1C FCV													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1N23V0002A	3	C	4	CK	S	A	D-175007 (B-6)	C	O/C	NA	ETO ETC	CSD/RF Q	CSJ-V-15	
MDAFW 1A DISCHARGE TO SG														
Q1N23V0002B	3	C	4	CK	S	A	D-175007 (E-6)	C	O/C	NA	ETO ETC	CSD/RF Q	CSJ-V-15	
MDAFW 1B DISCHARGE TO SG														
Q1N23V0002C	3	C	4	CK	S	A	D-175007 (B-9)	C	O	NA	BDTC ETO	RF CSD/RF	CSJ-V-15	
MDAFW DISCHARGE TO SG 1A														
Q1N23V0002D	3	C	4	CK	S	A	D-175007 (C-9)	C	O/C	NA	ETO ETC	CSD/RF CSD/RF	CSJ-V-15 CSJ-V-16	
TDAFW DISCHARGE TO SG 1A														
Q1N23V0002E	3	C	4	CK	S	A	D-175007 (D-9)	C	O	NA	BDTC ETO	RF CSD/RF	CSJ-V-15	
MDAFW DISCHARGE TO SG 1B														
Q1N23V0002F	3	C	4	CK	S	A	D-175007 (F-9)	C	O/C	NA	ETC ETO	CSD/RF CSD/RF	CSJ-V-16 CSJ-V-15	
TDAFW DISCHARGE TO SG 1B														
Q1N23V0002G	3	C	4	CK	S	A	D-175007 (G-9)	C	O	NA	ETO BDTC	CSD/RF RF	CSJ-V-15	
MDAFW DISCHARGE TO SG 1C														
Q1N23V0002H	3	C	4	CK	S	A	D-175007 (H-9)	C	O/C	NA	ETO ETC	CSD/RF CSD/RF	CSJ-V-15 CSJ-V-16	
TDAFW DISCHARGE TO SG 1C														
Q1N23V0003	3	C	6	CK	S	A	D-175007 (G-6)	C	O	NA	BDTC ETO	RF CSD/RF	CSJ-V-15	
TDAFW DISCHARGE TO SG														
Q1N23V0006	3	C	8	CK	S	A	D-175007 (H-3)	C	O/C	NA	ETO ETC	CSD/RF CSD/RF	CSJ-V-15 CSJ-V-17	
TDAFW PUMP SUCTION FROM CONDENSATE STORAGE TANK														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1N23V0007A	3	C	6	CK	S	A	D-175007 (B-3)	C	O/C	NA	ETO ETC	CSD/RF CSD/RF	CSJ-V-15 CSJ-V-17
MDAFW PUMP SUCTION FROM CONDENSATE STORAGE TANK													
Q1N23V0007B	3	C	6	CK	S	A	D-175007 (E-3)	C	O/C	NA	ETO ETC	CSD/RF CSD/RF	CSJ-V-15 CSJ-V-17
MDAFW PUMP SUCTION FROM CONDENSATE STORAGE TANK													
Q1N23V0011A (MOV3350A)	2	C	4	CK	MO/S	A	D-175007 (B-10)	C	O/C	NA	ETO STC PIT	CSD/RF Q 2Y	CSJ-V-15
AUX FEEDWATER TO SG 1A													
Q1N23V0011B (MOV3350B)	2	C	4	CK	MO/S	A	D-175007 (D-10)	C	O/C	NA	ETO STC PIT	CSD/RF Q 2Y	CSJ-V-15
AUX FEEDWATER TO SG 1B													
Q1N23V0011C (MOV3350C)	2	C	4	CK	MO/S	A	D-175007 (G-10)	C	O/C	NA	ETO STC PIT	CSD/RF Q 2Y	CSJ-V-15
AUX FEEDWATER TO SG 1C													
Q1N23V0013A (MOV3210A)	3	B	6	GA	MO	A	D-175007 (A-3)	C	O	AI	PIT STO	2Y RF	ROJ-V-27
MDAFW PUMP SW INLET													
Q1N23V0013B (MOV3210B)	3	B	6	GA	MO	A	D-175007 (D-3)	C	O	AI	PIT STO	2Y RF	ROJ-V-27
MDAFW PUMP SW INLET													
Q1N23V0014A (MOV3209A)	3	B	8	GA	MO	A	D-175007 (A-2)	C	O	AI	PIT STO	2Y RF	ROJ-V-27
MDAFW PUMP SW INLET													
Q1N23V0014B (MOV3209B)	3	B	8	GA	MO	A	D-175007 (D-2)	C	O	AI	STO PIT	RF 2Y	ROJ-V-27
MDAFW PUMP SW INLET													
Q1N23V0014C (MOV3216)	3	B	8	GA	MO	A	D-175007 (G-3)	C	O	AI	PIT STO	2Y RF	ROJ-V-27
TDAFW PUMP SW INLET													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1N23V0025A (MOV3764A)	3	B	4	GA	MO	A	D-175007 (B-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 1A													
Q1N23V0025B (MOV3764B)	3	B	4	GA	MO	A	D-175007 (D-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 1B													
Q1N23V0025C (MOV3764C)	3	B	4	GA	MO	A	D-175007 (F-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 1C													
Q1N23V0025D (MOV3764D)	3	B	4	GA	MO	A	D-175007 (D-7)	O	C	AI	STC PIT	Q 2Y	
MDAFW PUMP TO SG 1B													
Q1N23V0025E (MOV3764E)	3	B	4	GA	MO	A	D-175007 (B-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 1A													
Q1N23V0025F (MOV3764F)	3	B	4	GA	MO	A	D-175007 (G-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 1C													
Q1N23V0068A (PSV2922A)	3	C	1.5	SR	S	A	D-175007 (B-4)	C	O/C	NA	ETSP	T	
1A MDAFW PUMP SUCTION LINE RELIEF VALVE													
Q1N23V0068B (PSV2922B)	3	C	1.5	SR	S	A	D-175007 (D-4)	C	O/C	NA	ETSP	T	
1B MDAFW PUMP SUCTION LINE RELIEF VALVE													
Q1N23V0068C (PSV2922C)	3	C	1.5	SR	S	A	D-175007 (G-4)	C	O/C	NA	ETSP	T	
TDAFW PUMP SUCTION LINE RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1N25V0001A (HV3772A)	2	B	1/2	GL	AO	A	D-175000/1 (B-11)	O/C	C	C	PIT STC	2Y Q	
CHEMICAL INJECTION INTO FEEDWATER													
Q1N25V0001B (HV3772B)	2	B	1/2	GL	AO	A	D-175000/1 (D-11)	O/C	C	C	PIT STC	2Y Q	
CHEMICAL INJECTION INTO FEEDWATER													
Q1N25V0001C (HV3772C)	2	B	1/2	GL	AO	A	D-175000/1 (F-11)	O/C	C	C	PIT STC	2Y Q	
CHEMICAL INJECTION INTO FEEDWATER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P11V0001 (HV3659)	2	A	3	GL	AO	P	D-175047 (H-10)	C	C	C	STC PIT LJ-C	Q 2Y LJ	
DEMIN WATER TO RPV HEAD STORAGE STAND (PEN 82)													
Q1P11V0002	2	AC	3	CK	S	P	D-175047 (H-8)	C	C	NA	LJ-C	LJ	
DEMIN WATER TO RPV HEAD STORAGE STAND (PEN 82)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P13V0281 (HV3198D) PURGE SUPPLY DAMPER (PEN 12)	2	A	48	B	AO	A	D-175010/2 (F-3)	C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-18
Q1P13V0282 (HV3197) PURGE SUPPLY DAMPER (PEN 12)	2	A	48	B	AO	A	D-175010/1 (G-10)	C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-18
Q1P13V0283 (HV3196) CTMT PURGE EXHAUST (PEN 13)	2	A	48	B	AO	A	D-175010/1 (E-10)	C	C	C	PIT LJ-C STC	2Y LJ CSD/RF	CSJ-V-18
Q1P13V0284 (HV3198A) CTMT PURGE EXHAUST (PEN 13)	2	A	48	B	AO	A	D-175010/2 (D-3)	C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-18
Q1P13V0301 (HV2866C) CTMT MINI-PURGE SUPPLY (PEN 12)	2	A	8	B	AO	A	D-175010/2 (F-3)	O	C	C	PIT LJ-C STC	2Y LJ Q	
Q1P13V0302 (HV2866D) CTMT MINI-PURGE SUPPLY (PEN 12)	2	A	8	B	AO	A	D-175010/1 (G-10)	O	C	C	PIT STC LJ-C	2Y Q LJ	
Q1P13V0303 (HV2867C) CTMT MINI-PURGE EXHAUST (PEN 13)	2	A	8	B	AO	A	D-175010/2 (D-3)	O	C	C	PIT STC LJ-C	2Y Q LJ	
Q1P13V0304 (HV2867D) CTMT MINI-PURGE EXHAUST (PEN 13)	2	A	8	B	AO	A	D-175010/1 (E-10)	O	C	C	PIT STC LJ-C	2Y Q LJ	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P15HV3179A	2	B	3/8	GL	AO	A	D-175009/2 (A-3)	O/C	C	C	PIT STC	2Y Q	
SG 1A BLOWDOWN LOWER ISOLATION VALVE													
Q1P15HV3179C	2	B	3/8	GL	AO	A	D-175009/2 (A-3)	O/C	C	C	PIT STC	2Y Q	
SG 1A BLOWDOWN SAMPLE ISOLATION VALVE													
Q1P15HV3180A	2	B	3/8	GL	AO	A	D-175009/2 (G-3)	O/C	C	C	PIT STC	2Y Q	
SG 1B BLOWDOWN LOWER ISOLATION VALVE													
Q1P15HV3180C	2	B	3/8	GL	AO	A	D-175009/2 (C-3)	O/C	C	C	PIT STC	2Y Q	
SG 1B BLOWDOWN SAMPLE ISOLATION VALVE													
Q1P15HV3181A	2	B	3/8	GL	AO	A	D-175009/2 (E-3)	O/C	C	C	PIT STC	2Y Q	
SG 1C BLOWDOWN LOWER ISOLATION VALVE													
Q1P15HV3181C	2	B	3/8	GL	AO	A	D-175009/2 (E-3)	O/C	C	C	PIT STC	2Y Q	
SG 1C BLOWDOWN SAMPLE ISOLATION VALVE													
Q1P15HV3328	2	B	3/8	GL	AO	A	D-175009/2 (A-3)	O/C	C	C	PIT STC	2Y Q	
SG 1A BLOWDOWN SAMPLE ISOLATION VALVE													
Q1P15HV3329	2	B	3/8	GL	AO	A	D-175009/2 (C-3)	O/C	C	C	PIT STC	2Y Q	
SG 1B BLOWDOWN SAMPLE ISOLATION VALVE													
Q1P15HV3330	2	B	3/8	GL	AO	A	D-175009/2 (E-3)	O/C	C	C	PIT STC	2Y Q	
SG 1C BLOWDOWN SAMPLE ISOLATION VALVE													
Q1P15HV3334	2	A	3/8	GL	AO	A	D-175009/1 (G-5)	C	C	C	PIT STC LJ-C	2Y Q LJ	
ACCUMULATOR TANKS SAMPLE (PEN 50)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P15HV3766	2	A	3/8	GL	AO	A	D-175009/1 (G-4)	C	C	C	PIT STC LJ-C	2Y Q LJ	
ACCUMULATOR TANKS SAMPLE (PEN 50)													
Q1P15SV3103	2	A	3/8	GL	SO	A	D-175009/1 (A-3)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCS PRESSURIZER LIQUID SAMPLE(PEN 57)													
Q1P15SV3104	2	A	3/8	GL	SO	A	D-175009/2 (F-2)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRESSURIZER STEAM SAMPLE TO GFFD(PEN 56)													
Q1P15SV3331	2	A	3/8	GL	SO	A	D-175009/2 (F-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRESSURIZER STEAM SAMPLE LINE CTMT ISO(PEN 56)													
Q1P15SV3332	2	A	3/8	GL	SO	A	D-175009/1 (A-5)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRESSURIZER LIQUID SAMPLE TO GFFD(PEN 57)													
Q1P15SV3333	2	A	3/8	GL	SO	A	D-175009/1 (C-5)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCS (HL) SAMPLE TO GFFD(PEN58)													
Q1P15SV3765	2	A	3/8	GL	SO	A	D-175009/1 (C-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCS (HL) SAMPLE TO GFFD (PEN 58)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N1P16V0718A	Aug	C	2.5	VR	S	A	D-170119/4 (B-10)	C	O/C	C	ETO ETC	RF RF	
SW VACUUM BREAKERS - TURBINE BLDG HVAC													
N1P16V0718B	Aug	C	2.5	VR	S	A	D-170119/4 (B-10)	C	O/C	C	ETO ETC	RF RF	
SW VACUUM BREAKERS - TURBINE BLDG HVAC													
Q1P16V0003A (MOV3130A)	3	B	20	B	MO	P	D-175003/1 (E-2)	O	O	AI	PIT	2Y	
SW TO CCW HX INLET LINE ISO VALVE													
Q1P16V0003B (MOV3130B)	3	B	20	B	MO	P	D-175003/1 (F-2)	O	O	AI	PIT	2Y	
SW TO CCW HX INLET LINE ISO VALVE													
Q1P16V0003C (MOV3130C)	3	B	20	B	MO	P	D-175003/1 (H-3)	O	O	AI	PIT	2Y	
SW TO CCW HX INLET LINE ISO VALVE													
Q1P16V0010A (MOV3019A)	2	B	12	B	MO	A	D-175003/1 (A-7)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW TO CTMT AIR COOLER LINE ISO VALVE													
Q1P16V0010B (MOV3019B)	2	B	12	B	MO	A	D-175003/1 (C-7)	O	O/C	AI	STO STC PIT	Q Q 2Y	
SW TO CTMT AIR COOLER LINE ISO VALVE													
Q1P16V0010C (MOV3019C)	2	B	12	B	MO	A	D-175003/1 (E-7)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW TO CTMT COOLER LINE ISO VALVE													
Q1P16V0010D (MOV3019D)	2	B	12	B	MO	A	D-175003/1 (F-7)	O	O/C	AI	PIT STC STO	2Y Q Q	
SW TO CTMT COOLER LINE ISO VALVE													
Q1P16V0011A (PSV3020A)	3	C	1 1/2X2	SR	S	A	D-175003/1 (A-8)	C	O/C	NA	ETSP	T	
SW SUPPLY TO CTMT COOLERS RELIEF													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0011B (PSV3020B) SW SUPPLY TO CTMT COOLERS RELIEF	3	C	1 1/2X2	SR	S	A	D-175003/1 (C-8)	C	O/C	NA	ETSP	T	
Q1P16V0011C (PSV3020C) SW SUPPLY TO CTMT COOLERS RELIEF	3	C	1 1/2X2	SR	S	A	D-175003/1 (E-8)	C	O/C	NA	ETSP	T	
Q1P16V0011D (PSV3020D) SW SUPPLY TO CTMT COOLERS RELIEF	3	C	1 1/2X2	SR	S	A	D-175003/1 (F-8)	C	O/C	NA	ETSP	T	
Q1P16V0015A (PSV3142A) AFW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-175003/2 (B-3)	C	O/C	NA	ETSP	T	
Q1P16V0015B (PSV3142B) AFW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-175003/2 (D-3)	C	O/C	NA	ETSP	T	
Q1P16V0020A (PSV3137A) RHR/LHSI PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-175003/2 (B-7)	C	O/C	NA	ETSP	T	
Q1P16V0020B (PSV3137B) RHR/LHSI PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-175003/2 (B-7)	C	O/C	NA	ETSP	T	
Q1P16V0025A (PSV3138A) CCW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-175003/2 (C-7)	C	O/C	NA	ETSP	T	
Q1P16V0025B (PSV3138B) CCW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-175003/2 (D-7)	C	O/C	NA	ETSP	T	
Q1P16V0035A (PSV3139A) CTMT SPRAY PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-175003/2 (E-7)	C	O/C	NA	ETSP	T	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0035B (PSV3139B)	3	C	3/4 X 1	SR	S	A	D-175003/2 (F-7)	C	O/C	NA	ETSP	T	
CTMT SPRAY PUMP ROOM COOLER RELIEF													
Q1P16V0043A (MOV3024A)	2	B	10	B	MO	A	D-175003/1 (A-10)	C	O/C	AI	STO STC PIT	Q Q 2Y	
SERVICE WATER EMERG FROM CTMT COOLER 1A													
Q1P16V0043B (MOV3024B)	2	B	10	B	MO	A	D-175003/1 (C-10)	C	O/C	AI	PIT STO STC	2Y Q Q	
SERVICE WATER EMERG FROM CTMT COOLER 1B													
Q1P16V0043C (MOV3024C)	2	B	10	B	MO	A	D-175003/1 (E-10)	C	O/C	AI	PIT STO STC	2Y Q Q	
SERVICE WATER EMERG FROM CTMT COOLER 1C													
Q1P16V0043D (MOV3024D)	2	B	10	B	MO	A	D-175003/1 (F-10)	C	O/C	AI	PIT STO STC	2Y Q Q	
SERVICE WATER EMERG FROM CTMT COOLER 1D													
Q1P16V0044A (MOV3023A)	2	B	6	B	MO	A	D-175003/1 (B-10)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q1P16V0044B (MOV3023B)	2	B	6	B	MO	A	D-175003/1 (D-10)	O	O/C	AI	PIT STC STO	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q1P16V0044C (MOV3023C)	2	B	6	B	MO	A	D-175003/1 (E-10)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q1P16V0044D (MOV3023D)	2	B	6	B	MO	A	D-175003/1 (G-10)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q1P16V0052 (MOV3149)	3	B	10	B	MO	A	D-175003/2 (E-2)	O	C	AI	PIT STC	2Y Q	
SW TO SG BLOWDOWN HX AND BTRS CHILLER UNITS													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0064 (MOV3150)	3	B	10	B	MO	A	D-175003/2 (E-4)	O	C	AI	PIT STC	2Y Q	
SW FROM SG BLOWDOWN HX AND BTRS CHILLER UNITS													
Q1P16V0069A	3	C	30	CK	S	A	D-170119/2 (C-10)	O	O	NA	ETO BDTC	Q RF	
AUX BLDG SW DISCHARGE LINE CHECK VALVE A TRAIN													
Q1P16V0069B	3	C	30	CK	S	A	D-170119/2 (A-10)	O	O	NA	ETO BDTC	Q RF	
AUX BLDG SW DISCHARGE LINE CHECK VALVE B TRAIN													
Q1P16V0070A	3	C	16	CK	S	A	D-175003/1 (C-6)	O	O	NA	ETO BDTC	Q Q	
SW TO CTMT COOLERS HEADER CHECK VALVE A TRAIN													
Q1P16V0070B	3	C	16	CK	S	A	D-175003/1 (E-6)	O	O	NA	ETO BDTC	Q Q	
SW TO CTMT COOLERS HEADER CHECK VALVE B TRAIN													
Q1P16V0071 (MOV3135)	2	A	6	B	MO	A	D-175003/2 (B-9)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
SW TO RCP MOTOR COOLERS													
Q1P16V0072 (MOV3134)	2	A	6	B	MO	A	D-175003/2 (B-12)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
SW RETURN FROM RCP MOTOR COOLERS													
Q1P16V0075	2	AC	6	CK	S	A	D-175003/2 (B-9)	O	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-28
SW TO RCP MOTOR COOLERS													
Q1P16V0081 (MOV3131)	2	A	6	B	MO	A	D-175003/2 (B-12)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
SW RETURN FROM RCP MOTOR COOLERS													
Q1P16V0203 (PSV3397)	2	AC	3/4 X 1	SR	S	A	D-175003/2 (B-12)	C	O/C	NA	ETSP LJ-C	T LJ	
CTMT PEN 32 THERMAL RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0204 (PSV3401)	2	AC	3/4 X 1	SR	S	A	D-175003/2 (B-9)	C	O/C	NA	ETSP LJ-C	T LJ	
CTMT PEN 60 THERMAL RELIEF VALVE													
Q1P16V0206A	2	C	12	CK	S	A	D-175003/1 (A-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 1A CHECK VALVE													
Q1P16V0206B	2	C	12	CK	S	A	D-175003/1 (C-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 1B CHECK VALVE													
Q1P16V0206C	2	C	12	CK	S	A	D-175003/1 (E-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 1C CHECK VALVE													
Q1P16V0206D	2	C	12	CK	S	A	D-175003/1 (F-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 1D CHECK VALVE													
Q1P16V0207A (MOV3441A)	2	B	10	B	MO	A	D-175003/1 (A-9)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS LINE ISO VALVE													
Q1P16V0207B (MOV3441B)	2	B	10	B	MO	A	D-175003/1 (C-9)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS LINE ISO VALVE													
Q1P16V0207C (MOV3441C)	2	B	10	B	MO	A	D-175003/1 (E-9)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS LINE ISO VALVE													
Q1P16V0207D (MOV3441D)	2	B	10	B	MO	A	D-175003/1 (F-9)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS LINE ISO VALVE													
Q1P16V0208A (PSV3442A)	2	C	1.5	SR	S	A	D-175003/1 ()	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0208B (PSV3442B)	2	C	1.5	SR	S	A	D-175003/1 ()	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													
Q1P16V0208C (PSV3442C)	2	C	1.5	SR	S	A	D-175003/1 ()	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													
Q1P16V0208D (PSV3442D)	2	C	1.5	SR	S	A	D-175003/1 ()	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													
Q1P16V0506	3	B	42	B	MO	P	D-170119/1 (E-7)	AI	AI	AI	PIT	2Y	
1C SW PUMP TO B HDR ISO													
Q1P16V0507	3	B	42	B	MO	P	D-170119/1 (E-4)	AI	AI	AI	PIT	2Y	
1C SW PUMP TO A HDR ISO													
Q1P16V0508	3	B	42	B	MO	P	D-170119/1 (D-11)	O	O	AI	PIT	2Y	
SW INLET TO STRAINER LINE ISO VALVE													
Q1P16V0511	3	B	42	B	MO	P	D-170119/1 (D-3)	O	O	AI	PIT	2Y	
SW INLET TO STRAINER LINE ISO VALVE													
Q1P16V0514	3	B	24	B	MO	A	D-170119/2 (E-6)	O	C	AI	STC PIT	CSD/RF 2Y	CSJ-V-19
SW SUPPLY TO TURBINE BLDG-TRAIN B													
Q1P16V0515	3	B	24	B	MO	A	D-170119/2 (E-4)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW SUPPLY TO TURBINE BLDG-TRAIN A													
Q1P16V0516	3	B	24	B	MO	A	D-170119/2 (D-5)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW TRAIN A TO TURBINE BLDG													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0517	3	B	24	B	MO	A	D-170119/2 (D-4)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW TRAIN B TO TURBINE BLDG													
Q1P16V0518	3	B	12	B	MO	A	D-170119/3 (B-2)	O	O/C	AI	PIT STC	2Y Q	Note-1
SW TO DG HEADER-TRAIN B													
Q1P16V0519	3	B	12	B	MO	A	D-170119/3 (B-2)	O	O/C	AI	STC PIT	Q 2Y	Note-1
SW TO DG HEADER-TRAIN A													
Q1P16V0520	3	B	6	B	MO	P	D-170119/3 (E-2)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0521	3	B	6	B	MO	P	D-170119/3 (E-3)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0522	3	B	8	B	MO	P	D-170119/3 (E-6)	C	C	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0523	3	B	8	B	MO	P	D-170119/3 (E-5)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0524	3	B	6	B	MO	P	D-170119/3 (E-8)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0525	3	B	6	B	MO	P	D-170119/3 (E-9)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0526	3	B	8	B	MO	P	D-170119/3 (E-11)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0527	3	B	8	B	MO	P	D-170119/3 (E-12)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0528	3	B	6	B	MO	P	D-170119/3 (F-3)	O	O	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0529	3	B	6	B	MO	P	D-170119/3 (F-2)	O	O	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0530	3	B	8	B	MO	P	D-170119/3 (F-5)	C	C	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0531	3	B	8	B	MO	P	D-170119/3 (F-4)	O	O	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0532	3	B	6	B	MO	P	D-170119/3 (F-8)	O	O	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0533	3	B	6	B	MO	P	D-170119/3 (F-9)	O	O	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0534	3	B	8	B	MO	P	D-170119/3 (F-11)	O	O	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0535	3	B	8	B	MO	P	D-170119/3 (F-12)	O	O	AI	PIT	2Y	
SW FROM DG LINE ISO VALVE													
Q1P16V0536	3	B	12	B	MO	A	D-170119/3 (G-2)	O	O/C	AI	PIT STC	2Y Q	Note-1
SW FROM DG HEADER-TRAIN B													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0537	3	B	12	B	MO	A	D-170119/3 (G-2)	O	O/C	AI	PIT STC	2Y Q	Note-1
SW FROM DG HEADER-TRAIN A													
Q1P16V0538	3	B	42	B	MO	A	D-170119/2 (C-10)	C	O	AI	PIT STO	2Y Q	
SW HEADER B EMERG RECIRC TO STORAGE POND													
Q1P16V0539	3	B	42	B	MO	A	D-170119/2 (E-10)	C	O	AI	PIT STO	2Y Q	
SW HEADER A EMERG RECIRC TO STORAGE POND													
Q1P16V0540	3	B	24	B	MO	A	D-170119/2 (D-9)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN A													
Q1P16V0541	3	B	24	B	MO	A	D-170119/2 (B-9)	O	C	AI	STC PIT	CSD/RF 2Y	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN B													
Q1P16V0542	3	B	24	B	MO	A	D-170119/2 (D-10)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN A													
Q1P16V0543	3	B	24	B	MO	A	D-170119/2 (B-10)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN B													
Q1P16V0545	3	B	30	B	MO	A	D-170119/2 (A-12)	O	C	AI	STC PIT	Q 2Y	
SW HEADER B NORMAL DISC HDR ISO													
Q1P16V0546	3	B	30	B	MO	A	D-170119/2 (C-12)	O	C	AI	PIT STC	2Y Q	
SW HEADER A NORMAL DISC HDR ISO													
Q1P16V0549	3	B	30	B	MO	A	D-170119/2 (E-12)	O	C	AI	PIT STC	2Y Q	
SW RETURN TO STANDPIPE LINE ISO VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0550	3	B	30	B	MO	A	D-170119/2 (C-13)	O	C	AI	PIT STC	2Y Q	
SW RETURN TO CIRC WATER CANAL LINE ISO VALVE													
Q1P16V0552	3	C	20	CK	S	A	D-170119/1 (H-2)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 1A DISCHARGE CHECK													
Q1P16V0553	3	C	20	CK	S	A	D-170119/1 (H-4)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 1B DISCHARGE CHECK													
Q1P16V0554	3	C	20	CK	S	A	D-170119/1 (H-6)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 1C DISCHARGE CHECK													
Q1P16V0555	3	C	20	CK	S	A	D-170119/1 (H-8)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 1D DISCHARGE CHECK													
Q1P16V0556	3	C	20	CK	S	A	D-170119/1 (H-10)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 1E DISCHARGE CHECK													
Q1P16V0557	3	B	24	B	MO	P	D-170119/2 (F-7)	O	O	AI	PIT	2Y	
SW DILUTION BYPASS LINE ISO VALVE													
Q1P16V0558	3	B	24	B	MO	P	D-170119/2 (E-3)	O	O	AI	PIT	2Y	
SW DILUTION BYPASS ISO A TRAIN													
Q1P16V0564	3	C	12	CK	S	A	D-170119/3 (G-2)	O	O	NA	ETPO ETO BDTC	ARFD RF RF	ROJ-V-32
DIESEL GENERATORS 'TRAIN B' SERVICE WATER CHECK VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P16V0565	3	C	12	CK	S	A	D-170119/3 (G-2)	O	O	NA	ETPO ETO BDTC	ARFD RF RF	ROJ-V-32
DIESEL GENERATORS 'TRAIN A' SERVICE WATER CHECK VALVE													
Q1P16V0592	3	B	8	B	MO	P	D-170119/3 (D-7)	C	C	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q1P16V0593	3	B	8	B	MO	P	D-170119/3 (F-6)	C	C	AI	PIT	2Y	
2B DG SW SUPPLY FROM UNIT 1													
Q1P16V0635A	3	C	2	CK	S	A	D-170113 (E-2)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-29 ROJ-V-29
NON TREATED SW TO PUMP SEALS AND MOTOR COOLERS													
Q1P16V0635B	3	C	2	CK	S	A	D-170113 (E-11)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-29 ROJ-V-29
NON TREATED SW TO PUMP SEALS AND MOTOR COOLERS													
Q1P16V0659	3	C	6	CK	S	A	D-170119/3 (C-3)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	 ROJ-V-31
UNIT 1 SW SUPPLY TO DG 2C													
Q1P16V0660	3	C	6	CK	S	A	D-170119/3 (C-8)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	 ROJ-V-31
UNIT 1 SW SUPPLY TO DG 1C													
Q1P16V0661	3	C	8	CK	S	A	D-170119/3 (C-10)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	 RR-V-01
UNIT 1 SW SUPPLY TO DG 1-2A													
Q1P16V0679	3	C	8	VR	S	A	D-170119/1 (B-10)	C	O/C	NA	ETO ETC	RF RF	
SW HEADER VACUUM BREAKER													
Q1P16V0680	3	C	8	VR	S	A	D-170119/1 (B-4)	C	O/C	NA	ETO ETC	RF RF	
SW HEADER VACUUM BREAKER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1P16V0721A	3	B	2	GL	MO	A	D-170113 (H-6)	O	C	AI	PIT STC	2Y Q		
SW TO CYCLONE SEPARATOR TRAIN A INLET														
Q1P16V0721B	3	B	2	GL	MO	A	D-170113 (H-7)	O	C	AI	PIT STC	2Y Q		
SW TO CYCLONE SEPARATOR TRAIN B INLET														
QSP16V0507	3	B	60	B	MO	P	D-170119 (G-8)	O	O	AI	PIT	2Y		
SW RECIRC LINE DIVERT TO STORAGE POND VALVES														
QSP16V0508	3	B	60	B	MO	P	D-170119 (G-8)	O	O	AI	PIT	2Y		
SW RECIRC LINE DIVERT TO STORAGE POND VALVES														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1P17HV2229	3	B	2	GL	AO	A	D-175002/2 (H-2)	O	C	C	PIT STC	2Y Q		
CCW SUPPLY TO SAMPLE COOLERS														
Q1P17HV3045	2	A	3	GL	AO	A	D-175002/2 (D-6)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-33	
CCW RETURN FROM RCP THERMAL BARRIER (PEN 43)														
Q1P17HV3067	2	A	6	GL	AO	A	D-175002/2 (E-6)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-36	
CCW RETURN FROM EXCESS LETDOWN HX (PEN 46)														
Q1P17HV3095	2	A	6	GL	AO	A	D-175002/2 (E-1)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-36	
CCW SUPPLY TO EXCESS LETDOWN HX (PEN 45)														
Q1P17HV3096A	3	B	8	B	AO	A	D-175002/2 (G-12)	O	C	C	PIT STC	2Y Q		
CCW TO RECYCLE SYS, WASTE GAS SYS, HYDROGEN RECOMBINER														
Q1P17HV3096B	3	B	8	B	AO	A	D-175002/2 (F-7)	O	C	C	PIT STC	2Y Q		
CCW TO RECYCLE SYS, WASTE GAS SYS, HYDROGEN RECOMBINER														
Q1P17HV3184	2	A	3	GL	AO	A	D-175002/2 (D-6)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-33	
CCW RETURN FROM RCP THERMAL BARRIER (PEN 43)														
Q1P17HV3443	2	A	6	GL	AO	A	D-175002/2 (E-5)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-36	
CCW RETURN FROM EXCESS LETDOWN HEAT EXCHANGER														
Q1P17RV3028	3	B	2	GL	AO	A	D-175002/1 (A-2)	O	C	C	PIT STC	2Y Q		
CCW SURGE TANK VENT														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P17V0001A	3	C	18	CK	S	A	D-175002/1 (C-3)	O/C	O/C	NA	ETO ETC	Q Q	
CCW PUMP DISCHARGE CHECK VALVES													
Q1P17V0001B	3	C	18	CK	S	A	D-175002/1 (E-3)	O/C	O/C	NA	ETO ETC	Q Q	
CCW PUMP DISCHARGE CHECK VALVES													
Q1P17V0001C	3	C	18	CK	S	A	D-175002/1 (G-3)	O/C	O/C	NA	ETO ETC	Q Q	
CCW PUMP DISCHARGE CHECK VALVES													
Q1P17V0006A (PSV3040A)	3	C	3/4 X 1	SR	S	A	D-175002/1 (C-4)	C	O/C	NA	ETSP	T	
CCW HX RELIEF VALVE													
Q1P17V0006B (PSV3040B)	3	C	3/4 X 1	SR	S	A	D-175002/1 (E-4)	C	O/C	NA	ETSP	T	
CCW HX RELIEF VALVE													
Q1P17V0006C (PSV3040C)	3	C	3/4 X 1	SR	S	A	D-175002/1 (G-4)	C	O/C	NA	ETSP	T	
CCW HX RELIEF VALVE													
Q1P17V0011A (MOV3094A)	3	B	10	B	MO	P	D-175002/1 (D-8)	O	O	AI	PIT	2Y	
CCW INLET TO SFP CCW HX LINE ISO VALVE													
Q1P17V0011B (MOV3094B)	3	B	10	B	MO	P	D-175002/1 (G-8)	O	O	AI	PIT	2Y	
CCW INLET TO SFP CCW HX LINE ISO VALVE													
Q1P17V0029A (MOV3185A)	3	B	14	B	MO	A	D-175002/1 (F-10)	O/C	O	AI	STO PIT	Q 2Y	
CCW TO RHR HX													
Q1P17V0029B (MOV3185B)	3	B	14	B	MO	A	D-175002/1 (C-10)	O/C	O	AI	PIT STO	2Y Q	
CCW TO RHR HX													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1P17V0082 (MOV3052) CCW TO RCP (PEN 42)	2	A	6	GA	MO	A	D-175002/2 (C-1)	O	C	AI	PIT STC LJ-C	2Y RF LJ	ROJ-V-33	
Q1P17V0083 CCW TO RCP (PEN 42)	2	AC	6	CK	S	A	D-175002/2 (C-2)	O	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-34	
Q1P17V0087A CCW INLET TO RCP THERMAL BARRIER CHECK VALVE	3	C	2	CK	S	A	D-175002/2 (B-3)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-35	
Q1P17V0087B CCW INLET TO RCP THERMAL BARRIER CHECK VALVE	3	C	2	CK	S	A	D-175002/2 (C-3)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-35	
Q1P17V0087C CCW INLET TO RCP THERMAL BARRIER CHECK VALVE	3	C	2	CK	S	A	D-175002/2 (D-3)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-35	
Q1P17V0097 (MOV3046) CCW RETURN FROM RCP BEARINGS (PEN 44)	2	A	6	GA	MO	A	D-175002/2 (B-5)	O	C	AI	PIT LJ-C STC	2Y LJ RF	ROJ-V-33	
Q1P17V0099 (MOV3182) CCW RETURN FROM RCP BEARINGS (PEN 44)	2	A	6	GA	MO	A	D-175002/2 (C-6)	O	C	AI	PIT STC LJ-C	2Y RF LJ	ROJ-V-33	
Q1P17V0111 CCW PUMP SUCTION CHECK VALVE	3	C	14	CK	S	A	D-175002/1 (E-1)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-37	
Q1P17V0115 (PSV3029) CCW SURGE TANK RELIEF VALVE	3	C	4 X 6	SR	S	A	D-175002/1 (A-2)	C	O/C	NA	ETSP	T		
Q1P17V0117A (MOV3031A) RMW TO CCW SYSTEM	3	B	2	GL	MO	A	D-175002/1 (A-5)	C	O/C	AI	PIT STO STC	2Y Q Q		

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P17V0117B (MOV3031B) RMW TO CCW SYSTEM	3	B	2	GL	MO	A	D-175002/1 (B-5)	C	O/C	AI	PIT STO STC	2Y Q Q	
Q1P17V0121A (MOV3030A) DEMIN WATER MAKEUP TO CCW SURGE TANK LINE ISO VALVE	3	B	2	GL	MO	A	D-175002/1 (A-5)	O/C	C	AI	PIT STC	2Y Q	
Q1P17V0121B (MOV3030B) DEMIN WATER MAKEUP TO CCW SURGE TANK LINE ISO VALVE	3	B	2	GL	MO	A	D-175002/1 (B-5)	O/C	C	AI	PIT STC	2Y Q	
Q1P17V0126A (PSV3354A) RHR HX RELIEF VALVE	3	C	1 1/2X2	SR	S	A	D-175002/1 (E-11)	C	O/C	NA	ETSP	T	
Q1P17V0126B (PSV3354B) RHR HX RELIEF VALVE	3	C	1 1/2X2	SR	S	A	D-175002/1 (B-11)	C	O/C	NA	ETSP	T	
Q1P17V0149A (PSV3381A) RHR PUMP SEAL COOLER RELIEF	3	C	1 X 1-1/2	SR	S	A	D-175002/1 (F-11)	C	O/C	NA	ETSP	T	
Q1P17V0149B (PSV3381B) RHR PUMP SEAL COOLER RELIEF	3	C	1 X 1-1/2	SR	S	A	D-175002/1 (B-9)	C	O/C	NA	ETSP	T	
Q1P17V0153 (PSV3413) THERMAL RELIEF VALVE ON CTMT PEN 45	2	AC	3/4 X 1	SR	S	A	D-175002/2 (E-2)	C	O/C	NA	ETSP LJ-C	T LJ	
Q1P17V0154 (PSV3414) THERMAL RELIEF VALVE ON CTMT PEN 46	2	AC	3/4 X 1	SR	S	A	D-175002/2 (F-6)	C	O/C	NA	ETSP LJ-C	T LJ	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P17V0155 (PSV3415)	2	AC	3/4 X 1	SR	S	A	D-175002/2 (B-6)	C	O/C	NA	ETSP LJ-C	T LJ	
THERMAL RELIEF VALVE ON CTMT PEN 44													
Q1P17V0158 (PSV3444)	2	AC	3/4 X 1	SR	S	A	D-175002/2 (C-2)	C	O/C	NA	ETSP LJ-C	T LJ	
THERMAL RELIEF VALVE ON CTMT PEN 42													
Q1P17V0159	2	AC	6	CK	S	A	D-175002/2 (E-2)	O	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-34
CCW SUPPLY TO EXCESS LETDOWN HX (PEN 45)													
Q1P17V0263A	3	C	1	CK	S	A	D-175002/1 (A-2)	C	O	NA	ETSP	T	
CCW SURGE TANK VACUUM RELIEF													
Q1P17V0263B	3	C	1	CK	S	A	D-175002/1 (A-2)	C	O	NA	ETSP	T	
CCW SURGE TANK VACUUM RELIEF													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1P18V0001	2	A	2	GL	M	P	D-175035/1 (G-7)	LC	C	NA	LJ-C	LJ	
SERVICE AIR TO PENETRATION ROOMS AND CONTAINMENT (PEN 47)													
Q1P18V0002	2	A	2	GL	M	P	D-175035/1 (G-7)	LC	C	NA	LJ-C	LJ	
SERVICE AIR TO PENETRATION ROOMS AND CONTAINMENT (PEN 47)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N1P19PSV2228	Aug	C	3/4	SR	S	A	D-175034/1 (C-8)	C	O/C	NA	ETSP	T	
BACKUP N2 SUPPLY TO PRESS PORVS													
N1P19V0135	Aug	C	3/4	CK	S	A	D-175034/1 (E-8)	C	C	NA	ETC	RF	
INST AIR SUPPLY TO PORVS													
N1P19V0147A	Aug	C	1/2	CK	S	A	D-175033/2 (E-9)	O/C	C	NA	ETC	RF	
INST AIR SUPPLY TO AUX STEAM VALVE Q1N12V001A AIR ACCUM													
N1P19V0147B	Aug	C	1/2	CK	S	A	D-175033/2 (C-9)	O/C	C	NA	ETC	RF	
INST AIR SUPPLY TO AUX STEAM VALVE Q1N12V001B AIR ACCUM													
Q1P19HV2228	2	A	3/4	GL	AO	A	D-175034/1 (C-9)	C	O/C	C	PIT STO STC LJ-C	2Y Q Q LJ	
BACKUP NITROGEN SUPPLY TO PRESSURIZER PORV'S (Pen 97B)													
Q1P19HV3611	2	A	2	GL	AO	A	D-175034/2 (E-11)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-40
CTMT INSTRUMENT AIR SUPPLY (PEN 48)													
Q1P19V0002	2	AC	2	CK	S	A	D-175034/3 (D-2)	O	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-38
CTMT INSTRUMENT AIR SUPPLY (PEN 48)													
Q1P19V0004	2	AC	1/2	CK	S	A	D-175034/1 (C-10)	O/C	O/C	NA	ETO ETC LJ-C	CSD/RF RF LJ	CSJ-V-20 ROJ-V-39
BACKUP AIR SUPPLY TO PRESSURIZER PORV'S													
Q1P19V1099	2	A	3/4	GL	M	P	D-175034/1 (D-8)	LC	C	NA	LJ-C	LJ	
BACKUP NITROGEN SUPPLY BYPASS TO PORVS													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q1P23V0002A (MOV3238)	2	A	8	GL	MO	P	D-175010/1 (G-2)	C	C	AI	LJ-C	LJ		
CTMT LEAK RATE TEST VALVE														
Q1P23V0002B (MOV3239)	2	A	8	GL	MO	P	D-175010/1 (G-2)	C	C	AI	LJ-C	LJ		
CTMT LEAK RATE TEST VALVE														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1R43V0519	Aug	B	3/8	TW	SO	A	D-170806/1 (C-9)	C	O	AI	ETO	Q	
1B DG AIR START SOLENOID													
Q1R43V0520	Aug	B	3/8	TW	SO	A	D-170806/1 (C-9)	C	O	AI	ETO	Q	
1B DG AIR START SOLENOID													
Q1R43V0532	Aug	C	3/4	CK	S	A	D-170806/1 (F-5)	O/C	C	NA	ETC BDTO	Q Normal Ops	
1B DG AIR RECEIVER A AIR DRYER CHECK VALVE													
Q1R43V0533	Aug	C	3/4	CK	S	A	D-170806/1 (F-9)	O/C	C	NA	ETC BDTO	Q Normal Ops	
1B DG AIR RECEIVER B AIR DRYER CHECK VALVE													
Q1R43V0538	Aug	C	1/2	SR	S	A	D-170806/1 (E-4)	C	O/C	NA	ETSP	T	
1B DG AIR RECEIVER TANK A PRESSURE RELIEF VALVE													
Q1R43V0539	Aug	C	1/2	SR	S	A	D-170806/1 (E-8)	C	O/C	NA	ETSP	T	
1B DG AIR RECEIVER TANK B PRESSURE RELIEF VALVE													
QSR43V0582	Aug	B	3/8	TW	SO	A	D-170806/2 (C-9)	C	O	AI	ETO	Q	
1-2A DG AIR START SOLENOID													
QSR43V0583	Aug	B	3/8	TW	SO	A	D-170806/2 (C-9)	C	O	AI	ETO	Q	
1-2A DG AIR START SOLENOID													
QSR43V0595	Aug	C	1	CK	S	A	D-170806/2 (F-5)	O/C	C	NA	ETC BDTO	Q Normal Ops	
1-2A DG AIR START COMPRESSOR A DISCHARGE CHECK VALVE													
QSR43V0596	Aug	C	1	CK	S	A	D-170806/2 (F-9)	O/C	C	NA	ETC BDTO	Q Normal Ops	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
1-2A DG AIR START COMPRESSOR B DISCHARGE CHECK VALVE													
QSR43V0601	Aug	C	1/2	SR	S	A	D-170806/2 (E-4)	C	O/C	NA	ETSP	T	
1-2A DG AIR RECEIVER TANK A PRESSURE RELIEF VALVE													
QSR43V0602	Aug	C	1/2	SR	S	A	D-170806/2 (E-8)	C	O/C	NA	ETSP	T	
1-2A DG AIR RECEIVER TANK B PRESSURE RELIEF VALVE													
QSR43V0610	Aug	C	1/2	SR	S	A	D-170807/2 (F-5)	C	O/C	NA	ETSP	T	
2C DG AIR RECEIVER TANK B PRESSURE RELIEF VALVE													
QSR43V0611	Aug	C	1/2	SR	S	A	D-170807/2 (F-9)	C	O/C	NA	ETSP	T	
2C DG AIR RECEIVER TANK A PRESSURE RELIEF VALVE													
QSR43V0612	Aug	C	1/2	SR	S	A	D-170807/1 (G-5)	C	O/C	NA	ETSP	T	
1C DG AIR RECEIVER TANK B PRESSURE RELIEF VALVE													
QSR43V0613	Aug	C	1/2	SR	S	A	D-170807/1 (G-9)	C	O/C	NA	ETSP	T	
1C DG AIR RECEIVER TANK A PRESSURE RELIEF VALVE													
QSR43V0638	Aug	B	3/8	TW	SO	A	D-170807/2 (C-6)	C	O	AI	ETO	Q	
2C DG AIR START SOLENOID													
QSR43V0639	Aug	B	3/8	TW	SO	A	D-170807/2 (C-8)	C	O	AI	ETO	Q	
2C DG AIR START SOLENOID													
QSR43V0640	Aug	B	3/8	TW	SO	A	D-170807/1 (C-6)	C	O	AI	ETO	Q	
1C DG AIR START SOLENOID													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
QSR43V0641	Aug	B	3/8	TW	SO	A	D-170807/1 (C-8)	C	O	AI	ETO	Q	
1C DG AIR START SOLENOID													
QSR43V0658	Aug	C	3/4	CK	S	A	D-170807/2 (F-5)	O/C	C	NA	ETC BDTO	Q Normal Ops	
2C DG AIR RECEIVER B AIR DRYER CHECK VALVE													
QSR43V0659	Aug	C	3/4	CK	S	A	D-170807/2 (F-9)	O/C	C	NA	ETC BDTO	Q Normal Ops	
2C DG AIR RECEIVER A AIR DRYER CHECK VALVE													
QSR43V0660	Aug	C	3/4	CK	S	A	D-170807/1 (G-5)	O/C	C	NA	ETC BDTO	Q Normal Ops	
1C DG AIR RECEIVER B AIR DRYER CHECK VALVE													
QSR43V0661	Aug	C	3/4	CK	S	A	D-170807/1 (G-9)	O/C	C	NA	ETC BDTO	Q Normal Ops	
1C DG AIR RECEIVER A AIR DRYER CHECK VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
QSV47V0001A (HV3624) CONTROL ROOM HVAC	Aug	B	14	B	AO	A	D-205012 (F-5)	O	C	C	STC PIT	Q 2Y	
QSV47V0001B (HV3625) CONTROL ROOM HVAC	Aug	B	14	B	AO	A	D-205012 (G-5)	O	C	C	PIT STC	2Y Q	
QSV47V0002A (HV3622) COMPUTER ROOM HVAC	Aug	B	20	B	AO	A	D-205012 (G-3)	O	C	C	STC PIT	Q 2Y	
QSV47V0002B (HV3623) COMPUTER ROOM HVAC	Aug	B	20	B	AO	A	D-205012 (G-3)	O	C	C	PIT STC	2Y Q	
QSV47V0003A (HV3626) CONTROL ROOM HVAC	Aug	B	24	B	AO	A	D-205012 (F-5)	O	C	C	STC PIT	Q 2Y	
QSV47V0003B (HV3627) CONTROL ROOM HVAC	Aug	B	24	B	AO	A	D-205012 (G-5)	O	C	C	PIT STC	2Y Q	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q1V48V0001A (HV3538A)	Aug	B	16	B	AO	A	D-175022 (B-11)	O	O/C	C	PIT STO STC	2Y Q Q	
SPENT FUEL POOL FILTRATION SYS TO PENETRATION RM FILTER UNIT													
Q1V48V0001B (HV3538B)	Aug	B	16	B	AO	A	D-175022 (D-11)	O	O/C	C	STO STC PIT	Q Q 2Y	
SPENT FUEL POOL FILTRATION SYS TO PENETRATION RM FILTER UNIT													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
QSV49CKDMP001A	Aug	C	11	CK	S	A	D-175012 (B-2)	O	O/C	NA	ETO ETC	18M 18M	
HVAC PRESS LINE BACKDRAFT DAMPER (CKDMP001A-A)													
QSV49CKDMP001B	Aug	C	11	CK	S	A	D-205012 (B-7)	O	O/C	NA	ETC ETO	18M 18M	
HVAC PRESS LINE BACKDRAFT DAMPER (CKDMP001B-B)													
QSV49V0001A (MOV3478A)	Aug	B	8	B	MO	A	D-175012 (B-7)	C	O	AI	PIT STO	2Y Q	
CONTROL ROOM HVAC													
QSV49V0001B (MOV3478B)	Aug	B	8	B	MO	A	D-205012 (B-3)	C	O	AI	PIT STO	2Y Q	
CONTROL ROOM HVAC													
QSV49V0003A (HV3628)	Aug	B	10	B	AO	A	D-205012 (B-10)	O	C	C	PIT STC	2Y Q	
CONTROL ROOM EXHAUST ISOLATION VALVE													
QSV49V0003B (HV3629)	Aug	B	10	B	AO	A	D-205012 (C-10)	O	C	C	PIT STC	2Y Q	
CONTROL ROOM EXHAUST ISOLATION VALVE													
QSV49V0004A (HV3649A)	Aug	B	20	B	AO	A	D-175012 (E-6)	C	C	C	PIT STC	2Y Q	
CONTROL ROOM HVAC													
QSV49V0004B (HV3649B)	Aug	B	20	B	AO	A	D-175012 (E-7)	C	C	C	STC PIT	Q 2Y	
CONTROL ROOM HVAC													
QSV49V0004C (HV3649C)	Aug	B	20	B	AO	A	D-175012 (E-7)	C	C	C	PIT STC	2Y Q	
CONTROL ROOM HVAC													
QSV49V0008 (MOV2769A)	Aug	B	8	B	MO	A	D-175012 (A-8)	C	O	AI	STO PIT	Q 2Y	
CONTROL ROOM HVAC													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
QSV49V0009 (MOV2769B) CONTROL ROOM HVAC	Aug	B	8	B	MO	A	D-205012 (A-3)	C	O	AI	PIT STO	2Y Q		

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
QSY52V0506A	Aug	C	1 1/2	CK	S	A	D-170060 (F-2)	O/C	O/C	NA	ETO ETC	18M 18M	
1-2A DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0506B	Aug	C	1 1/2	CK	S	A	D-170060 (F-3)	O/C	O/C	NA	ETO ETC	18M 18M	
1-2A DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0507A	Aug	C	1 1/2	CK	S	A	D-170060 (F-5)	O/C	O/C	NA	ETO ETC	18M 18M	
1C DG FUEL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0507B	Aug	C	1 1/2	CK	S	A	D-170060 (F-4)	O/C	O/C	NA	ETO ETC	18M 18M	
1C DG FUEL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0508A	Aug	C	1 1/2	CK	S	A	D-170060 (F-7)	O/C	O/C	NA	ETO ETC	18M 18M	
2B DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0508B	Aug	C	1 1/2	CK	S	A	D-170060 (F-6)	O/C	O/C	NA	ETO ETC	18M 18M	
2B DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0509A	Aug	C	1 1/2	CK	S	A	D-170060 (F-10)	O/C	O/C	NA	ETO ETC	18M 18M	
1B DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0509B	Aug	C	1 1/2	CK	S	A	D-170060 (F-9)	O/C	O/C	NA	ETO ETC	18M 18M	
1B DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE													
QSY52V0510A	Aug	C	1 1/2	CK	S	A	D-170060 (F-13)	O/C	O/C	NA	ETO ETC	18M 18M	
2C DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
QSY52V0510B	Aug	C	1 1/2	CK	S	A	D-170060 (F-11)	O/C	O/C	NA	ETO ETC	18M 18M		
2C DG FUEL OIL TRANSFER PUMP DISCHARGE CHECK VALVE														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2B13SV2213A (HV001)	2	B	1	GL	SO	A	D-205037/1 (E-7)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01
REACTOR VESSEL HEAD VENT													
Q2B13SV2213B (HV003)	2	B	1	GL	SO	A	D-205037/1 (E-8)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01
REACTOR VESSEL HEAD VENT													
Q2B13SV2214A (HV002)	2	B	1	GL	SO	A	D-205037/1 (E-7)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01
REACTOR VESSEL HEAD VENT													
Q2B13SV2214B (HV004)	2	B	1	GL	SO	A	D-205037/1 (E-8)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-01 CSJ-V-01
REACTOR VESSEL HEAD VENT													
Q2B13V0027A (MOV8000A)	1	B	3	GA	MO	A	D-205037/2 (D-2)	O	O/C	AI	STC PIT STO	Q 2Y Q	
PRESSURIZER PORV BLOCK VALVE													
Q2B13V0027B (MOV8000B)	1	B	3	GA	MO	A	D-205037/2 (E-2)	O	O/C	AI	PIT STC STO	2Y Q Q	
PRESSURIZER PORV BLOCK VALVE													
Q2B13V0031A	1	C	6X6	SR	S	A	D-205037/2 (D-5)	C	O/C	NA	ETSP	T	
PRESSURIZER SAFETY													
Q2B13V0031B	1	C	6X6	SR	S	A	D-205037/2 (D-4)	C	O/C	NA	ETSP	T	
PRESSURIZER SAFETY													
Q2B13V0031C	1	C	6X6	SR	S	A	D-205037/2 (D-3)	C	O/C	NA	ETSP	T	
PRESSURIZER SAFETY													
Q2B13V0037 (HV8047)	2	A	1	D	AO	A	D-205037/2 (B-10)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRT N2 SUPPLY ISO VALVE (PEN 64A)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2B13V0038 (V8046)	2	AC	3	CK	S	A	D-205037/2 (B-10)	C	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-01
RMW TO PRT ISO CHECK VALVE (PEN 30)													
Q2B13V0039 (HV8033)	2	A	1	D	AO	A	D-205037/2 (B-11)	O	C	C	PIT LJ-C STC	2Y LJ Q	
PRT N2 SUPPLY (PEN 64A)													
Q2B13V0040 (HV8028)	2	A	3	D	AO	A	D-205037/2 (B-11)	C	C	C	PIT STC LJ-C	2Y Q LJ	
RMW TO PRT ISO VALVE (PEN 30)													
Q2B13V0053 (PCV445A)	1	B	3	GL	AO	A	D-205037/2 (D-1)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	
PRESSURIZER PORV													
Q2B13V0054 (V8092)	2	AC	2	CK	S	A	D-205037/2 (C-6)	C	O/C	NA	ETO ETC LJ-C	RF RF LJ	ROJ-V-02 ROJ-V-02
CVCS CHARGING PUMP RELIEF VALVE DISCHARGE TO PRT (PEN 59)													
Q2B13V0061 (PCV444B)	1	B	3	GL	AO	A	D-205037/2 (E-1)	C	O/C	C	PIT STO STC	2Y CSD/RF CSD/RF	
PRESSURIZER PORV													
Q2B13V0110	2	AC	3/4X1	SR	S	A	D-205037/2 (B-11)	C	O/C	NA	ETSP LJ-C	T LJ	
REACTOR MAKEUP WATER SYSTEM (PEN #30) RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E11V0001A (MOV8701A)	1	A	12	GA	MO	A	D-205041 (G-3)	C	O/C	AI	PIT STC LTA STO LJ-C	2Y CSD/RF LA CSD/RF LJ	 CSJ-V-02 CSJ-V-02
2A RHR PUMP SUCTION FROM RCS (HL) (PEN 16)													
Q2E11V0001B (MOV8702A)	1	A	12	GA	MO	A	D-205041 (E-3)	C	O/C	AI	PIT STO STC LTA LJ-C	2Y CSD/RF CSD/RF LA LJ	 CSJ-V-02 CSJ-V-02
2B RHR PUMP SUCTION FROM RCS (HL) (PEN 18)													
Q2E11V0009A (MOV8706A)	2	B	8	GA	MO	A	D-205041 (B-8)	C	O	AI	PIT STO	2Y Q/CSD	 CSJ-V-04
CHG PUMP SUCTION FROM RHR HX A													
Q2E11V0009B (MOV8706B)	2	B	8	GA	MO	A	D-205041 (C-8)	C	O	AI	PIT STO	2Y Q/CSD	 CSJ-V-04
CHG PUMP SUCTION FROM RHR HX B													
Q2E11V0015A (V8708A)	2	C	3X4	SR	S	A	D-205041 (G-4)	C	O/C	NA	ETSP	T	
A RHR PUMP SUCTION RELIEF													
Q2E11V0015B (V8708B)	2	C	3X4	SR	S	A	D-205041 (E-4)	C	O/C	NA	ETSP	T	
B RHR PUMP SUCTION RELIEF													
Q2E11V0016A (MOV8701B)	1	A	12	GA	MO	A	D-205041 (G-1)	C	O/C	AI	PIT STO STC LTA	2Y CSD/RF CSD/RF LA	 CSJ-V-02 CSJ-V-02
2A RHR PUMP SUCTION FROM RCS (HL)													
Q2E11V0016B (MOV8702B)	1	A	12	GA	MO	A	D-205041 (E-2)	C	O/C	AI	PIT STO STC LTA	2Y CSD/RF CSD/RF LA	 CSJ-V-02 CSJ-V-02
2B RHR PUMP SUCTION FROM RCS (HL)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E11V0021A	1	AC	6	CK	S	A	D-205038/2 (E-1)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-05 ROJ-V-05
RHR PUMP LHSI DISCHARGE TO (CL) RCS													
Q2E11V0021B	1	AC	6	CK	S	A	D-205038/2 (F-1)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-05 ROJ-V-05
RHR PUMP LHSI DISCHARGE TO (CL) RCS													
Q2E11V0021C	1	AC	6	CK	S	A	D-205038/2 (G-1)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-05 ROJ-V-05
RHR PUMP LHSI DISCHARGE TO (CL) RCS													
Q2E11V0023A **(MOV8888A)**	2	B	10	GA	MO	A	D-205038/2 (G-3)	O	O/C	AI	PIT STO STC	2Y Q Q	
2B HRH HX TO HCS (CL) ISO													
Q2E11V0023B **(MOV8888B)**	2	B	10	GA	MO	A	D-205038/2 (F-3)	O	O/C	AI	PIT STO STC	2Y Q Q	
2A RHR HX TO RCS (CL) ISO													
Q2E11V0024A **(MOV8887A)**	2	B	10	GA	MO	A	D-205038/2 (F-4)	O	O/C	AI	STO STC PIT	Q Q 2Y	
RHR TO RCS XCONN													
Q2E11V0024B **(MOV8887B)**	2	B	10	GA	MO	A	D-205038/2 (G-4)	O	O/C	AI	PIT STC STO	2Y Q Q	
RHR TO RCS XCONN													
Q2E11V0025A **(MOV8811A)**	2	A	14	GA	MO	A	D-205038/2 (J-4)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
2A RHR PUMP SUCTION FROM CTMT SUMP (PEN 11)													
Q2E11V0025B **(MOV8811B)**	2	A	14	GA	MO	A	D-205038/2 (H-4)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
2B RHR PUMP SUCTION FROM CTMT SUMP (PEN 10)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E11V0026A (MOV8812A)	2	A	14	GA	MO	A	D-205038/2 (J-5)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
2A RHR PUMP SUCTION FROM CTMT SUMP (PEN 11)													
Q2E11V0026B (MOV8812B)	2	A	14	GA	MO	A	D-205038/2 (H-5)	C	O/C	AI	PIT STO LJ-C STC	2Y Q LJ Q	
2B RHR PUMP SUCTION FROM CTMT SUMP (PEN 10)													
Q2E11V0027A (MOV8809A)	2	B	14	GA	MO	A	D-205038/2 (F-10)	O	O/C	AI	PIT STC	2Y Q	Note-1
2A RHR PUMP SUCTION FROM RWST													
Q2E11V0027B (MOV8809B)	2	B	14	GA	MO	A	D-205038/2 (G-10)	O	O/C	AI	PIT STC	2Y Q	Note-1
2B RHR PUMP SUCTION FROM RWST													
Q2E11V0028	2	C	14	CK	S	A	D-205038/2 (F-10)	C	O/C	NA	ETO ETC	Q RF	ROJ-V-06
RHR PUMP SUCTION FROM RWST													
Q2E11V0032A (HCV603A)	2	B	10	B	AO	P	D-205041 (B-7)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER DISCHARGE VALVES													
Q2E11V0032B (HCV603B)	2	B	10	B	AO	P	D-205041 (C-7)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER DISCHARGE VALVES													
Q2E11V0033A (HCV605A)	2	B	8	B	AO	P	D-205041 (C-8)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER BYPASS FLOW CONTROL VALVES													
Q2E11V0033B (HCV605B)	2	B	8	B	AO	P	D-205041 (D-8)	O	O	O	PIT	2Y	
RHR HEAT EXCHANGER BYPASS FLOW CONTROL VALVES													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E11V0037A (FCV602A)	2	B	3	GA	MO	A	D-205041 (D-5)	O	C	AI	PIT STC	2Y Q	
2A RHR PUMP MINIFLOW													
Q2E11V0037B (FCV602B)	2	B	3	GA	MO	A	D-205041 (D-5)	O	C	AI	PIT STC	2Y Q	
2B RHR PUMP MINIFLOW													
Q2E11V0038A	2	C	10	CK	S	A	D-205041 (B-5)	C	O/C	NA	ETO ETC	Q Q	
2A RHR DISCHARGE TO RCS													
Q2E11V0038B	2	C	10	CK	S	A	D-205041 (C-5)	C	O/C	NA	ETO ETC	Q Q	
2B RHR DISCHARGE TO RCS													
Q2E11V0039A	2	AC	.75X1	SR	S	A	D-205038/2 (G-3)	C	O/C	NA	ETSP LJ-C	T LJ	
2B RHR HX DISCHARGE RELIEF (PEN 59)													
Q2E11V0039B	2	AC	.75X1	SR	S	A	D-205038/2 (F-3)	C	O/C	NA	ETSP LJ-C	T LJ	
2A RHR HX DISCHARGE RELIEF (PEN 59)													
Q2E11V0040	2	AC	.75X1	SR	S	A	D-205038/2 (F-3)	C	O/C	NA	ETSP LJ-C	T LJ	
RHR TO HL RELIEF (PEN 59)													
Q2E11V0042A	2	AC	10	CK	S	A	D-205038/2 (G-2)	C	O/C	NA	ETC ETO LTA	RF CSD/RF LT	ROJ-V-03 ROJ-V-03
RHR PUMP DISC TO SIS INJECTION CL													
Q2E11V0042B	2	AC	10	CK	S	A	D-205038/2 (E-2)	C	O/C	NA	ETC LTA ETO	RF LT CSD/RF	ROJ-V-03 ROJ-V-03
RHR PUMP DISC TO SIS INJECTION CL													
Q2E11V0044 (MOV8889)	2	B	10	GA	MO	A	D-205038/2 (F-3)	C	O/C	AI	PIT STO STC	2Y Q/CSD/RF Q/CSD/RF	 CSJ-V-03 CSJ-V-03
RHR HX DISCHARGE TO RCS(HL)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E11V0051A (V8998A) RCS LOOP LHSI CL	1	C	6	CK	S	A	D-205038/1 (C-2)	C	O	NA	ETO BDTC	RF RF	ROJ-V-04
Q2E11V0051B (V8998B) RCS LOOP LHSI CL	1	C	6	CK	S	A	D-205038/1 (D-2)	C	O	NA	ETO BDTC	RF RF	ROJ-V-04
Q2E11V0051C (V8998C) RCS LOOP LHSI CL	1	C	6	CK	S	A	D-205038/1 (D-2)	C	O	NA	ETO BDTC	RF RF	ROJ-V-04

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E12V0001A (HV3999A)	Aug	B	36	B	AO	A	D-205010/2 (B-10)	O	C	C	PIT STC	2Y CSD/RF	
2A RX CAVITY COOLING DAMPER													
Q2E12V0001B (HV3999B)	Aug	B	36	B	AO	A	D-205010/2 (B-10)	O	C	C	PIT STC	2Y CSD/RF	
2B RX CAVITY COOLING DAMPER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E13V0002A (V8822A)	2	C	8	CK	S	A	D-205038/3 (C-2)	C	O/C	NA	ETPO ETO ETC	ARFD RF RF	 ROJ-V-07 ROJ-V-07
2A CTMT SPRAY PUMP DISCHARGE													
Q2E13V0002B (V8822B)	2	C	8	CK	S	A	D-205038/3 (F-2)	C	O/C	NA	ETPO ETO ETC	ARFD RF RF	 ROJ-V-07 ROJ-V-07
2B CTMT SPRAY PUMP DISCHARGE													
Q2E13V0003A (MOV8826A)	2	A	12	GA	MO	A	D-205038/3 (H-3)	C	O/C	AI	PIT STC LJ-C STO	2Y Q LJ Q	
CTMT SPRAY PUMP 2A SUCTION FROM CTMT SUMP (PEN 94)													
Q2E13V0003B (MOV8826B)	2	A	12	GA	MO	A	D-205038/3 (H-3)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
CTMT SPRAY PUMP 2B SUCTION FROM CTMT SUMP (PEN 93)													
Q2E13V0004A (MOV8827A)	2	A	12	GA	MO	A	D-205038/3 (H-4)	C	O/C	AI	PIT STO STC LJ-C	2Y Q Q LJ	
CTMT SPRAY PUMP 2A SUCTION FROM CTMT SUMP (PEN94)													
Q2E13V0004B (MOV8827B)	2	A	12	GA	MO	A	D-205038/3 (H-4)	C	O/C	AI	STO STC LJ-C PIT	Q Q LJ 2Y	
CTMT SPRAY PUMP 2B SUCTION FROM CTMT SUMP (PEN 93)													
Q2E13V0005A (MOV8820A)	2	B	8	GA	MO	A	D-205038/3 (B-5)	C	O/C	AI	PIT STC STO	2Y Q Q	
CTMT SPRAY PUMP 2A DISCHARGE													
Q2E13V0005B (MOV8820B)	2	B	8	GA	MO	A	D-205038/3 (G-5)	C	O/C	AI	PIT STO STC	2Y Q Q	
CTMT SPRAY PUMP 2B DISCHARGE													
Q2E13V0012A (MOV8817A)	2	B	10	GA	MO	A	D-205038/3 (E-10)	O	O/C	AI	PIT STC	2Y Q	 Note-1
CTMT SPRAY PUMP 2A SUCTION FROM RWST													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E13V0012B (MOV8817B)	2	B	10	GA	MO	A	D-205038/3 (G-10)	O	O/C	AI	STC PIT	Q 2Y	Note-1
CTMT SPRAY PUMP 2B SUCTION FROM RWST													
Q2E13V0014 (V8816)	2	C	12	CK	S	A	D-205038/3 (E-10)	C	O/C	N/A	ETPO ETO ETC	ARFD RF RF	 ROJ-V-08 ROJ-V-08
CTMT SPRAY PUMP SUCTION FROM RWST													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E14HV3657	2	A	1	GL	AO	A	D-205010/2 (A-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE FROM R-11/12 DISCH TO CTMT (PEN 55)													
Q2E14HV3658	2	A	1	GL	AO	A	D-205010/2 (B-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE TO R-11/12 (PEN 54)													
Q2E14V0001	2	AC	1	CK	S	A	D-205010/2 (A-2)	C	O/C	NA	ETO ETC LJ-C	Q RF LJ	ROJ-V-09
CTMT AIR SAMPLE (PEN 55)													
Q2E14V0002 (MOV3660)	2	A	1	GL	MO	A	D-205010/2 (B-2)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE TO R-11/12 (PEN 54)													
Q2E14V0003 (MOV3318A)	2	A	1	GL	MO	A	D-205010/2 (B-2)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT DIFFERENTIAL PRESSURE INSTRUMENT ISOLATION (PEN 70)													
Q2E14V0004 (MOV3318B)	2	A	1	GL	MO	A	D-205010/2 (C-2)	O	C	AI	PIT LJ-C STC	2Y LJ Q	
CTMT DIFFERENTIAL PRESSURE INSTRUMENT ISOLATION (PEN 70)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E15CKDMP002A PRF RECIRC FAN 2A CHECK DAMPER	Aug	C	14	CK	S	A	D-205022 (C-2)	C	O/C	C	ETC ETO	Q Q	
Q2E15CKDMP002B PRF RECIRC FAN 2B CHECK DAMPER	Aug	C	14	CK	S	A	D-205022 (C-8)	C	O/C	C	ETO ETC	Q Q	
Q2E15CKDMP003A PRF EXHAUST FAN A CHECK DAMPER	Aug	C	12	CK	S	A	D-205022 (B-2)	C	O/C	C	ETO ETC	Q Q	
Q2E15CKDMP003B PRF EXHAUST FAN B CHECK DAMPER	Aug	C	12	CK	S	A	D-205022 (D-8)	C	O/C	C	ETO ETC	Q Q	
Q2E15V0001A (MOV3361B) 2B PRF RECIRC FAN DAMPER	Aug	B	18	B	MO	A	D-205022 (D-4)	C	O	AI	PIT STO	2Y Q	
Q2E15V0001B (MOV3361A) 2A PRF RECIRC FAN DAMPER	Aug	B	18	B	MO	A	D-205022 (D-5)	C	O	AI	PIT STO	2Y Q	
Q2E15V0001C (MOV3362B) 2B PRF SUCT DAMPER	Aug	B	18	B	MO	A	D-205022 (D-5)	C	O	AI	PIT STO	2Y Q	
Q2E15V0001D (MOV3362A) 2A PRF SUCT DAMPER	Aug	B	18	B	MO	A	D-205022 (D-6)	C	O	AI	PIT STO	2Y Q	
Q2E15V0002A (HV3356A) 2A PRF RECIR FAN EXHAUST DAMPER	Aug	B	14	B	AO	A	D-205022 (C-2)	C	O	O	STO PIT	Q 2Y	
Q2E15V0002B (HV3356B) 2B PRF RECIR FAN EXHAUST DAMPER	Aug	B	14	B	AO	A	D-205022 (B-8)	C	O	O	PIT STO	2Y Q	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E15V0003A (HV3357A)	Aug	B	12	B	AO	A	D-205022 (A-2)	C	O	O	STO PIT	Q 2Y	
2A PRF EXHAUST FAN DISCHARGE DAMPER													
Q2E15V0003B (HV3357B)	Aug	B	12	B	AO	A	D-205022 (D-8)	C	O	O	PIT STO	2Y Q	
2B PRF EXHAUST FAN DISCH DAMPER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0016A (MOV8803A)	2	B	3	GA	MO	A	D-205038/1 (G-6)	C	O/C	AI	PIT STC STO	2Y RF RF	 ROJ-V-14 ROJ-V-14
HHSI TO RCS (CL) ISOLATION													
Q2E21V0016B (MOV8803B)	2	B	3	GA	MO	A	D-205038/1 (G-6)	C	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-14 ROJ-V-14
HHSI TO RCS (CL) ISOLATION													
Q2E21V0026	2	C	8	CK	S	A	D-205038/1 (E-11)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-10 ROJ-V-10
RWST TO CHG PUMP SUCT													
Q2E21V0032A	1	AC	12	CK	S	A	D-205038/2 (D-2)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q2E21V0032B	1	AC	12	CK	S	A	D-205038/2 (D-2)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q2E21V0032C	1	AC	12	CK	S	A	D-205038/2 (E-2)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q2E21V0037A	1	AC	12	CK	S	A	D-205038/2 (D-3)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q2E21V0037B	1	AC	12	CK	S	A	D-205038/2 (D-6)	C	O/C	NA	ETO LTA ETC	RF LA RF	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q2E21V0037C	1	AC	12	CK	S	A	D-205038/2 (D-8)	C	O/C	NA	ETO ETC LTA	RF RF LA	ROJ-V-19 ROJ-V-19
ACCUMULATOR TANK DISCH TO RCS(CL)													
Q2E21V0049 (HV8871)	2	A	3/4	GL	AO	A	D-205038/2 (E-9)	C	C	C	PIT STC LJ-C	2Y Q LJ	
SIS ACCUMULATOR TEST TO RWST (PEN 29)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0050 (HV8961)	2	A	3/4	GL	AO	A	D-205038/2 (E-10)	C	C	C	STC LJ-C PIT	Q LJ 2Y	
SIS ACCUMULATOR TEST TO RWST (PEN 29)													
Q2E21V0052	2	AC	1	CK	S	A	D-205038/2 (D-9)	C	C	N/A	ETC LJ-C BDTO	RF LJ RF	ROJ-V-11
SIS ACCUMULATOR FILL (PEN 49)													
Q2E21V0058	2	AC	1	CK	S	A	D-205038/2 (A-10)	C	C	NA	ETC LJ-C BDTO	RF LJ RF	ROJ-V-11
NITROGEN SUPPLY TO ACCUMULATOR TANKS (PEN 63)													
Q2E21V0059 (HV8880)	2	A	1	GL	AO	A	D-205038/2 (A-10)	C	C	C	PIT STC LJ-C	2Y Q LJ	
NITROGEN SUPPLY TO ACCUMULATOR TANKS (PEN 63)													
Q2E21V0062A	1	C	2	CK	S	A	D-205038/1 (E-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI TO RCS(CL)													
Q2E21V0062B	1	C	2	CK	S	A	D-205038/1 (E-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI TO RCS(CL)													
Q2E21V0062C	1	C	2	CK	S	A	D-205038/1 (F-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI TO RCS(CL)													
Q2E21V0063 (MOV8885)	2	B	3	GA	MO	A	D-205038/1 (B-6)	C	O/C	AI	PIT STC STO	2Y RF RF	 ROJ-V-14 ROJ-V-14
CHG (HHSI) PUMPS DISCH TO RCS(CL)													
Q2E21V0066A	1	C	2	CK	S	A	D-205038/1 (A-4)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
CHG (HHSI) PUMPS DISCH TO RCS(CL)													
Q2E21V0066B	1	C	2	CK	S	A	D-205038/1 (B-4)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
CHG (HHSI) PUMPS DISCH TO RCS(CL)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0066C	1	C	2	CK	S	A	D-205038/1 (C-4)	C	O	NA	BDTC ETO	RF RF	 ROJ-V-13
CHG (HHSI) PUMPS DISCH TO RCS(CL)													
Q2E21V0068 (MOV8886)	2	B	3	GA	MO	A	D-205038/1 (H-6)	C	O/C	AI	PIT STO	2Y RF	 ROJ-V-14
CHG (HHSI) PUMP DISCH TO RCS(HL)											STC	RF	ROJ-V-14
Q2E21V0072 (MOV8884)	2	B	3	GA	MO	A	D-205038/1 (J-6)	C	O/C	AI	PIT STO	2Y RF	 ROJ-V-14
CHG (HHSI) PUMP DISCH TO RCS(HL)											STC	RF	ROJ-V-14
Q2E21V0076A	1	AC	6	CK	S	A	D-205038/1 (F-4)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-21 ROJ-V-21
RHR LHSI TO A RCS HL											LTA	LA	
Q2E21V0076B	1	AC	6	CK	S	A	D-205038/1 (G-4)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-21 ROJ-V-21
RHR LHSI TO B RCS HL											LTA	LA	
Q2E21V0077A	1	AC	6	CK	S	A	D-205038/1 (F-2)	C	O/C	NA	ETO LTA	RF LA	ROJ-V-18
HHSI/LHSI AND RHR TO RCS HL LOOP 1											ETC	RF	ROJ-V-18
Q2E21V0077B	1	AC	6	CK	S	A	D-205038/1 (G-2)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-18 ROJ-V-18
HHSI/LHSI AND RHR TO RCS HL LOOP 2											LTA	LA	
Q2E21V0077C	1	AC	6	CK	S	A	D-205038/1 (G-2)	C	O/C	NA	ETO ETC	RF RF	ROJ-V-18 ROJ-V-18
HHSI/LHSI AND RHR TO RCS HL LOOP 3											LTA	LA	
Q2E21V0078A	1	C	2	CK	S	A	D-205038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	 ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q2E21V0078B	1	C	2	CK	S	A	D-205038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	 ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0078C	1	C	2	CK	S	A	D-205038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q2E21V0079A	1	C	2	CK	S	A	D-205038/1 (G-3)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q2E21V0079B	1	C	2	CK	S	A	D-205038/1 (G-2)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q2E21V0079C	1	C	2	CK	S	A	D-205038/1 (G-2)	C	O	NA	BDTC ETO	RF RF	ROJ-V-13
HHSI PUMPS DISCHARGE TO RCS LOOPS HL													
Q2E21V0091 (HV8860)	2	A	1	GL	AO	A	D-205038/2 (D-10)	C	C	C	PIT LJ-C STC	2Y LJ Q	
SIS ACCUMULATOR TANKS FILL (PEN 49)													
Q2E21V0115A	2	AC	2	CK	S	A	D-205039/1 (G-2)	O	O/C	NA	ETC LJ-C ETO	RF LT Q	ROJ-V-15
CVCS SEAL INJECTION TO RC PUMP (PEN 27)													
Q2E21V0115B	2	AC	2	CK	S	A	D-205039/1 (G-2)	O	O/C	NA	ETO ETC LJ-C	Q RF LT	ROJ-V-15
CVCS SEAL INJECTION TO RC PUMP (PEN 25)													
Q2E21V0115C	2	AC	2	CK	S	A	D-205039/1 (G-2)	O	O/C	NA	ETO ETC LJ-C	Q RF LT	ROJ-V-15
CVCS SEAL INJECTION TO RC PUMP (PEN 26)													
Q2E21V0119	2	AC	3	CK	S	A	D-205039/1 (B-11)	O	O/C	NA	ETO ETC LJ-C	Q RF LJ	ROJ-V-12
CVCS CHARGING PUMP DISCHARGE TO REGENERATIVE HX (PEN 24)													
Q2E21V0121A	2	C	2	CK	S	A	D-205039/6 (C-6)	O/C	O/C	NA	ETPO ETC ETO	ARFD Q RF	ROJ-V-23
2A CHG PUMP MIN FLOW LINE CHECK VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0121B	2	C	2	CK	S	A	D-205039/6 (E-6)	O/C	O/C	NA	ETPO ETC ETO	ARFD Q RF	ROJ-V-23
2B CHG PUMP MIN FLOW LINE CHECK VALVE													
Q2E21V0121C	2	C	2	CK	S	A	D-205039/6 (G-6)	O/C	O/C	NA	ETPO ETC ETO	ARFD Q RF	ROJ-V-23
2C CHG PUMP MIN FLOW LINE CHECK VALVE													
Q2E21V0122A	2	C	3	CK	S	A	D-205039/6 (C-6)	O/C	O/C	NA	ETC ETO	Q RF	ROJ-V-16
2A CHARGING PUMP DISCHARGE													
Q2E21V0122B	2	C	3	CK	S	A	D-205039/6 (E-4)	O/C	O/C	NA	ETC ETO	Q RF	ROJ-V-16
2B CHARGING PUMP DISCHARGE													
Q2E21V0122C	2	C	3	CK	S	A	D-205039/6 (G-5)	O/C	O/C	NA	ETC ETO	Q RF	ROJ-V-16
2C CHARGING PUMP DISCHARGE													
Q2E21V0210	2	C	2	CK	S	A	D-205039/6 (G-10)	C	O	NA	ETO BDTC	CSD/RF RF	CSJ-V-07
CVCS BA FILTER TO CHARGING PUMP SUCTION													
Q2E21V0213	2	AC	3/4	CK	S	A	D-205039/1 (D-11)	C	O/C	NA	ETO ETC LJ-C	RF RF LJ	ROJ-V-20 ROJ-V-20
RCP SEAL TO SEAL WATER HX (PEN 28)													
Q2E21V0220A	3	C	2	CK	S	A	D-205039/3 (F-5)	C	O/C	NA	ETC ETO	Q CSD/RF	CSJ-V-10
BORON TRANSFER PUMP DISCHARGE LINE CHECK VALVE													
Q2E21V0220B	3	C	2	CK	S	A	D-205039/3 (H-5)	C	O/C	NA	ETC ETO	Q CSD/RF	CSJ-V-10
BORON TRANSFER PUMP DISCHARGE LINE CHECK VALVE													
Q2E21V0249A (MOV8112)	2	A	3	GA	MO	A	D-205039/1 (C-11)	O	C	AI	PIT STC LJ-C	2Y RF LJ	ROJ-V-17
RCP SEAL WATER RETURN (PEN 28)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0249B (MOV8100)	2	A	3	GA	MO	A	D-205039/1 (C-11)	O	C	AI	PIT STC LJ-C	2Y RF LJ	ROJ-V-17
RCP SEAL WATER RETURN (PEN 28)													
Q2E21V0251	2	C	2X3	SR	S	A	D-205039/1 (C-10)	C	O/C	NA	ETSP	T	
RCP SEAL WATER RETURN LINE RELIEF VALVE													
Q2E21V0253A (HV8149A)	2	A	2	GL	AO	A	D-205039/1 (A-7)	O/C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-06
LETDOWN ORIFICE ISO (PEN 23)													
Q2E21V0253B (HV8149B)	2	A	2	GL	AO	A	D-205039/1 (A-7)	O/C	C	C	STC LJ-C PIT	CSD/RF LJ 2Y	CSJ-V-06
LETDOWN ORIFICE ISO (PEN 23)													
Q2E21V0253C (HV8149C)	2	A	2	GL	AO	A	D-205039/1 (A-6)	O/C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-06
LETDOWN ORIFICE ISO (PEN 23)													
Q2E21V0254 (HV8152)	2	A	3	GL	AO	A	D-205039/1 (A-11)	O	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-08
LETDOWN LINE CTMT ISO (PEN 23)													
Q2E21V0255	2	AC	2X3	SR	S	A	D-205039/1 (A-7)	C	O/C	NA	ETSP LJ-C	T LJ	
LETDOWN ORIFICES OULET RELIEF VALVE (PEN 23)													
Q2E21V0257 (MOV8107)	2	A	3	GA	MO	A	D-205039/6 (B-2)	O	C	AI	STC LJ-C PIT	CSD/RF LJ 2Y	CSJ-V-08
CVCS CHG PUMP DISCH TO REGENERATIVE HX (PEN 24)													
Q2E21V0258 (MOV8108)	2	A	3	GA	MO	A	D-205039/6 (B-2)	O	C	AI	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-08
CVCS CHG PUMP DISCH TO REGENERATIVE HX (PEN 24)													
Q2E21V0259A (MOV8109A)	2	B	2	GL	MO	A	D-205039/6 (B-5)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHARGING PUMP MINI FLOW LINE ISO VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0259B (MOV8109B)	2	B	2	GL	MO	A	D-205039/6 (D-6)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHARGING PUMP MINI FLOW LINE ISO VALVE													
Q2E21V0259C (MOV8109C)	2	B	2	GL	MO	A	D-205039/6 (F-6)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHARGING PUMP MINI FLOW LINE ISO VALVE													
Q2E21V0263A	2	AC	3/4X1	SR	S	A	D-205039/6 (C-9)	C	O/C	NA	ETSP LJ-C	T LJ	
0.75 IN RELIEF-SIS/RHR HX TO CHG PMPS SUCT (PEN 59)													
Q2E21V0263B	2	AC	3/4X1	SR	S	A	D-205039/6 (C-9)	C	O/C	NA	ETSP LJ-C	T LJ	
0.75 IN RELIEF-SIS/RHR HX TO CHG PMPS SUCT (PEN 59)													
Q2E21V0264 (MOV8104)	2	B	2	GL	MO	A	D-205039/6 (G-10)	C	O/C	AI	PIT STO STC	2Y Q Q	
EMERGENCY BORATE TO CHG PUMP													
Q2E21V0265 (MOV8106)	2	B	3	GL	MO	A	D-205039/6 (G-10)	O	O/C	AI	PIT STO STC	2Y CSD/RF CSD/RF	 CSJ-V-11 CSJ-V-11
CHARGING PUMP MINI FLOW COMMON LINE ISO VALVE													
Q2E21V0324A (MOV8130A)	2	B	8	GA	MO	A	D-205039/6 (D-8)	O	O/C	AI	PIT STC STO	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													
Q2E21V0324B (MOV8130B)	2	B	8	GA	MO	A	D-205039/6 (E-8)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													
Q2E21V0325A (MOV8131A)	2	B	8	GA	MO	A	D-205039/6 (F-8)	O	O/C	AI	PIT STC STO	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													
Q2E21V0325B (MOV8131B)	2	B	8	GA	MO	A	D-205039/6 (F-8)	O	O/C	AI	PIT STO STC	2Y Q Q	
CHG PUMP SUCTION HEADER ISOLATION VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E21V0326A (MOV8132A) CHG PUMP DISCHARGE	2	B	4	GA	MO	A	D-205039/6 (D-5)	O	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-22 ROJ-V-22
Q2E21V0326B (MOV8132B) CHG PUMP DISCHARGE	2	B	4	GA	MO	A	D-205039/6 (D-5)	O	O/C	AI	STO STC PIT	RF RF 2Y	ROJ-V-22 ROJ-V-22
Q2E21V0327A (MOV8133A) CHG PUMP DISCHARGE	2	B	4	GA	MO	A	D-205039/6 (F-5)	O	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-22 ROJ-V-22
Q2E21V0327B (MOV8133B) CHG PUMP DISCHARGE	2	B	4	GA	MO	A	D-205039/6 (F-5)	O	O/C	AI	PIT STO STC	2Y RF RF	 ROJ-V-22 ROJ-V-22
Q2E21V0336A (LCV115B) CHG PUMP SUCTION FROM RWST	2	B	8	GA	MO	A	D-205039/6 (D-9)	C	O/C	AI	STC PIT STO	CSD/RF 2Y CSD/RF	CSJ-V-09 CSJ-V-09
Q2E21V0336B (LCV115D) CHG PUMP SUCTION FROM RWST	2	B	8	GA	MO	A	D-205039/6 (F-9)	C	O/C	AI	STC PIT STO	CSD/RF 2Y CSD/RF	CSJ-V-09 CSJ-V-09
Q2E21V0376A (LCV115C) VCT OUTLET ISO	2	B	4	GA	MO	A	D-205039/2 (H-8)	O	C	AI	PIT STC	2Y CSD/RF	 CSJ-V-09
Q2E21V0376B (LCV115E) VCT OUTLET ISO	2	B	4	GA	MO	A	D-205039/2 (H-8)	O	C	AI	PIT STC	2Y CSD/RF	 CSJ-V-09
Q2E21V0565A (HV8175A) CVCS LETDOWN LINE ISO	2	B	3	GL	AO	A	D-205039/1 (A-10)	O	C	C	PIT STC	2Y CSD/RF	 CSJ-V-08
Q2E21V0565B (HV8175B) CVCS LETDOWN LINE PENE RM ISO	2	B	3	GL	AO	A	D-205039/1 (A-10)	O	C	C	STC PIT	CSD/RF 2Y	CSJ-V-08

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E22V0001A (MOV3872A)	Aug	B	10	GA	MO	A	D-205019 (D-5)	C	O	AI	PIT STO	2Y Q	
2A RX CAVITY H2 DILUTION FAN DAMPER													
Q2E22V0001B (MOV3782B)	Aug	B	10	GA	MO	A	D-205019 (E-5)	C	O	AI	PIT STO	2Y Q	
2B RX CAVITY H2 DILUTION FAN DAMPER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E23V0002 (MOV3740)	2	A	6	GL	MO	A	D-205019 (C-10)	LC	C	AI	STC LJ-C PIT	Q LJ 2Y	
CTMT POST-LOCA VENT (PEN 103)													
Q2E23V0003 (MOV3530)	2	A	6	GL	MO	A	D-205019 (C-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA VENT (PEN 103)													
Q2E23V0022A (MOV3528A)	2	A	3/4	GL	MO	A	D-205019 (B-8)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA SAMPLE (PEN 67)													
Q2E23V0022B (MOV3528B)	2	A	3/4	GL	MO	A	D-205019 (C-9)	LC	C	AI	STC LJ-C PIT	Q LJ 2Y	
CTMT POST-LOCA SAMPLE (PEN 67)													
Q2E23V0022C (MOV3528C)	2	A	3/4	GL	MO	A	D-205019 (D-8)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA SAMPLE (PEN 61A)													
Q2E23V0022D (MOV3528D)	2	A	3/4	GL	MO	A	D-205019 (D-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA SAMPLE (PEN 61A)													
Q2E23V0023A (MOV3739A)	2	A	3/4	GL	MO	A	D-205019 (C-10)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE (PEN 67)													
Q2E23V0023B (MOV3739B)	2	A	3/4	GL	MO	A	D-205019 (D-10)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE (PEN 61A)													
Q2E23V0024A (MOV3745A)	2	A	3/4	GL	MO	A	D-205019 (G-10)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT AIR SAMPLE RETURN (PEN 66)													
Q2E23V0024B (MOV3745B)	2	A	3/4	GL	MO	A	D-205019 (F-10)	LC	C	AI	STC LJ-C PIT	Q LJ 2Y	
CTMT AIR SAMPLE RETURN (PEN 61B)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2E23V0025A (MOV3835A)	2	A	3/4	GL	MO	A	D-205019 (G-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA SAMPLE RETURN (PEN 66)													
Q2E23V0025B (MOV3835B)	2	A	3/4	GL	MO	A	D-205019 (F-9)	LC	C	AI	PIT STC LJ-C	2Y Q LJ	
CTMT POST-LOCA SAMPLE RETURN (PEN 61B)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N2G21V0222	Aug	C	3/4X1	SR	S	A	D-205004/1 (H-7)	C	O/C	NA	ETSP	T	
CTMT SUMP PUMP RELIEF VALVE (PEN 78)													
Q2G21HV3376	2	A	3	GL	AO	A	D-205004/1 (H-8)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT SUMP PUMP DISCHARGE (PEN 78)													
Q2G21HV3377	2	A	3	GL	AO	A	D-205004/1 (H-8)	O	C	C	STC LJ-C PIT	Q LJ 2Y	
CTMT SUMP PUMP DISCHARGE (PEN 78)													
Q2G21HV3380	2	A	2	GL	AO	A	D-205004/1 (G-8)	O	C	C	PIT STC LJ-C	2Y Q LJ	
CTMT SUMP RECIRCULATION (PEN 33)													
Q2G21V0001 (HV7150)	2	A	3/4	D	AO	A	D-205042/1 (B-5)	C	C	C	PIT STC LJ-C	2Y Q LJ	
RX COOLANT DRAIN TANK VENT TO WASTE GAS SYSTEM (PEN 62)													
Q2G21V0005 (V7135)	2	A	3	D	M	P	D-205042/1 (C-11)	LC	LC	N/A	LJ-C	LJ	
RCDT PUMP DISCH CONTROL VALVE BYPASS (PEN 31)													
Q2G21V0006 (HV7136)	2	A	3	D	AO	A	D-205042/1 (C-10)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCDT PUMP DISCH TO RECYCLE HOLDUP TANK (PEN 31)													
Q2G21V0064 (LCV1003)	2	A	3	GL	AO	A	D-205042/1 (C-10)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCDT PUMP DISCH CONTROL VALVE (PEN 31)													
Q2G21V0082 (HV7126)	2	A	3/4	D	AO	A	D-205042/1 (C-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCDT VENT TO WASTE GAS SYSTEM (PEN 62)													
Q2G21V0204	2	AC	2	CK	S	A	D-205004/1 (G-9)	O/C	O/C	N/A	ETO ETC LJ-C	RF RF LJ	ROJ-V-24 ROJ-V-24
CTMT SUMP RECIRC (PEN 33)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2G21V0291	2	AC	3/4	CK	S	A	D-205004/1 (H-8)	C	O/C	N/A	ETO ETC LJ-C	RF RF LJ	ROJ-V-25 ROJ-V-25
CTMT SUMP PUMP DISCHARGE													
Q2G21V0950	2	AC	3/4X1	SR	S	A	D-205042 (C-9)	C	O/C	NA	ETSP LJ-C	T LJ	
WASTE PROCESSING SYSTEM (PEN 31) RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2G24V0003A (HV7614A) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-205071/1 (E-3)	O/C	C	C	PIT STC	2Y Q	
Q2G24V0003B (HV7614B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-205071/1 (G-3)	O/C	C	C	PIT STC	2Y Q	
Q2G24V0003C (HV7614C) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-205071/1 (H-3)	O/C	C	C	PIT STC	2Y Q	
Q2G24V0005A (HV7697A) SG BLOWDOWN BLOCK VALVE	2	B	2	GL	AO	A	D-205071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q2G24V0005B (HV7698A) SG BLOWDOWN BLOCK VALVE	2	B	2	GL	AO	A	D-205071/1 (D-4)	O/C	C	C	STC PIT	Q 2Y	
Q2G24V0005C (HV7699A) SG BLOWDOWN BLOCK VALVE	2	B	2	GL	AO	A	D-205071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q2G24V0006A (HV7697B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-205071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q2G24V0006B (HV7698B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-205071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	
Q2G24V0006C (HV7699B) SG BLOWDOWN ISOLATION VALVE	2	B	2	GL	AO	A	D-205071/1 (D-4)	O/C	C	C	PIT STC	2Y Q	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2G31V0012	2	A	2	D	M	P	D-205043 (B-4)	LC	C	N/A	LJ-C	LJ	
SPENT FUEL POOL CLEAN-UP TO REACTOR CAVITY (PEN 95)													
Q2G31V0013	2	AC	2	CK	S	P	D-205043 (B-3)	C	C	N/A	LJ-C	LJ	
SPENT FUEL POOL CLEAN-UP TO REACTOR CAVITY (PEN 95)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2N11PV3371A	2	B	6	GL	AO	A	D-205033 (E-6)	C	O/C	C	STC STO	CSD/RF CSD/RF	
MAIN STEAM LINE ATMOSPHERIC VENT VALVE													
Q2N11PV3371B	2	B	6	GL	AO	A	D-205033 (D-6)	C	O/C	C	STC STO	CSD/RF CSD/RF	
MAIN STEAM LINE ATMOSPHERIC VENT VALVE													
Q2N11PV3371C	2	B	6	GL	AO	A	D-205033 (B-6)	C	O/C	C	STC STO	CSD/RF CSD/RF	
MAIN STEAM LINE ATMOSPHERIC VENT VALVE													
Q2N11V0001A (HV3369A)	2	BC	32	CK	AO/S	A	D-205033/1 (G-7)	O	C	C	PIT BDTO STC	2Y Normal Ops CSD/RF	CSJ-V-12
MAIN STEAM ISOLATION VALVE													
Q2N11V0001B (HV3369B)	2	BC	32	CK	AO/S	A	D-205033/1 (E-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-12
MAIN STEAM ISOLATION VALVE													
Q2N11V0001C (HV3369C)	2	BC	32	CK	AO/S	A	D-205033/1 (B-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-12
MAIN STEAM ISOLATION VALVE													
Q2N11V0002A (HV3370A)	2	BC	32	CK	AO/S	A	D-205033/1 (G-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-12
MAIN STEAM ISOLATION VALVE													
Q2N11V0002B (HV3370B)	2	BC	32	CK	AO/S	A	D-205033/1 (E-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-12
MAIN STEAM ISOLATION VALVE													
Q2N11V0002C (HV3370C)	2	BC	32	CK	AO/S	A	D-205033/1 (B-8)	O	C	C	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-12
MAIN STEAM ISOLATION VALVE													
Q2N11V0003A (HV3368A)	2	B	3	GA	AO	A	D-205033/1 (G-7)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13
MAIN STEAM ISOLATION BYPASS													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q2N11V0003B (HV3368B) MAIN STEAM ISOLATION BYPASS	2	B	3	GA	AO	A	D-205033/1 (E-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
Q2N11V0003C (HV3368C) MAIN STEAM ISOLATION BYPASS	2	B	3	GA	AO	A	D-205033/1 (C-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
Q2N11V0003D (HV3976A) MAIN STEAM ISOLATION BYPASS	2	B	3	GA	AO	A	D-205033/1 (G-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
Q2N11V0003E (HV3976B) MAIN STEAM ISOLATION BYPASS	2	B	3	GA	AO	A	D-205033/1 (E-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
Q2N11V0003F (HV3976C) MAIN STEAM ISOLATION BYPASS	2	B	3	GA	AO	A	D-205033/1 (C-8)	C	C	C	PIT STC	2Y CSD/RF	CSJ-V-13	
Q2N11V0010A MAIN STEAM SAFETY	2	C	6 X 10	SR	S	A	D-205033/1 (G-3)	C	O/C	NA	ETSP	T		
Q2N11V0010B MAIN STEAM SAFETY	2	C	6 X 10	SR	S	A	D-205033/1 (G-4)	C	O/C	N/A	ETSP	T		
Q2N11V0010C MAIN STEAM SAFETY	2	C	6 X 10	SR	S	A	D-205033/1 (G-4)	C	O/C	N/A	ETSP	T		
Q2N11V0010D MAIN STEAM SAFETY	2	C	6 X 10	SR	S	A	D-205033/1 (G-4)	C	O/C	N/A	ETSP	T		
Q2N11V0010E MAIN STEAM SAFETY	2	C	6 X 10	SR	S	A	D-205033/1 (G-5)	C	O/C	NA	ETSP	T		

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2N11V0011A	2	C	6 X 10	SR	S	A	D-205033/1 (D-3)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0011B	2	C	6 X 10	SR	S	A	D-205033/1 (D-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0011C	2	C	6 X 10	SR	S	A	D-205033/1 (D-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0011D	2	C	6 X 10	SR	S	A	D-205033/1 (D-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0011E	2	C	6 X 10	SR	S	A	D-205033/1 (D-5)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0012A	2	C	6 X 10	SR	S	A	D-205033/1 (B-3)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0012B	2	C	6 X 10	SR	S	A	D-205033/1 (B-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0012C	2	C	6 X 10	SR	S	A	D-205033/1 (B-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0012D	2	C	6 X 10	SR	S	A	D-205033/1 (B-4)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													
Q2N11V0012E	2	C	6 X 10	SR	S	A	D-205033/1 (B-5)	C	O/C	NA	ETSP	T	
MAIN STEAM SAFETY													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2N12HV3226	3	B	3	GL	AO	A	D-205033/2 (D-5)	C	O	O	STO PIT	Q 2Y	
MAIN STEAM TO TDAFW PUMP													
Q2N12HV3234A	2	B	1	GL	AO	A	D-205033/2 (G-8)	O	C	C	PIT STC	2Y Q	
MAIN STM LINE TO TDAFW PUMP WARM-UP LINE													
Q2N12HV3234B	2	B	1	GL	AO	A	D-205033/2 (C-8)	O	C	C	STC PIT	Q 2Y	
MAIN STM LINE TO TDAFW PUMP WARM-UP LINE													
Q2N12MOV3406	3	B	3	GL	MO	P	D-205033/2 (D-4)	O	O	AI	PIT	2Y	
TDAFW TRIP THROTTLE VLV													
Q2N12V0001A (HV3235A)	2	BC	3	SC	AO/S	A	D-205033/2 (E-8)	C	O/C	O	PIT ETC ETO	2Y Q Q	
MAIN STEAM TO TDAFW PUMP SHUTOFF VALVE													
Q2N12V0001B (HV3235B)	2	BC	3	SC	AO/S	A	D-205033/2 (D-8)	C	O/C	O	PIT ETC ETO	2Y Q Q	
MAIN STEAM TO TDAFW PUMP SHUTOFF VALVE													
Q2N12V0010A	3	C	4	CK	S	A	D-205033/2 (E-6)	C	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-26
MAIN STEAM TO TDAFW PUMP TURBINE													
Q2N12V0010B	3	C	4	CK	S	A	D-205033/2 (C-6)	C	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-26
MAIN STEAM TO TDAFW PUMP TURBINE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q2C22FCV478	Aug	B	14	A	AO	A	D-205073 (G-5)	O	C	C	PIT STC	2Y CSD/RF		
MAIN FEEDWATER REGULATOR														
Q2C22FCV479	Aug	B	6	GA	AO	A	D-205073 (F-5)	O	C	C	PIT STC	2Y CSD/RF		
MAIN FEEDWATER REGULATOR BYPASS														
Q2C22FCV488	Aug	B	14	A	AO	A	D-205073 (D-5)	O	C	C	PIT STC	2Y CSD/RF		
MAIN FEEDWATER REGULATOR														
Q2C22FCV489	Aug	B	6	GA	AO	A	D-205073 (D-5)	O	C	C	PIT STC	2Y CSD/RF		
MAIN FEEDWATER REGULATOR BYPASS														
Q2C22FCV498	Aug	B	14	A	AO	A	D-205073 (B-5)	O	C	C	PIT STC	2Y CSD/RF		
MAIN FEEDWATER REGULATOR														
Q2C22FCV499	Aug	B	6	GA	AO	A	D-205073 (A-5)	O	C	C	PIT STC	2Y CSD/RF		
MAIN FEEDWATER REGULATOR BYPASS														
Q2N21V0001A (MOV3232A)	2	BC	14	SC	MO/S	A	D-205073 (G-7)	O	C	NA	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-14	
MAIN FEEDWATER SUPPLY														
Q2N21V0001B (MOV3232B)	2	BC	14	SC	MO/S	A	D-205073 (E-7)	O	C	NA	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-14	
MAIN FEEDWATER SUPPLY														
Q2N21V0001C (MOV3232C)	2	BC	14	SC	MO/S	A	D-205073 (B-7)	O	C	NA	PIT STC BDTO	2Y CSD/RF Normal Ops	CSJ-V-14	
MAIN FEEDWATER SUPPLY														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N2N23V0001	Aug	C	3	CK	S	A	D-205007 (F-4)	C	O	NA	ETO	Q	
TDAFW PUMP MINI FLOW CHECK VALVE													
N2N23V0005	Aug	C	3	CK	S	A	D-205007 (C-6)	C	O	NA	ETO	Q	
MDAFW PUMP MINI FLOW													
N2N23V0009	Aug	C	3	CK	S	A	D-205007 (D-6)	C	O	NA	ETO	Q	
MDAFW PUMP MINI FLOW													
N2N23V0013	Aug	C	6	CK	S	A	D-205007 (F-2)	C	O	NA	ETO	Q	
AFW PUMPS TO CONDENSATE STORAGE TANK													
Q2N23HV3227A	3	B	3	GL	AO	A	D-205007 (B-8)	O	O	O	PIT STO	2Y Q	
MDAFW PUMP TO SG 2A FCV													
Q2N23HV3227B	3	B	3	GL	AO	A	D-205007 (D-8)	O	O	O	PIT STO	2Y Q	
MDAFW PUMP TO SG 2B DISCHARGE FCV													
Q2N23HV3227C	3	B	3	GL	AO	A	D-205007 (G-8)	O	O	O	PIT STO	2Y Q	
MDAFW PUMP TO SG 2C DISCHARGE FCV													
Q2N23HV3228A	3	B	3	GL	AO	A	D-205007 (C-8)	O	O	O	PIT STO	2Y Q	
TDAFW PUMP TO 2A SG FCV													
Q2N23HV3228B	3	B	3	GL	AO	A	D-205007 (F-8)	O	O	O	PIT STO	2Y Q	
TDAFW PUMP TO SG 2B FCV													
Q2N23HV3228C	3	B	3	GL	AO	A	D-205007 (H-8)	O	O	O	PIT STO	2Y Q	
TDAFW PUMP TO SG 2C FCV													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q2N23V0002A	3	C	4	CK	S	A	D-205007 (B-6)	C	O/C	NA	ETC ETO	Q CSD/RF	CSJ-V-15	
MDAFW 2A DISCHARGE TO SG														
Q2N23V0002B	3	C	4	CK	S	A	D-205007 (E-6)	C	O/C	NA	ETC ETO	Q CSD/RF	CSJ-V-15	
MDAFW 2B DISCHARGE TO SG														
Q2N23V0002C	3	C	4	CK	S	A	D-205007 (B-9)	C	O	NA	ETO BDTC	CSD/RF RF	CSJ-V-15	
MDAFW DISCHARGE TO SG 2A														
Q2N23V0002D	3	C	4	CK	S	A	D-205007 (C-9)	C	O/C	NA	ETC ETO	CSD/RF CSD/RF	CSJ-V-16 CSJ-V-15	
TDAFW DISCHARGE TO SG 2A														
Q2N23V0002E	3	C	4	CK	S	A	D-205007 (D-9)	C	O	NA	ETO BDTC	CSD/RF RF	CSJ-V-15	
MDAFW DISCHARGE TO SG 2B														
Q2N23V0002F	3	C	4	CK	S	A	D-205007 (F-9)	C	O/C	NA	ETC ETO	CSD/RF CSD/RF	CSJ-V-16 CSJ-V-15	
TDAFW DISCHARGE TO SG 2B														
Q2N23V0002G	3	C	4	CK	S	A	D-205007 (G-9)	C	O	NA	ETO BDTC	CSD/RF RF	CSJ-V-15	
MDAFW DISCHARGE TO SG 2C														
Q2N23V0002H	3	C	4	CK	S	A	D-205007 (H-9)	C	O/C	NA	ETC ETO	CSD/RF CSD/RF	CSJ-V-16 CSJ-V-15	
TDAFW DISCHARGE TO SG 2C														
Q2N23V0003	3	C	6	CK	S	A	D-205007 (G-6)	C	O	NA	ETO BDTC	CSD/RF RF	CSJ-V-15	
TDAFW DISCHARGE TO SG														
Q2N23V0006	3	C	8	CK	S	A	D-205007 (H-3)	C	O/C	NA	ETC ETO	CSD/RF CSD/RF	CSJ-V-17 CSJ-V-15	
TDAFW PUMP SUCTION FROM CONDENSATE STORAGE TANK														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q2N23V0007A	3	C	6	CK	S	A	D-205007 (B-3)	C	O/C	NA	ETC ETO	CSD/RF CSD/RF	CSJ-V-17 CSJ-V-15	
MDAFW PUMP SUCTION FROM CONDENSATE STORAGE TANK														
Q2N23V0007B	3	C	6	CK	S	A	D-205007 (E-3)	C	O/C	NA	ETC ETO	CSD/RF CSD/RF	CSJ-V-17 CSJ-V-15	
MDAFW PUMP SUCTION FROM CONDENSATE STORAGE TANK														
Q2N23V0011A (MOV3350A)	2	C	4	CK	MO/S	A	D-205007 (B-10)	C	O/C	NA	ETO STC PIT	CSD/RF Q 2Y	CSJ-V-15	
AUX FEEDWATER TO SG 2A														
Q2N23V0011B (MOV3350B)	2	C	4	CK	MO/S	A	D-205007 (D-10)	C	O/C	NA	ETO STC PIT	CSD/RF Q 2Y	CSJ-V-15	
AUX FEEDWATER TO SG 2B														
Q2N23V0011C (MOV3350C)	2	C	4	CK	MO/S	A	D-205007 (G-10)	C	O/C	NA	ETO STC PIT	CSD/RF Q 2Y	CSJ-V-15	
AUX FEEDWATER TO SG 2C														
Q2N23V0013A (MOV3210A)	3	B	6	GA	MO	A	D-205007 (A-3)	C	O	AI	PIT STO	2Y RF	ROJ-V-27	
MDAFW PUMP SW INLET														
Q2N23V0013B (MOV3210B)	3	B	6	GA	MO	A	D-205007 (D-3)	C	O	AI	PIT STO	2Y RF	ROJ-V-27	
MDAFW PUMP SW INLET														
Q2N23V0014A (MOV3209A)	3	B	8	GA	MO	A	D-205007 (A-2)	C	O	AI	PIT STO	2Y RF	ROJ-V-27	
MDAFW PUMP SW INLET														
Q2N23V0014B (MOV3209B)	3	B	8	GA	MO	A	D-205007 (D-2)	C	O	AI	PIT STO	2Y RF	ROJ-V-27	
MDAFW PUMP SW INLET														
Q2N23V0014C (MOV3216)	3	B	8	GA	MO	A	D-205007 (G-3)	C	O	AI	PIT STO	2Y RF	ROJ-V-27	
TDAFW PUMP SW INLET														

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2N23V0025A (MOV3764A)	3	B	4	GA	MO	A	D-205007 (B-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 2A													
Q2N23V0025B (MOV3764B)	3	B	4	GA	MO	A	D-205007 (D-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 2B													
Q2N23V0025C (MOV3764C)	3	B	4	GA	MO	A	D-205007 (F-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 2C													
Q2N23V0025D (MOV3764D)	3	B	4	GA	MO	A	D-205007 (D-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 2B													
Q2N23V0025E (MOV3764E)	3	B	4	GA	MO	A	D-205007 (B-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 2A													
Q2N23V0025F (MOV3764F)	3	B	4	GA	MO	A	D-205007 (G-7)	O	C	AI	PIT STC	2Y Q	
MDAFW PUMP TO SG 2C													
Q2N23V0081A (PSV2922A)	3	C	1.5X2	SR	S	A	D-205007 (B-4)	C	O/C	NA	ETSP	T	
2A MDAFW PUMP SUCTION RELIEF VALVE													
Q2N23V0081B (PSV2922B)	3	C	1.5X2	SR	S	A	D-205007 (D-4)	C	O/C	NA	ETSP	T	
2B MDAFW PUMP SUCTION RELIEF VALVE													
Q2N23V0081C (PSV2922C)	3	C	1.5X2	SR	S	A	D-205007 (G-4)	C	O/C	NA	ETSP	T	
TDAFW PUMP SUCTION RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2N25V0001A (HV3772A)	2	B	1/2	GL	AO	A	D-205000/1 (B-11)	O/C	C	C	PIT STC	2Y Q	
CHEMICAL INJECTION INTO FEEDWATER													
Q2N25V0001B (HV3772B)	2	B	1/2	GL	AO	A	D-205000/1 (D-11)	O/C	C	C	PIT STC	2Y Q	
CHEMICAL INJECTION INTO FEEDWATER													
Q2N25V0001C (HV3772C)	2	B	1/2	GL	AO	A	D-205000/1 (F-11)	O/C	C	C	PIT STC	2Y Q	
CHEMICAL INJECTION INTO FEEDWATER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P11V0001 (HV3659)	2	A	3	GL	AO	P	D-205047 (H-10)	C	C	C	PIT STC LJ-C	2Y Q LJ	
DEMIN WATER TO RPV HEAD STORAGE STAND (PEN 82)													
Q2P11V0002	2	AC	3	CK	S	P	D-205047 (G-10)	C	C	NA	LJ-C	LJ	
DEMIN WATER TO RPV HEAD STORAGE STAND (PEN 82)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ	Remarks
Q2P13V0281 (HV3198D) PURGE SUPPLY DAMPER (PEN 12)	2	A	48	B	AO	A	D-205010/2 (F-3)	C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-18	
Q2P13V0282 (HV3197) PURGE SUPPLY DAMPER (PEN 12)	2	A	48	B	AO	A	D-205010/1 (G-10)	C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-18	
Q2P13V0283 (HV3196) CTMT PURGE EXHAUST (PEN 13)	2	A	48	B	AO	A	D-205010/1 (E-10)	C	C	C	PIT LJ-C STC	2Y LJ CSD/RF	CSJ-V-18	
Q2P13V0284 (HV3198A) CTMT PURGE EXHAUST (PEN 13)	2	A	48	B	AO	A	D-205010/2 (D-3)	C	C	C	PIT STC LJ-C	2Y CSD/RF LJ	CSJ-V-18	
Q2P13V0301 (HV2866C) CTMT MINI-PURGE SUPPLY (PEN 12)	2	A	8	B	AO	A	D-205010/2 (F-3)	O	C	C	PIT STC LJ-C	2Y Q LJ		
Q2P13V0302 (HV2866D) CTMT MINI-PURGE SUPPLY (PEN 12)	2	A	8	B	AO	A	D-205010/1 (G-10)	O	C	C	PIT STC LJ-C	2Y Q LJ		
Q2P13V0303 (HV2867C) CTMT MINI-PURGE EXHAUST (PEN 13)	2	A	8	B	AO	A	D-205010/2 (D-3)	O	C	C	STC LJ-C PIT	Q LJ 2Y		
Q2P13V0304 (HV2867D) CTMT MINI-PURGE EXHAUST (PEN 13)	2	A	8	B	AO	A	D-205010/1 (E-10)	O	C	C	PIT STC LJ-C	2Y Q LJ		

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P15HV3179A	2	B	3/8	GL	AO	A	D-205009/2 (A-3)	O/C	C	C	PIT STC	2Y Q	
SG 2A BLOWDOWN LOWER ISOLATION VALVE													
Q2P15HV3179C	2	B	3/8	GL	AO	A	D-205009/2 (A-3)	O/C	C	C	PIT STC	2Y Q	
SG 2A BLOWDOWN SAMPLE ISOLATION VALVE													
Q2P15HV3180A	2	B	3/8	GL	AO	A	D-205009/2 (C-3)	O/C	C	C	PIT STC	2Y Q	
SG 2B BLOWDOWN LOWER ISOLATION VALVE													
Q2P15HV3180C	2	B	3/8	GL	AO	A	D-205009/2 (C-3)	O/C	C	C	PIT STC	2Y Q	
SG 2B BLOWDOWN SAMPLE ISOLATION VALVE													
Q2P15HV3181A	2	B	3/8	GL	AO	A	D-205009/2 (E-3)	O/C	C	C	PIT STC	2Y Q	
SG 2C BLOWDOWN LOWER ISOLATION VALVE													
Q2P15HV3181C	2	B	3/8	GL	AO	A	D-205009/2 (E-3)	O/C	C	C	PIT STC	2Y Q	
SG 2C BLOWDOWN SAMPLE ISOLATION VALVE													
Q2P15HV3328	2	B	3/8	GL	AO	A	D-205009/2 (A-3)	O/C	C	C	PIT STC	2Y Q	
SG 2A BLOWDOWN SAMPLE ISOLATION VALVE													
Q2P15HV3329	2	B	3/8	GL	AO	A	D-205009/2 (C-4)	O/C	C	C	PIT STC	2Y Q	
SG 2B BLOWDOWN SAMPLE ISOLATION VALVE													
Q2P15HV3330	2	B	3/8	GL	AO	A	D-205009/2 (E-3)	O/C	C	C	PIT STC	2Y Q	
SG 2C BLOWDOWN SAMPLE ISOLATION VALVE													
Q2P15HV3334	2	A	3/8	GL	AO	A	D-205009/1 (G-5)	C	C	C	PIT STC LJ-C	2Y Q LJ	
ACCUMULATOR TANKS SAMPLE (PEN 50)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P15HV3766	2	A	3/8	GL	AO	A	D-205009/1 (G-4)	C	C	C	PIT STC LJ-C	2Y Q LJ	
ACCUMULATOR TANKS SAMPLE (PEN 50)													
Q2P15SV3103	2	A	3/8	GL	SO	A	D-205009/1 (A-3)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCS PRESSURIZER LIQUID SAMPLE (PEN 57)													
Q2P15SV3104	2	A	3/8	GL	SO	A	D-205009/2 (F-2)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRESSURIZER STEAM SAMPLE TO GFFD (PEN 56)													
Q2P15SV3331	2	A	3/8	GL	SO	A	D-205009/2 (F-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRESSURIZER STEAM SAMPLE LINE CTMT ISO (PEN 56)													
Q2P15SV3332	2	A	3/8	GL	SO	A	D-205009/1 (A-5)	O	C	C	PIT STC LJ-C	2Y Q LJ	
PRESSURIZER LIQUID SAMPLE TO GFFD (PEN 57)													
Q2P15SV3333	2	A	3/8	GL	SO	A	D-205009/1 (C-5)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCS (HL) SAMPLE TO GFFD (PEN 58)													
Q2P15SV3765	2	A	3/8	GL	SO	A	D-205009/1 (C-4)	O	C	C	PIT STC LJ-C	2Y Q LJ	
RCS (HL) SAMPLE TO GFFD (PEN 58)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N2P16V0718A	Aug	C	2.5	VR	S	A	D-200013/4 (B-10)	C	O/C	C	ETO ETC	RF RF	
SW VACUUM BREAKERS - TURBINE BLDG HVAC													
N2P16V0718B	Aug	C	2.5	VR	S	A	D-200013/4 (B-10)	C	O/C	C	ETO ETC	RF RF	
SW VACUUM BREAKERS - TURBINE BLDG HVAC													
Q2P16V0003A (MOV3130A)	3	B	20	B	MO	P	D-205003/1 (E-2)	O	O	AI	PIT	2Y	
SW TO CCW HX INLET LINE ISO VALVE													
Q2P16V0003B (MOV3130B)	3	B	20	B	MO	P	D-205003/1 (F-2)	O	O	AI	PIT	2Y	
SW TO CCW HX INLET LINE ISO VALVE													
Q2P16V0003C (MOV3130C)	3	B	20	B	MO	P	D-205003/1 (H-2)	O	O	AI	PIT	2Y	
SW TO CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0010A (MOV3019A)	2	B	12	B	MO	A	D-205003/1 (A-7)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW TO CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0010B (MOV3019B)	2	B	12	B	MO	A	D-205003/1 (C-7)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW TO CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0010C (MOV3019C)	2	B	12	B	MO	A	D-205003/1 (E-7)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW TO CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0010D (MOV3019D)	2	B	12	B	MO	A	D-205003/1 (F-7)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW TO CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0011A (PSV3020A)	3	C	1 1/2X2	SR	S	A	D-275003/1 (A-8)	C	O/C	NA	ETSP	T	
SW SUPPLY TO CTMT COOLERS RELIEF													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0011B (PSV3020B) SW SUPPLY TO CTMT COOLERS RELIEF	3	C	1 1/2X2	SR	S	A	D-275003/1 (C-8)	C	O/C	NA	ETSP	T	
Q2P16V0011C (PSV3020C) SW SUPPLY TO CTMT COOLERS RELIEF	3	C	1 1/2X2	SR	S	A	D-275003/1 (E-8)	C	O/C	NA	ETSP	T	
Q2P16V0011D (PSV3020D) SW SUPPLY TO CTMT COOLERS RELIEF	3	C	1 1/2X2	SR	S	A	D-275003/1 (F-8)	C	O/C	NA	ETSP	T	
Q2P16V0015A (PSV3142A) AFW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-205003/2 (B-3)	C	O/C	NA	ETSP	T	
Q2P16V0015B (PSV3142B) AFW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-205003/2 (D-3)	C	O/C	NA	ETSP	T	
Q2P16V0020A (PSV3137A) RHR/LHSI PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-205003/2 (B-6)	C	O/C	NA	ETSP	T	
Q2P16V0020B (PSV3137B) RHR/LHSI PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-205003/2 (B-7)	C	O/C	NA	ETSP	T	
Q2P16V0025A (PSV3138A) CCW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-205003/2 (D-7)	C	O/C	NA	ETSP	T	
Q2P16V0025B (PSV3138B) CCW PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-205003/2 (D-7)	C	O/C	NA	ETSP	T	
Q2P16V0035A (PSV3139A) CTMT SPRAY PUMP ROOM COOLER RELIEF	3	C	3/4 X 1	SR	S	A	D-205003/2 (E-7)	C	O/C	NA	ETSP	T	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0035B (PSV3139B)	3	C	3/4 X 1	SR	S	A	D-205003/2 (F-7)	C	O/C	NA	ETSP	T	
CTMT SPRAY PUMP ROOM COOLER RELIEF													
Q2P16V0043A (MOV3024A)	2	B	10	B	MO	A	D-205003/1 (A-10)	C	O/C	AI	PIT STC STO	2Y Q Q	
SW EMERG FROM CTMT COOLER 2A													
Q2P16V0043B (MOV3024B)	2	B	10	B	MO	A	D-205003/1 (C-10)	C	O/C	AI	PIT STO STC	2Y Q Q	
SW EMERG FROM CTMT COOLER 2B													
Q2P16V0043C (MOV3024C)	2	B	10	B	MO	A	D-205003/1 (E-10)	C	O/C	AI	PIT STC STO	2Y Q Q	
SW EMERG FROM CTMT COOLER 2C													
Q2P16V0043D (MOV3024D)	2	B	10	B	MO	A	D-205003/1 (G-10)	C	O/C	AI	PIT STO STC	2Y Q Q	
SW EMERG FROM CTMT COOLER 2D													
Q2P16V0044A (MOV3023A)	2	B	6	B	MO	A	D-205003/1 (B-10)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q2P16V0044B (MOV3023B)	2	B	6	B	MO	A	D-205003/1 (D-10)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q2P16V0044C (MOV3023C)	2	B	6	B	MO	A	D-205003/1 (E-10)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q2P16V0044D (MOV3023D)	2	B	6	B	MO	A	D-205003/1 (G-10)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLERS													
Q2P16V0052 (MOV3149)	3	B	10	B	MO	A	D-205003/2 (E-2)	O	C	AI	PIT STC	2Y Q	
SW TO SG BLOWDOWN HX AND BTRS CHILLER UNITS													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0064 (MOV3150)	3	B	10	B	MO	A	D-205003/2 (E-4)	O	C	AI	PIT STC	2Y Q	
SW FROM SG BLOWDOWN HX AND BTRS CHILLER UNITS													
Q2P16V0069A	3	C	30	CK	S	A	D-200013/8 (C-10)	O	O	NA	BDTC ETO	RF Q	
AUX BLDG A TRAIN SW DISCHARGE LINE CHECK VALVE													
Q2P16V0069B	3	C	30	CK	S	A	D-200013/8 (A-10)	O	O	NA	BDTC ETO	RF Q	
AUX BLDG B TRAIN SW DISCHARGE LINE CHECK VALVE													
Q2P16V0070A	3	C	16	CK	S	A	D-205003/1 (C-6)	O	O	NA	ETO BDTC	Q Q	
A TRAIN SW TO CTMT COOLERS HEADER CHECK VALVE													
Q2P16V0070B	3	C	16	CK	S	A	D-205003/1 (E-6)	O	O	NA	ETO BDTC	Q Q	
B TRAIN SW TO CTMT COOLERS HEADER CHECK VALVE													
Q2P16V0071 (MOV3135)	2	A	6	B	MO	A	D-205003/2 (B-9)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
SW TO RCP MOTOR COOLERS													
Q2P16V0072 (MOV3134)	2	A	6	B	MO	A	D-205003/2 (B-12)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
SW RETURN FROM RCP MOTOR COOLERS													
Q2P16V0075	2	AC	6	CK	S	A	D-205003/2 (B-9)	O	C	NA	BDTO ETC LJ-C	Normal Ops RF LJ	ROJ-V-28
SW TO RCP MOTOR COOLERS													
Q2P16V0081 (MOV3131)	2	A	6	B	MO	A	D-205003/2 (B-12)	O	C	AI	PIT STC LJ-C	2Y Q LJ	
SW RETURN FROM RCP MOTOR COOLERS													
Q2P16V0203 (PSV3397)	2	AC	3/4 X 1	SR	S	A	D-205003/2 (B-12)	C	O/C	NA	ETSP LJ-C	T LJ	
CTMT PEN NO 32 THERMAL RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0204 (PSV3401)	2	AC	3/4 X 1	SR	S	A	D-205003/2 (B-9)	C	O/C	NA	ETSP LJ-C	T LJ	
CTMT PEN NO 60 THERMAL RELIEF VALVE													
Q2P16V0206A	2	C	12	CK	S	A	D-205003/1 (A-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 2A CHECK VALVE													
Q2P16V0206B	2	C	12	CK	S	A	D-205003/1 (C-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 2B CHECK VALVE													
Q2P16V0206C	2	C	12	CK	S	A	D-205003/1 (E-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 2C CHECK VALVE													
Q2P16V0206D	2	C	12	CK	S	A	D-205003/1 (F-7)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-30
SW TO CTMT COOLER 2D CHECK VALVE													
Q2P16V0207A (MOV3441A)	2	B	10	B	MO	A	D-205003/1 (A-9)	O	O/C	AI	STO STC PIT	Q Q 2Y	
SW FROM CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0207B (MOV3441B)	2	B	10	B	MO	A	D-205003/1 (C-9)	O	O/C	AI	PIT STC STO	2Y Q Q	
SW FROM CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0207C (MOV3441C)	2	B	10	B	MO	A	D-205003/1 (E-9)	O	O/C	AI	PIT STO STC	2Y Q Q	
SW FROM CTMT AIR COOLER LINE ISO VAVLE													
Q2P16V0207D (MOV3441D)	2	B	10	B	MO	A	D-205003/1 (F-9)	O	O/C	AI	PIT STC STO	2Y Q Q	
SW FROM CTMT AIR COOLER LINE ISO VALVE													
Q2P16V0208A (PSV3442A)	2	C	1.5X2	SR	S	A	D-205003 (A-9)	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0208B (PSV3442B)	2	C	1.5X2	SR	S	A	D-205003 (C-9)	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													
Q2P16V0208C (PSV3442C)	2	C	1.5X2	SR	S	A	D-205003 (E-9)	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													
Q2P16V0208D (PSV3442D)	2	C	1.5X2	SR	S	A	D-205003 (F-9)	C	O/C	NA	ETSP	T	
CTMT COOLER SW RETURN RELIEF VALVE													
Q2P16V0506	3	B	42	B	MO	P	D-200013/2 (E-7)	AI	AI	AI	PIT	2Y	
2C SW PUMP TO B HDR ISO VALVE													
Q2P16V0507	3	B	42	B	MO	P	D-200013/2 (E-4)	AI	AI	AI	PIT	2Y	
2C SW PUMP TO A HDR ISO VALVE													
Q2P16V0508	3	B	42	B	MO	P	D-200013/2 (D-11)	O	O	AI	PIT	2Y	
SW INLET TO STRAINER LINE ISO VALVE													
Q2P16V0511	3	B	42	B	MO	P	D-200013/2 (D-3)	O	O	AI	PIT	2Y	
SW INLET TO STRAINER LINE ISO VALVE													
Q2P16V0514	3	B	24	B	MO	A	D-200013/8 (E-5)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW SUPPLY TO TURBINE BLDG-TRAIN B													
Q2P16V0515	3	B	24	B	MO	A	D-200013/8 (E-4)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW SUPPLY TO TURBINE BLDG-TRAIN A													
Q2P16V0516	3	B	24	B	MO	A	D-200013/8 (D-5)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW TRAIN A TO TURBINE BLDG													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0517	3	B	24	B	MO	A	D-200013/8 (D-3)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW TRAIN B TO TURBINE BLDG													
Q2P16V0518	3	B	12	B	MO	A	D-200013/3 (B-2)	O	O/C	AI	PIT STC	2Y Q	Note-1
SW TO DG HEADER-TRAIN B													
Q2P16V0519	3	B	12	B	MO	A	D-200013/3 (B-2)	O	O/C	AI	PIT STC	2Y Q	Note-1
SW TO DG HEADER-TRAIN A													
Q2P16V0536	3	B	12	B	MO	A	D-200013/3 (G-2)	O	O/C	AI	STC PIT	Q 2Y	Note-1
SW FROM DG HEADER-TRAIN B													
Q2P16V0537	3	B	12	B	MO	A	D-200013/3 (G-2)	O	O/C	AI	PIT STC	2Y Q	Note-1
SW FROM DG HEADER-TRAIN A													
Q2P16V0538	3	B	42	B	MO	A	D-200013/8 (C-10)	C	O	AI	PIT STO	2Y Q	
SW HEADER B EMERG RECIRC TO STORAGE POND													
Q2P16V0539	3	B	42	B	MO	A	D-200013/8 (E-9)	C	O	AI	PIT STO	2Y Q	
SW HEADER A EMERG RECIRC TO STORAGE POND													
Q2P16V0540	3	B	24	B	MO	A	D-200013/8 (D-9)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN A													
Q2P16V0541	3	B	24	B	MO	A	D-200013/8 (B-9)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN B													
Q2P16V0542	3	B	24	B	MO	A	D-200013/8 (D-10)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN A													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0543	3	B	24	B	MO	A	D-200013/8 (B-10)	O	C	AI	PIT STC	2Y CSD/RF	CSJ-V-19
SW RETURN FROM TURBINE BLDG ISOLATION - TRAIN B													
Q2P16V0545	3	B	30	B	MO	A	D-200013/8 (A-12)	O	C	AI	PIT STC	2Y Q	
SW HEADER B NORMAL DISC HDR ISO													
Q2P16V0546	3	B	30	B	MO	A	D-200013/8 (C-12)	O	C	AI	STC PIT	Q 2Y	
SW HEADER A NORMAL DISC HDR ISO													
Q2P16V0549	3	B	30	B	MO	A	D-200013/8 (E-12)	O	C	AI	PIT STC	2Y Q	
SW RETURN TO STANDPIPE LINE ISO VALVE													
Q2P16V0550	3	B	30	B	MO	A	D-200013/8 (B-13)	O	C	AI	PIT STC	2Y Q	
SW RETURN TO CIRC WATER CANAL LINE ISO VALVE													
Q2P16V0552	3	C	20	CK	S	A	D-200013/2 (H-2)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 2A DISCHARGE CHECK													
Q2P16V0553	3	C	20	CK	S	A	D-200013/2 (H-4)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 2B DISCHARGE CHECK													
Q2P16V0554	3	C	20	CK	S	A	D-200013/2 (H-6)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 2C DISCHARGE CHECK													
Q2P16V0555	3	C	20	CK	S	A	D-200013/2 (H-8)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 2D DISCHARGE CHECK													
Q2P16V0556	3	C	20	CK	S	A	D-200013/2 (H-10)	O/C	O/C	NA	ETO ETC	Q Q	
SW PUMP 2E DISCHARGE CHECK													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0557	3	B	24	B	MO	P	D-200013/8 (F-7)	O	O	AI	PIT	2Y	
SW DILUTION BYPASS LINE ISO VALVE													
Q2P16V0558	3	B	24	B	MO	P	D-200013/8 (F-3)	O	O	AI	PIT	2Y	
SW DILUTION BYPASS ISO A TRAIN													
Q2P16V0564	3	C	12	CK	S	A	D-200013/3 (G-2)	O	O	NA	BDTC ETPO ETO	RF ARFD RF	ROJ-V-32
DIESEL GENERATORS 'TRAIN B' SERVICE WATER													
Q2P16V0565	3	C	12	CK	S	A	D-200013/3 (G-2)	O	O	NA	BDTC ETPO ETO	RF ARFD RF	ROJ-V-32
DIESEL GENERATORS 'TRAIN A' SERVICE WATER CHECK VALVE													
Q2P16V0592	3	B	8	B	MO	P	D-200013/3 (D-7)	O	O	AI	PIT	2Y	
SW TO DG LINE ISO VALVE													
Q2P16V0593	3	B	8	B	MO	P	D-200013/3 (F-7)	O	O	AI	PIT	2Y	
2B DG SW SUPPLY													
Q2P16V0659	3	C	6	CK	S	A	D-200013/3 (C-3)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-31
UNIT 2 SW SUPPLY TO DG 2C													
Q2P16V0660	3	C	6	CK	S	A	D-200013/3 (C-10)	O	O/C	NA	ETPO ETO ETC	ARFD Q RF	ROJ-V-31
UNIT 2 SW SUPPLY TO DG 1C													
Q2P16V0661	3	C	8	CK	S	A	D-200013/3 (C-12)	O	O/C	NA	ETPO ETC ETO	ARFD RF Q	RR-V-01
UNIT 2 SW SUPPLY TO DG 1-2A													
Q2P16V0679	3	C	8	VR	S	A	D-200013/2 (B-10)	C	O/C	NA	ETO ETC	RF RF	
SW HEADER VACUUM BREAKER													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P16V0680	3	C	8	VR	S	A	D-200013/2 (B-4)	C	O/C	NA	ETO ETC	RF RF	
SW HEADER VACUUM BREAKER													
Q2P16V0720A	3	B	2	GL	MO	P	D-200014 (E-5)	O	O	AI	PIT	2Y	
SW FROM CYCLONE SEPARATOR TRAIN A OUTLET													
Q2P16V0720B	3	B	2	GL	MO	P	D-200014 (E-9)	O	O	AI	PIT	2Y	
SW FROM CYCLONE SEPARATOR TRAIN B OUTLET													
Q2P16V0721A	3	B	2	GL	MO	A	D-200014 (H-4)	O	C	AI	STC PIT	Q 2Y	
SW FROM CYCLONE SEPARATOR TRAIN A INLET													
Q2P16V0721B	3	B	2	GL	MO	A	D-200014 (H-9)	O	C	AI	PIT STC	2Y Q	
SW TO CYCLONE SEPARATOR TRAIN B INLET													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P17HV2229	3	B	2	GL	AO	A	D-205002/2 (H-2)	O	C	C	PIT STC	2Y Q	
CCW SUPPLY TO SAMPLE COOLERS													
Q2P17HV3045	2	A	3	GL	AO	A	D-205002/2 (D-6)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-33
CCW RETURN FROM RCP THERMAL BARRIER (PEN 43)													
Q2P17HV3067	2	A	6	GL	AO	A	D-205002/2 (E-6)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-36
CCW RETURN FROM EXCESS LETDOWN HX (PEN 46)													
Q2P17HV3095	2	A	6	GL	AO	A	D-205002/2 (E-1)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-36
CCW SUPPLY TO EXCESS LETDOWN HX (PEN 45)													
Q2P17HV3096A	3	B	8	B	AO	A	D-205002/2 (G-12)	O	C	C	PIT STC	2Y Q	
CCW TO RECYCLE SYS, WASTE GAS SYS, HYDROGEN RECOMBINER													
Q2P17HV3096B	3	B	8	B	AO	A	D-205002/2 (F-7)	O	C	C	PIT STC	2Y Q	
CCW FROM RECYCLE SYS, WASTE GAS SYS, HYDROGEN RECOMBINER													
Q2P17HV3184	2	A	3	GL	AO	A	D-205002/2 (D-6)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-33
CCW RETURN FROM RCP THERMAL BARRIER (PEN 43)													
Q2P17HV3443	2	A	6	GL	AO	A	D-205002/2 (E-5)	O	C	C	PIT STC LJ-C	2Y RF LJ	ROJ-V-36
CCW RETURN FROM EXCESS LETDOWN HX (PEN 46)													
Q2P17RV3028	3	B	2	GL	AO	A	D-205002/1 (A-2)	O	C	C	PIT STC	2Y Q	
CCW SURGE TANK VENT													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P17V0001A	3	C	18	CK	S	A	D-205002/1 (C-3)	O/C	O/C	NA	ETO ETC	Q Q	
CCW PUMP DISCHARGE CHECK VALVES													
Q2P17V0001B	3	C	18	CK	S	A	D-205002/1 (E-3)	O/C	O/C	NA	ETO ETC	Q Q	
CCW PUMP DISCHARGE CHECK VALVES													
Q2P17V0001C	3	C	18	CK	S	A	D-205002/1 (G-3)	O/C	O/C	NA	ETO ETC	Q Q	
CCW PUMP DISCHARGE CHECK VALVES													
Q2P17V0006A (PSV3040A)	3	C	3/4 X 1	SR	S	A	D-205002/1 (C-4)	C	O/C	NA	ETSP	T	
CCW HX RELIEF VALVE													
Q2P17V0006B (PSV3040B)	3	C	3/4 X 1	SR	S	A	D-205002/1 (E-4)	C	O/C	NA	ETSP	T	
CCW HX RELIEF VALVE													
Q2P17V0006C (PSV3040C)	3	C	3/4 X 1	SR	S	A	D-205002/1 (G-4)	C	O/C	NA	ETSP	T	
CCW HX RELIEF VALVE													
Q2P17V0011A (MOV3094A)	3	B	10	B	MO	P	D-205002/1 (D-8)	O	O	AI	PIT	2Y	
CCW INLET TO SFP CCW HX LINE ISO VALVE													
Q2P17V0011B (MOV3094B)	3	B	10	B	MO	P	D-205002/1 (G-8)	O	O	AI	PIT	2Y	
CCW INLET TO SFP CCW HX LINE ISO VALVE													
Q2P17V0029A (MOV3185A)	3	B	14	B	MO	A	D-205002/1 (F-10)	O/C	O	AI	PIT STO	2Y Q	
CCW TO RHR HX													
Q2P17V0029B (MOV3185B)	3	B	14	B	MO	A	D-205002/1 (C-11)	O/C	O	AI	PIT STO	2Y Q	
CCW TO RHR HX													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P17V0082 (MOV3052)	2	A	6	GA	MO	A	D-205002/2 (C-1)	O	C	AI	PIT STC LJ-C	2Y RF LJ	ROJ-V-33
CCW TO RCP (PEN 42)													
Q2P17V0083	2	AC	6	CK	S	A	D-205002/2 (C-2)	O	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-34
CCW TO RCP (PEN 42)													
Q2P17V0087A	3	C	2	CK	S	A	D-205002/2 (B-3)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-35
CCW INLET TO RCP THERMAL BARRIER CHECK VALVE													
Q2P17V0087B	3	C	2	CK	S	A	D-205002/2 (C-3)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-35
CCW INLET TO RCP THERMAL BARRIER CHECK VALVE													
Q2P17V0087C	3	C	2	CK	S	A	D-205002/2 (D-3)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-35
CCW INLET TO RCP THERMAL BARRIER CHECK VALVE													
Q2P17V0097 (MOV3046)	2	A	6	GA	MO	A	D-205002/2 (B-6)	O	C	AI	PIT STC LJ-C	2Y RF LJ	ROJ-V-33
CCW RETURN FROM RCP BEARINGS (PEN 44)													
Q2P17V0099 (MOV3182)	2	A	6	GA	MO	A	D-205002/2 (C-7)	O	C	AI	STC LJ-C PIT	RF LJ 2Y	ROJ-V-33
CCW RETURN FROM RCP BEARINGS (PEN 44)													
Q2P17V0111	3	C	14	CK	S	A	D-205002/1 (E-1)	O	C	NA	ETC BDTO	RF Normal Ops	ROJ-V-37
CCW PUMP SUCTION CHECK VALVE													
Q2P17V0115 (PSV3029)	3	C	4 X 6	SR	S	A	D-205002/1 (A-2)	C	O/C	NA	ETSP	T	
CCW SURGE TANK RELIEF VALVE													
Q2P17V0117A (MOV3031A)	3	B	2	GL	MO	A	D-205002/1 (A-5)	C	O/C	AI	STO STC PIT	Q Q 2Y	
RMW TO CCW SYSTEM													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P17V0117B (MOV3031B) RMW TO CCW SYSTEM	3	B	2	GL	MO	A	D-205002/1 (B-5)	C	O/C	AI	PIT STO STC	2Y Q Q	
Q2P17V0121A (MOV3030A) DEMIN WATER MAKEUP TO CCW SURGE TANK LINE ISO VALVE	3	B	2	GL	MO	A	D-205002/1 (A-5)	O/C	C	AI	PIT STC	2Y Q	
Q2P17V0121B (MOV3030B) DEMIN WATER MAKEUP TO CCW SURGE TANK LINE ISO VALVE	3	B	2	GL	MO	A	D-205002/1 (B-5)	O/C	C	AI	PIT STC	2Y Q	
Q2P17V0126A (PSV3354A) RHR HX RELIEF VALVE	3	C	1 1/2X2	SR	S	A	D-205002/1 (E-11)	C	O/C	NA	ETSP	T	
Q2P17V0126B (PSV3354B) RHR HX RELIEF VALVE	3	C	1 1/2X2	SR	S	A	D-205002/1 (B-11)	C	O/C	NA	ETSP	T	
Q2P17V0149A (PSV3381A) RHR PUMP SEAL COOLER RELIEF	3	C	1 X 1-1/2	SR	S	A	D-205002/1 (F-11)	C	O/C	NA	ETSP	T	
Q2P17V0149B (PSV3381B) RHR PUMP SEAL COOLER RELIEF	3	C	1 X 1-1/2	SR	S	A	D-205002/1 (B-9)	C	O/C	NA	ETSP	T	
Q2P17V0153 (PSV3413) THERMAL RELIEF VALVE ON CTMT PEN 45	2	AC	3/4 X 1	SR	S	A	D-205002/2 (E-2)	C	O/C	NA	ETSP LJ-C	T LJ	
Q2P17V0154 (PSV3414) THERMAL RELIEF VALVE ON CTMT PEN 46	2	AC	3/4 X 1	SR	S	A	D-205002/2 (F-6)	C	O/C	NA	ETSP LJ-C	T LJ	

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P17V0155 (PSV3415)	2	AC	3/4 X 1	SR	S	A	D-205002/2 (B-6)	C	O/C	NA	ETSP LJ-C	T LJ	
THERMAL RELIEF VALVE ON CTMT PEN 44													
Q2P17V0158 (PSV3444)	2	AC	3/4 X 1	SR	S	A	D-205002/2 (C-2)	C	O/C	NA	ETSP LJ-C	T LJ	
THERMAL RELIEF VALVE ON CTMT PEN 42													
Q2P17V0159	2	AC	6	CK	S	A	D-205002/2 (E-2)	O	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-34
CCW SUPPLY TO EXCESS LETDOWN HX (PEN 45)													
Q2P17V0263A	3	C	1	CK	S	A	D-205002/1 (A-2)	C	O	NA	ETSP	T	
CCW SURGE TANK VACUUM RELIEF													
Q2P17V0263B	3	C	1	CK	S	A	D-205002/1 (A-2)	C	O	NA	ETSP	T	
CCW SURGE TANK VACUUM RELIEF													
Q2P17V0288	3	C	2	CK	S	A	D-205002/2 (H-6)	O	C	NA	ETC BDTO	Q Normal Ops	
CCW RETURN FROM GROSS FAILED FUEL DETECTOR & SAMPLE COOLERS													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P18V0001	2	A	2	GL	M	P	D-205035/1 (G-7)	LC	C	NA	LJ-C	LJ	
SERVICE AIR TO PENETRATION ROOMS AND CONTAINMENT (PEN 47)													
Q2P18V0002	2	A	2	GL	M	P	D-205035/1 (G-7)	LC	C	NA	LJ-C	LJ	
SERVICE AIR TO PENETRATION ROOMS AND CONTAINMENT (PEN 47)													
Q2P18V0004	2	A	2	GL	M	P	D-205035/1 (B-12)	LC	C	NA	LJ-C	LJ	
BREATHING AIR TO CTMT HDR ISO (PEN 79)													
Q2P18V0005	2	A	2	GL	M	P	D-205035/1 (B-12)	LC	C	NA	LJ-C	LJ	
BREATHING AIR TO CTMT HDR ISO (PEN 79)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
N2P19PSV2228	Aug	C	3/4	SR	S	A	D-205034/4 (B-1)	C	O/C	NA	ETSP	T	
BACKUP NITROGEN SUPPLY TO PRESS PORVs													
N2P19V0007A	Aug	C	1/2	CK	S	A	D-205033/2 (E-9)	O/C	C	NA	ETC	RF	
INST AIR SUPPLY TO AUX STEAM VALVE Q2N12V001A AIR ACCUM													
N2P19V0007B	Aug	C	1/2	CK	S	A	D-205033/2 (D-9)	O/C	C	NA	ETC	RF	
INST AIR SUPPLY TO AUX STEAM VALVE Q2N12V001B AIR ACCUM													
N2P19V0236A	Aug	C	3/4	CK	S	A	D-205034/4 (B-7)	C	C	NA	ETC	RF	
INST AIR SUPPLY TO PORVS													
N2P19V0243	Aug	C	3/4	CK	S	A	D-205034/4 (C-3)	C	C	NA	ETC	RF	
INST AIR SUPPLY TO PORVS													
Q2P19HV2228 (V0006)	2	A	3/4	GL	AO	A	D-205034/4 (B-4)	C	O/C	C	PIT STO STC LJ-C	2Y Q Q LT	
BACKUP NITROGEN SUPPLY TO PRESSURIZER PORV'S (PEN 97B)													
Q2P19HV3611	2	A	2	GL	AO	A	D-205034/2 (E-5)	O	C	C	STC LJ-C PIT	RF LJ 2Y	ROJ-V-40
CTMT INSTRUMENT AIR SUPPLY (PEN 48)													
Q2P19V0002	2	AC	2	CK	S	A	D-205034/4 (E-3)	O	C	NA	ETC LJ-C BDTO	RF LJ Normal Ops	ROJ-V-38
CTMT INSTRUMENT AIR SUPPLY (PEN 48)													
Q2P19V0004	2	AC	1/2	CK	S	A	D-205034/4 (B-6)	O/C	O/C	NA	ETC ETO LJ-C	RF CSD/RF LJ	ROJ-V-39 CSJ-V-20
BACKUP AIR SUPPLY TO PRESSURIZER PORV'S (PEN 97B)													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P19V1099	2	A	3/4	GL	M	P	D-205034/1 (B-4)	LC	C	NA	LJ-C	LJ	
BACKUP NITROGEN SUPPLY BYPASS TO PORVS													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2P23V0002A (MOV3239)	2	A	8	GL	MO	P	D-205010/1 (G-2)	C	C	AI	LJ-C	LJ	
CTMT LEAK RATE TEST VALVE													
Q2P23V0002B (MOV3239)	2	A	8	GL	MO	P	D-205010/1 (G-2)	C	C	AI	LJ-C	LJ	
CTMT LEAK RATE TEST VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2R43V0519	Aug	B	3/8	TW	SO	A	D-200212 (C-8)	C	O	AI	ETO	Q	
2B DG AIR START SOLENOID													
Q2R43V0520	Aug	B	3/8	TW	SO	A	D-200212 (C-8)	C	O	AI	ETO	Q	
2B DG AIR START SOLENOID													
Q2R43V0532	Aug	C	3/4	CK	S	A	D-200212 (F-4)	O/C	C	NA	ETC BDTO	Q Normal Ops	
2B DG AIR RECEIVER A AIR DRYER CHECK VALVE													
Q2R43V0533	Aug	C	3/4	CK	S	A	D-200212 (F-8)	O/C	C	NA	ETC BDTO	Q Normal Ops	
2B DG AIR RECEIVER B AIR DRYER CHECK VALVE													
Q2R43V0538	Aug	C	1/2	SR	S	A	D-200212 (E-3)	C	O/C	NA	ETSP	T	
2B DG AIR RECEIVER TANK A PRESSURE RELIEF VALVE													
Q2R43V0539	Aug	C	1/2	SR	S	A	D-200121 (E-7)	C	O/C	NA	ETSP	T	
2B DG AIR RECEIVER TANK B PRESSURE RELIEF VALVE													

Valve ID	CC	Cat.	Size	Type	Act.	AP	PID (Coord)	NP	SP	FP	Test	Freq	RR/CSJ/ROJ Remarks
Q2V48V0001A (HV3538A)	Aug	B	16	B	AO	A	D-205022 (B-11)	O	O/C	C	PIT STC	2Y Q	
SFP FILTRATION SYS TO PENETRATION RM FILTER UNIT											STO	Q	
Q2V48V0001B (HV3538B)	Aug	B	16	B	AO	A	D-205022 (D-11)	O	O/C	C	PIT STO	2Y Q	
SFP FILTRATION SYS TO PENETRATION RM FILTER UNIT											STC	Q	

12.0 VALVE RELIEF REQUEST LOG

Relief Request	Component	Status
RR-V-1	Q1P16V0661 Q2P16V0661	Submitted to NRC for review.

Reference NRC letter to Mr. D. N. Morey dated October 29, 1998, titled "Relief Request for the Pump and Valve Inservice Testing Program – Joseph M. Farley Nuclear Plant, Units 1 and 2 (TAC Nos. M99186 and M99187)", NRC letter to Mr. D. N. Morey dated March 9, 2000, titled "Joseph M. Farley Nuclear Plant, Units 1 and 2, RE: Approval of Pump and Valve Inservice Testing Program Relief Requests (TAC Nos. MA5135 and MA5136)."

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(ii)
RR-V-1

PLANT/UNIT:	Joseph M. Farley Nuclear Plant / Units 1 and 2
INTERVAL:	4th Interval beginning December 1, 2007 and ending November 30, 2017.
COMPONENT(S) AFFECTED:	Q1P16V0661 Q2P16V0661
CODE EDITION AND ADDENDA:	ASME OM Code-2001 Edition with Addenda through OMb-2003
REQUIREMENTS:	Paragraph ISTC-5221(c)(3) of the OM Code requires; "At least one valve from each group shall be disassembled and examined at each refueling outage; all valves from each group shall be disassembled and examined at least once every 8 years."
REASON FOR REQUEST:	There are no system design provisions to verify valve reverse flow closure quarterly, at cold shutdown or refueling outage. Therefore, per ISTC-5221(c)(3), this valve will be disassembled at refueling outages to verify operability. No relief is required for the above, per OM ISTC-5221(c)(3), if this valve is disassembled every refueling outage. The inspection history of these valves suggests there is no need for disassembly/inspection each outage, thus any additional expense in doing so would be an unnecessary burden. The past inspections of these valves (for both units) dating back to 1984 have not detected any unsatisfactory conditions. On average, the disassembly/inspection of these valves requires 6 man-hours. Additional costs associated with planning, scheduling, supervision, documentation, etc., are also required for this task. Without a sampling disassembly and inspection plan, FNP will be required to remove each train of emergency diesel power from service each outage. This will cause the unavailability of the diesel train and hence the risk to the core to be twice that which would be required with grouping. In light of the good inspection history of these valves, FNP will be increasing risk to the core without a commensurate gain in the reliability of the valves. This is counter to the philosophy of 10CFR50.65 of balancing reliability and availability which states that "Adjustments shall be made where necessary to ensure that the objective of preventing

failures of structures, systems and components through maintenance is appropriately balanced against the objective of minimizing unavailability of structures, systems and components due to monitoring or preventive maintenance."

PROPOSED ALTERNATIVE AND BASIS:

As an alternative to the disassembly and inspection frequency required by Paragraph ISTC-5221(c)(3) of the OM Code, SNC proposes the following.

The valve will be disassembled and manually full stroke exercised every other refueling outage. The valve internals will be verified to be structurally sound (no loose or corroded parts) and the disk will be manually exercised to verify full stroke capability. The valve will be part stroked with flow after reassembly. The necessary valve obturator movement, verifying part stroke exercising, will be confirmed by changes in system pressure, flow rate, level, temperature, seat leakage testing or other positive means, or through the use of ultrasonic (or similar) flow measuring devices. If a problem is determined while disassembling and inspecting the valve, an evaluation will be performed to determine if there is a generic issue involved. As part of this evaluation, the results of the disassembly and inspection from each valve will be reviewed. If a generic problem is determined to exist, then the valve on the other unit will be disassembled and inspected at the next refueling outage.

This proposed alternative of disassembling and inspecting the valve every other refueling provides reasonable assurance of adequate valve operation and readiness. On the basis that compliance with OM Code testing requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, this proposed alternative should be granted pursuant to 10 CFR 50.55a(a)(3)(ii).

DURATION: 4^{th} IST Interval, December 1, 2007 through November 30, 2017.

PRECEDENTS: This Relief Request was approved as Q1P16-RR-V-5 and Q2P16-RR-V-5 for the Third 10 Year IST Interval.

REFERENCES: NRC Safety Evaluation dated March 9, 2000 – TAC Nos. MA5135 and MA5136.

STATUS: Submitted for NRC review.

13.0 COLD SHUTDOWN JUSTIFICATION (CSJ) LOG

CSJ	Components	Status
CSJ-V-1	Q1(2)B13SV2213A & B Q1(2)B13SV2214A & B	
CSJ-V-2	Q1(2)E11V0001A & B Q1(2)E11V0016A & B	
CSJ-V-3	Q1(2)E11V0044	
CSJ-V-4	Q1(2)E11V0009A & B	
CSJ-V-5	NOT USED	
CSJ-V-6	Q1(2)E21V0253A, B & C	
CSJ-V-7	Q1(2)E21V0210	
CSJ-V-8	Q1(2)E21V0254 Q1(2)E21V0257 Q1(2)E21V0258 Q1(2)E21V0565A & B	
CSJ-V-9	Q1(2)E21V0336A & B Q1(2)E21V0376A & B	
CSJ-V-10	Q1(2)E21V0220A & B	
CSJ-V-11	Q1(2)E21V0265	
CSJ-V-12	Q1(2)N11V0001A, B & C Q1(2)N11V0002A, B & C	
CSJ-V-13	Q1(2)N11V0003A thru F	
CSJ-V-14	Q1(2)N21V0001A, B & C	
CSJ-V-15	Q1(2)N23V0002 A thru H Q1(2)N23V0003, Q1(2)N23V0006 Q1(2)N23V0007A & B Q1(2)N23V0011A, B & C	
CSJ-V-16	Q1(2)N23V0002D, F & H	

CSJ	Components	Status
CSJ-V-17	Q1(2)N23V0006 Q1(2)N23V0007A & B	
CSJ-V-18	Q1(2)P13V0281 Q1(2)P13V0282 Q1(2)P13V0283 Q1(2)P13V0284	
CSJ-V-19	Q1(2)P16V0514 Q1(2)P16V0515 Q1(2)P16V0516 Q1(2)P16V0517 Q1(2)P16V0540 Q1(2)P16V0541 Q1(2)P16V0542 Q1(2)P16V0543	
CSJ-V-20	Q1(2)P19V0004	

COLD SHUTDOWN JUSTIFICATION
CSJ-V-1

System:	Reactor Coolant (B13)
Valve:	Q1(2)B13SV2213A, B, Q1(2)B13SV2214A, B
Other Valve No:	HV-1, HV-2, HV-3, HV-4
Drawing:	D-175037-1 (E-7, E-7, E-8, E-8) D-205037-1 (E-7, E-7, E-8, E-8)
Category:	B
Class:	2
Function:	Reactor vessel head vent valve.
Quarterly Test Requirements:	Exercise, time, and fail (ISTC-3510, 5151 and 3560).
Cold Shutdown Test Justification:	The head vent valves cannot be exercised during normal operation with adequate assurance that an uncontrolled release of reactor coolant and a rapid RCS de-pressurization would not occur. To exercise the valves open in any order could result in a potential pressure shock to the closed valve and a potential "BURP" reaction. The consequences of this reaction are too severe to warrant testing during normal operation.
Quarterly Part Stroke Exercising:	None, these are rapid acting valves. The operating controls were not designed for partial stroking.
Cold Shutdown Testing:	Exercise, time and fail test per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-2

System:	LHSI/RHR (E11)
Valve:	Q1(2)E11V0001A, B, Q1(2)E11V0016A, B
Other Valve No:	8701A, 8702A, 8701B, 8702B
Drawing:	D-175041 (G-3, E-3, G-2, E-2) D-205041 (G-3, E-3, G-1, E-2)
Category:	A
Class:	1
Function:	RHR Pump Suction from RCS (HL).
Quarterly Test Requirements:	Exercise and time (ISTC-3510 and 5121).
Cold Shutdown Test Justification:	These are boundary valves between the high-pressure reactor coolant system and the low-pressure RHR system piping. The valves are interlocked to RCS pressure and cannot be opened with RCS pressure greater than 402.5 psig. Defeating the interlocks to perform testing is not desirable since they are pressure isolation valves. If the inline valves were inadvertently opened during testing, an inter-system LOCA could occur.
Quarterly Part Stroke Exercising:	None, partial-valve exercising is precluded for the same reasons as full-stroke exercising.
Cold Shutdown Testing:	Exercise and time per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-3

System:	LHSI/RHR (E11)
Valve:	Q1(2)E11V0044
Other Valve No:	8889
Drawing:	D-175038-2 (F-3) D-205038-2 (F-3)
Category:	B
Class:	2
Function:	RHR Hx Discharge to RCS (HL).
Quarterly Test Requirements:	Exercise and time (ISTC-3510 and 5121).
Cold Shutdown Test Justification:	This valve is a normally closed motor-operated valve that is the boundary valve between the high pressure SI piping connected to the RCS and the low-pressure piping of the RHR system. Exercising during normal operation could result in an over-pressurization of the RHR system piping and result in an inter-system LOCA condition.
Quarterly Part Stroke Exercising:	None, partial-valve exercising is precluded for the same reasons as full-stroke exercising.
Cold Shutdown Testing:	Once per quarter the downstream pressure will be measured. If the pressure is ≤ 550 psig, the valve will be full-stroke exercised. If the pressure is > 550 psig, the valve will not be exercised that quarter. If the downstream pressure prohibits quarterly testing, the valve will be full-stroke exercised at cold shutdowns per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-4

System:	LHSI/RHR (E11)
Valve:	Q1(2)E11V0009A, B
Other Valve No:	8706A, B
Drawing:	D-175041 (B-8, C-8) D-205041 (B-8, C-8)
Category:	B
Class:	2
Function:	Charging Pump Suction from RHR Hx.
Quarterly Test Requirements:	Exercise and time (ISTC-3510 and 5121).
Cold Shutdown Test Justification:	These valves can only be exercised when the RCS boron concentration is > 200 ppm because opening these valves connects the RWST to the charging pumps suction. These valves cannot be exercised at the end of core life when RCS boron concentration is ≤ 200 ppm because exercising could produce an elevated boron concentration and cause a plant transient. In order to preclude a transient at end of core life, the RHR system must be removed from service and declared inoperable in order to support valve exercising.
Quarterly Part Stroke Exercising:	Valves will be full-stroke exercised quarterly whenever RCS boron concentration is > 200 ppm. Partial-valve exercising at end of core life is precluded for the same reasons as described above.
Cold Shutdown Testing:	Exercise and time quarterly whenever RCS boron concentration is > 200 ppm. Exercise and time at cold shutdown when quarterly testing cannot be performed because RCS boron concentration is ≤ 200 ppm per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-5

NOT USED

COLD SHUTDOWN JUSTIFICATION
CSJ-V-6

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0253A, B, C
Other Valve No:	8149A, B, C
Drawing:	D-175039-1 (A-7, A-7, A-6) D-205039-1 (A-7, A-7, A-6)
Category:	A
Class:	2
Function:	Letdown Orifice Isolation.
Quarterly Test Requirements:	Exercise, time and fail (ISTC-3510, 5131 and 3560).
Cold Shutdown Test Justification:	The number of times that these valves are exercised during normal operation is limited to as few as possible. Each time these valves are stroked, a downstream pressure surge occurs, which may lift the downstream relief valve QV0255. If the relief valve lifts and fails to re-seat, a loss of CVCS letdown will result in a forced plant shutdown. The only method to mitigate this surge is by manual operation of the automatic pressure control valve (PCV 145) which is at best, coarse control.
Quarterly Part Stroke Exercising:	None, valves full-stroke on initiation and cannot be partial-stroke exercised.
Cold Shutdown Testing:	Exercise, time and fail per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-7

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0210
Other Valve No:	8442
Drawing:	D-175039-6 (G-10) D-205039-2 (H-8)
Category:	C
Class:	2
Function:	CVCS Boric Acid Filter to Charging Pump Suction.
Quarterly Test Requirements:	Verify forward flow operational readiness per ISTC-3510 and 5221.
Cold Shutdown Test Justification:	The only way to verify forward flow operational readiness is by passing concentrated boric acid solution through check valve QV0210 to the charging pump suction header. Transfer of concentrated boric acid at ≥ 30 gpm with a concentration of 7000 to 7700 ppm to the charging pump suction during normal operation would subject the plant to an unnecessary safety challenge caused by a rapid temperature decrease in the RCS and ensuing power transient due to the boron addition.
Quarterly Part Stroke Exercising:	NA
Cold Shutdown Testing:	Full forward flow exercise per ISTC-3522(b). Bi-directional exercising in the non-safety related closed direction will be demonstrated by establishing a differential across the valve disc either with an outside pressure source, flow or other positive means.

COLD SHUTDOWN JUSTIFICATION
CSJ-V-8

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0254, Q1(2)E21V0257, Q1(2)E21V0258, Q1(2)E21V0565A, B
Other Valve No:	8152, 8107, 8108, 8175A, B
Drawing:	D-175039-1 (A-11, A-10, A-10): Q1V0254, Q1V0565A, B D-175039-6 (B-1, B-2): Q1V0257, Q1V0258 D-205039-1 (A-11, A-10, A-10): Q2V0254, Q2V0565A, B D-205039-6 (E-1, E-2): Q2V0257, Q2V0258
Category:	A (QV0254, QV0257, QV0258) B (QV0565A, B)
Class:	2
Function:	QV0254 - Letdown line CIV. QV0257 & QV0258 - CVCS Charging Pump Discharge to Regen. Hx. QV0565A, B - CVCS Letdown Line Isolation.
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121 (QV0257, QV0258). Exercise, time and fail per ISTC-3510, 5131, and 3560 (QV0254, QV0565A, QV0565B).
Cold Shutdown Test Justification:	These valves are in the normal letdown and charging lines to the RCS. Exercising during normal operation would disrupt normal RCS charging flow which could decrease significantly the capability of the CVCS to provide the proper boration ratio. Failure of each valve in the closed position, coincident with normal charging flow, could result in a high RCS water level trip. Because of these reasons and a potential for thermal shock to the Regenerative Heat Exchanger, valve testing will be delayed to cold shutdown.
Quarterly Part Stroke Exercising:	None, valves are equipped with full-stroke-only operators and cannot be partial-stroke exercised.
Cold Shutdown Testing:	Exercise and time (QV0257, QV0258). Exercise, time and fail (QV0254, QV0565A,B). Cold shutdown testing will be performed per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-9

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0336A, B, Q1(2)E21V0376A, B
Other Valve No:	LCV115B, LCV115D, LCV115C, LCV115E
Drawing:	D-175039-6 (B-9, F-9); D-175039-2 (H-8, H-8) D-205039-6 (B-9, F-9); D-205039-2 (H-8, H-8)
Category:	B
Class:	2
Function:	QV0336A, B - Charging Pump Suction from RWST. QV0376A, B - VCT Outlet Isolation.
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Cold Shutdown Test Justification:	The RWST line block valves are interlocked to the VCT line block valves such that both sets cannot be opened at the same time. To exercise the VCT line block valves closed would require opening the RWST line block valves. If a RWST line block valve is opened during normal operation with a charging pump in operation, RWST water would be injected into the RCS. Injection of the highly borated RWST water into the RCS would adversely affect the boric acid concentration in the RCS and could cause a rapid decrease in RCS reactivity and temperature.
Quarterly Part Stroke Exercising:	None, valves full-stroke on initiation and cannot be partial-stroke exercised.
Cold Shutdown Testing:	Exercise and time per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-10

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0220A, B
Other Valve No:	8114A, B
Drawing:	D-175039-3 (F-5, H-5) D-205039-3 (F-5, H-5)
Category:	C
Class:	3
Function:	Boron Transfer Pump Discharge Line Check Valve.
Quarterly Test Requirements:	Verify forward flow operational readiness per ISTC-3510 and 5221.
Cold Shutdown Test Justification:	The only way to verify full forward flow operability is by pumping concentrated boric acid from the boric acid tank through the inline flow element to the charging pump suction header. During normal operation, at least one charging pump is in operation such that concentrated boric acid would be injected directly into the reactor coolant system. The addition of concentrated boric acid to the reactor coolant system during normal operation would adversely affect RCS reactivity and temperature, and could cause a forced plant shutdown.
Quarterly Part Stroke Exercising:	NA
Cold Shutdown Testing:	Full-forward-flow operational readiness will be verified by measuring boric acid transfer flow rate at cold shutdown.

COLD SHUTDOWN JUSTIFICATION
CSJ-V-11

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0265
Other Valve No:	8106
Drawing:	D-175039-2 (H-4) D-205039-2 (D-4)
Category:	B
Class:	2
Function:	Charging Pump Minimum Flow Common Line Isolation Valve.
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Cold Shutdown Test Justification:	This valve ensures pump cooling for all three HHSI pumps. Should an automatic ECCS actuation occur with this valve closed, there may be insufficient pump flow for all pumps to remain cooled.
Quarterly Part Stroke Exercising:	None, partial-valve exercising is precluded for the same reason as full-stroke exercising.
Cold Shutdown Testing:	Exercise and time per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-12

System:	Main Steam (N11)
Valve:	Q1(2)N11V0001A, B, C and Q1(2)N11V0002A, B, C
Other Valve No:	HV3369A, B, C and HV3370A, B, C
Drawing:	D-175033-1 (G-7, E-8, B-8, G-8, E-8, B-8) D-205033-1 (G-7, E-8, B-8, G-8, E-8, B-8)
Category:	BC
Class:	2
Function:	Main Steam Isolation Valves.
Quarterly Test Requirements:	Exercise, time and fail per ISTC-3510, 5131 and 3560.
Cold Shutdown Test Justification:	Exercising these valves during normal operation isolates one line of steam flow to the turbine and would cause a severe pressure transient in the main steam line which could result in a forced plant shutdown. Reducing power level to perform testing without causing a transient would significantly impact plant operations and power production.
Quarterly Part Stroke Exercising:	None. ISTC-3521(b) requires a partial exercise test quarterly if practical. The MSIVs are equipped with a test circuit that allows the valves to be partial exercised (approx. 10% closure) during operation at power. However, there have been numerous plant events reported in NPRDS associated with partial exercising the MSIVs during normal operation. These events involved instances where the test circuit did not function properly and the tested valve went full closed, resulting in a pressure transient and a subsequent plant trip. Therefore, no partial exercising will be performed during operation at power. (AIT 2002201825)
Cold Shutdown Testing:	Exercise, time, and fail per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-13

System:	Main Steam (N11)
Valve:	Q1(2)N11V0003A, B, C, D, E, and F
Other Valve No:	HV3368A, B, C, D, E and F
Drawing:	D-175033-1 (G-7, E-8, C-8, G-8, E-8, C-8) D-205033-1 (G-7, E-8, C-8, G-8, E-8, C-8)
Category:	B
Class:	2
Function:	Main Steam Isolation Bypass.
Quarterly Test Requirements:	Exercise, time and fail per ISTC 3510, 5131 and 3560.
Cold Shutdown Test Justification:	These valves are interlocked with the main steam isolation valves and cannot be opened when the main steam isolation valves are open.
Quarterly Part Stroke Exercising:	None, valves full-stroke on initiation and cannot be partial-stroke exercised.
Cold Shutdown Testing:	Exercise, time, and fail per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-14

System:	Feedwater (N21)
Valve:	Q1(2)N21V0001A, B, C
Other Valve No:	MOV3232A, B, C
Drawing:	D-175073 (G-7, E-7, B-7) D-205073 (G-7, E-7, B-7)
Category:	BC
Class:	2
Function:	Main Feedwater Supply.
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Cold Shutdown Test Justification:	Exercising these valves closed during normal operation would result in a loss of feedwater to the associated steam generator. Isolation of feedwater flow during normal operation would cause a severe steam generator operating transient which could result in a forced plant shutdown and/or reactor trip.
Quarterly Part Stroke Exercising:	None, valves full-stroke on initiation and cannot be partial-stroke exercised.
Cold Shutdown Testing:	Exercise and time per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-15

System:	Auxiliary Feedwater (N23)
Valve:	Q1(2)N23V0002A, B, C, D, E, F, G, H Q1(2)N23V0003, Q1(2)N23V0006, Q1(2)N23V0007A, B, Q1(2)N23V0011A, B, C
Other Valve No:	NA
Drawing:	D-175007 (B-6, E-6, B-9, C-9, D-9, F-9, G-9, H-9, G-6, H-3, B-3, E-3, B-10, D-10, G-10) D-205007 (B-6, E-6, B-9, C-9, D-9, F-9, G-9, H-9, G-6, H-3, B-3, E-3, B-10, D-10, G-10)
Category:	C
Class:	2 (QV0011A, B, C) 3 (QV0002A, B, C, D, E, F, G, H, QV0003, QV0006, QV0007A, B)
Function:	QV0002A, B - MDAFW Pump Discharge to SGs. QV0002C, E, G - MDAFW Discharge Check Valve to SGs. QV0002D*, F*, H* - TDAFW Discharge Check Valve to SGs. QV0003* - TDAFW Pump Discharge Check Valve. QV0006* - TDAFW Pump Suction Check Valve. QV0007A, B - MDAFW Pump Suction Check Valve. QV0011A, B, C - AFW Discharge to SGs.
Quarterly Test Requirements:	Verify forward flow operational readiness per ISTC-3510 and 5221.
Cold Shutdown Test Justification:	The only way to full forward-flow exercise these valves is by operating the associated auxiliary feedwater pump and injecting relatively cold condensate water directly into the steam generators. The introduction of cold water into the hot steam generators during operation would result in large thermal shock to the feedwater nozzles and could cause cracking of the nozzles.
Quarterly Part Stroke Exercising:	NA
Cold Shutdown Testing:	Valves will be full-forward-flow exercised by injecting into the steam generators at cold shutdown per ISTC-3522(b). * To perform a full forward flow test for the TDAFW check valves, sufficient motive force is not achieved until the plant enters Mode 3 following cold shutdown. Therefore, the TDAFW check valves will be full-forward flow tested prior to leaving Mode 3, following cold shutdown.

Those check valves that do not perform a safety function in the reverse direction will be bi-directionally exercised to their non-safety related, closed position during refueling outages by performing an individual pressure decay, flow type test or utilize other positive means for each valve.

COLD SHUTDOWN JUSTIFICATION
CSJ-V-16

System:	Auxiliary Feedwater (N23)
Valve:	Q1(2)N23V0002D, F, H
Other Valve No:	NA
Drawing:	D-175007 (C-9, F-9, H-9) D-205007 (C-9, F-9, H-9)
Category:	C
Class:	3
Function:	TDAFW Discharge to SGs.
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Cold Shutdown Test Justification:	There are no system design provisions for verification of reverse flow closure. The only practical method to verify closure is by operating one of the MDAFW pumps and performing an individual flow test or pressure decay type test which confirms TDAFW discharge to SG check valve closure. Performing this type of test is impractical during normal operation since it renders the entire AFW system inoperable for an extended period of time.
Quarterly Part Stroke Exercising:	NA
Cold Shutdown Testing:	Reverse flow closure will be confirmed by performing an individual pressure decay or flow type test for each valve at cold shutdown and refueling. This test will confirm that the check valves are capable of reverse flow closure.

COLD SHUTDOWN JUSTIFICATION
CSJ-V-17

System:	Auxiliary Feedwater (N23)
Valve:	Q1(2)N23V0006, Q1(2)N23V0007A, B
Other Valve No:	NA
Drawing:	D-175007 (H-3, B-3, E-3) D-205007 (H-3, B-3, E-3)
Category:	C
Class:	3
Function:	QV0006 - TDAFW Pump Suction from CST. QV0007A, B - MDAFW Pump Suction from CST.
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Cold Shutdown Test Justification:	There are no system design provisions suitable for verification of reverse flow closure. The only practical method to verify closure would involve isolating the condensate storage tank and performing a pressure decay type test which confirms that the check valve is closed. Performing this type test during normal operation would render the associated AFW pump inoperable for an extended period of time.
Quarterly Part Stroke Exercising:	NA
Cold Shutdown Testing:	Reverse flow closure will be confirmed by performing a pressure decay type test during cold shutdown and refueling. This pressure decay test will confirm that the check valve is capable of reverse flow closure.

COLD SHUTDOWN JUSTIFICATION
CSJ-V-18

System:	Containment Purge (P13)
Valve:	Q1(2)P13V0281, Q1(2)P13V0282, Q1(2)P13V0283, Q1(2)P13V0284
Other Valve No:	HV3198D, HV3197, HV3196, HV3198A
Drawing:	D-175010-1 (G-10, E-10): QV0282, & QV0283 D-175010-2 (F-3, D-3): QV0281 & QV0284 D-205010-1 (G-9, E-9): QV0282, & QV0283 D-205010-2 (F-3, D-3): QV0281 & QV0284
Category:	A
Class:	2
Function:	QV0281, QV0282 - Purge Supply Damper. QV0283, QV0284 - Purge Exhaust Damper.
Quarterly Test Requirements:	Exercise, time, and fail per ISTC-3510, 5131 and 3560.
Cold Shutdown Test Justification:	Plant Technical Specifications require maintaining these valves closed during plant operating modes 1, 2, 3, and 4.
Quarterly Part Stroke Exercising:	None, valves are administratively maintained closed during normal operation.
Cold Shutdown Testing:	Exercise, time, and fail per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-19

System:	Service Water (P16)
Valve:	Q1(2)P16V0514, Q1(2)P16V0515, Q1(2)P16V0516, Q1(2)P16V0517 Q1(2)P16V0540, Q1(2)P16V0541, Q1(2)P16V0542, Q1(2)P16V0543
Other Valve No:	NA
Drawing:	D-170119-2 (E-6, E-4, D-5, D-4, D-9, B-9, D-10, B-10) D-200013-2 (E-5, E-4, D-5, D-3, D-9, B-9, D-10, B-10)
Category:	B
Class:	3
Function:	QV0514, QV0515, QV0516, QV0517 - SW Supply to Turbine Bldg. QV0540, QV0541, QV0542, QV0543 - SW Return from Turbine Bldg.
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Cold Shutdown Test Justification:	The design of the turbine building service water supply and return system makes inadvertent service water isolation possible while exercising these valves. This is possible because train separation is not maintained downstream of the supply isolation valves and there are flow sensing devices in each train. These devices are designed to isolate the turbine building on a high flow condition resulting from a large line break. As the flow to one train is isolated during valve exercising, the flow through the other train will increase and possibly exceed the maximum flow limit, resulting in automatic service water isolation and a resultant turbine trip.
Quarterly Part Stroke Exercising:	None, valves full-stroke on initiation and cannot be partial-stroke exercised.
Cold Shutdown Testing:	Exercise and time per ISTC-3521(c).

COLD SHUTDOWN JUSTIFICATION
CSJ-V-20

Valve:	Q1(2)P19V0004
Other Valve No:	NA
Drawing:	D-175034-1 (D-10) D-205034-4 (B-6)
System:	Instrument Air (P19)
Category:	AC
Class:	2
Function:	Backup Air Supply to Pressurizer PORVs.
Quarterly Test Requirements:	Verify forward flow operational readiness per ISTC-3510 and 5221.
Cold Shutdown Test Justification:	The only practical way to forward flow exercise this valve would be to isolate the normal instrument air supply to the PORVs, utilize the backup nitrogen supply and exercise a PORV. Isolating the normal instrument air supply outside the containment (HV3611) results in isolation of the normal air supply to all components located inside the containment that rely on normal instrument air for their supply. thus rendering them inoperable. Isolating the normal instrument air supply to the PORVs only (V0139) requires a containment entry which is not practical during normal operation.
Quarterly Part Stroke Exercising:	NA.
Cold Shutdown Testing:	Valve will be forward-flow exercised by exercising a PORV at cold shutdown per ISTC-3522(b).

14.0 VALVE REFUELING OUTAGE JUSTIFICATION LOG

ROJ	Component ID	Status
ROJ-V-1	Q1(2)B13V0038	
ROJ-V-2	Q1(2)B13V0054	
ROJ-V-3	Q1(2)E11V0042A & B	
ROJ-V-4	Q1(2)E11V0051A, B & C	
ROJ-V-5	Q1(2)E11V0021A, B & C	
ROJ-V-6	Q1(2)E11V0028	
ROJ-V-7	Q1(2)E13V0002A & B	
ROJ-V-8	Q1(2)E13V00014	
ROJ-V-9	Q1(2)E14V0001	
ROJ-V-10	Q1(2)E21V0026	
ROJ-V-11	Q1(2)E21V0052 Q1(2)E21V0058	
ROJ-V-12	Q1(2)E21V0119	
ROJ-V-13	Q1(2)E21V0062A, B & C Q1(2)E21V0066A, B & C Q1(2)E21V0078A, B & C Q1(2)E21V0079A, B & C	
ROJ-V-14	Q1(2)E21V0016A & B Q1(2)E21V0063 Q1(2)E21V0068 Q1(2)E21V0072	
ROJ-V-15	Q1(2)E21V0115A, B & C	
ROJ-V-16	Q1(2)E21V0122A, B & C	
ROJ-V-17	Q1(2)E21V0249A & B	
ROJ-V-18	Q1(2)E21V0077A, B & C	

ROJ	Component ID	Status
ROJ-V-19	Q1(2)E21V0032A, B & C Q1(2)E21V0037A, B & C	
ROJ-V-20	Q1(2)E21V0213	
ROJ-V-21	Q1(2)E21V0076A & B	
ROJ-V-22	Q1(2)E21V0326A & B Q1(2)E21V0327A & B	
ROJ-V-23	Q1(2)E21V0121A, B & C	
ROJ-V-24	Q1(2)G21V0204	
ROJ-V-25	Q1(2)G21V0291	
ROJ-V-26	Q1(2)N12V0010A & B	
ROJ-V-27	Q1(2)N23V0013A & B Q1(2)N23V0014A, B & C	
ROJ-V-28	Q1(2)P16V0075	
ROJ-V-29	Q1P16V0635A & B Q1P16V0636A & B Q2P16V0635B Q2P16V0636B	
ROJ-V-30	Q1(2)P16V0206A, B, C & D	
ROJ-V-31	Q1(2)P16V0659 Q1(2)P16V0660	
ROJ-V-32	Q1(2)P16V0564 Q1(2)P16V0565	
ROJ-V-33	Q1(2)P17V0082 Q1(2)P17V0097 Q1(2)P17V0099 Q1(2)P17HV3045 Q1(2)P17HV3184	
ROJ-V-34	Q1(2)P17V0083 Q1(2)P17V0159	

ROJ	Component ID	Status
ROJ-V-35	Q1(2)P17V0087A, B & C	
ROJ-V-36	Q1(2)P17HV3067 Q1(2)P17HV3095 Q1(2)P17HV3443	
ROJ-V-37	Q1(2)P17V0111	
ROJ-V-38	Q1(2)P19V0002	
ROJ-V-39	Q1(2)P19V0004	
ROJ-V-40	Q1(2)P19HV3611	

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-1

System:	Reactor Coolant (B13)
Valve:	Q1(2)B13V0038
Other Valve No:	8046
Drawing/Coord:	D-175037-2 (B-10) D-205037-2 (B-10)
Category:	AC
Class:	2
Function:	Reactor Makeup Water to PRT Isolation Check Valve
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	This check valve is located inside the containment and any method to confirm closure would require a containment entry. The only practical way of verifying valve closure is by performing a leakage type test, such as the Appendix J, Type C test. The Type C test requires isolating reactor makeup water to the PRT spray nozzles, and to the reactor coolant pump(s) seal #3. The potential for relief valve discharge into the PRT exists during cold shutdown and the condensing effect of the RMW spray into the PRT may be required to condense any vaporization of the relief valve discharge. Also, at least one of the reactor coolant pumps is required to be in service during cold shutdown for chemistry control purposes, thus requiring seal water. These factors make testing during cold shutdown impractical. In addition, NRC NUREG 1482, Rev. 1 Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test or, other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6. Bi-directional exercising in the non-safety related forward direction will be satisfied by normal system operation.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-2

System: Reactor Coolant (B13)

Valve: Q1(2)B13V0054

Other Valve No: 8092

Drawing/Coord: D-175037-2 (C-6)
D-205037-2 (C-6)

Category: AC

Class: 2

Function: CVCS Charging Pump Relief Valve Discharge to PRT

Quarterly Test Requirements: Full forward-flow exercise and verify reverse flow closure per ISTC-3510 and 5221.

Basis for Justification: This check valve is located in the CVCS charging and RHR pump relief valve discharge header. The header routes discharge from the relief valves to the PRT. Quarterly verification of reverse flow closure of this valve is not practicable because it is located inside containment and is not equipped with any instrumentation to allow confirmation of position. Verification of forward flow operability is not possible because there is no installed instrumentation or other positive means to make this determination at any plant condition.

The only practical way of verifying valve closure is by performing a seat leakage type test, such as the Appendix J, Type C test. The Type C test for this valve requires the removal of a spool piece from the common relief valve discharge line and the installation of a blind flange. This activity would be unsafe while the systems protected by the relief valves were in service. These relief valves include those protecting the RHR system, which is in service during cold shutdown conditions. These factors make testing during cold shutdown impractical. In addition, the NRC in NUREG 1482, Rev. 1, Section 4.1.6, has stated that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-2 (continued)

Refueling Outage Testing:

Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6.

Forward flow operability will be determined during refueling outage by disassembly and manually full stroking the valve per ISTC-5221(c). The valve will be part-stroke exercised in the forward direction subsequent to reassembly, if practicable.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-3

System:	LHSI/RHR (E11)
Valve:	Q1(2)E11V0042A, B
Other Valve No:	8974B, A
Drawing/Coord:	D-175038-2 (G-2, E-2) D-205038-2 (G-2, E-2)
Category:	AC
Class:	2
Function:	RHR Pump Discharge to SIS Injection CL
Quarterly Test Requirements:	Verify reverse flow closure and full forward-flow exercise per ISTC-3510 and 5221.
Basis for Justification:	Quarterly verification of reverse flow closure is not practicable because the valves are located inside the containment, they are not equipped with any instrumentation to allow closure verification, and any testing would require personnel entry into the containment. The only practical way of verifying valve closure is by performing a leakage type test. These are PIVs and are required to be leak tested per Tech Specs. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leak rate test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified in conjunction with the PIV leakage testing in accordance with the Technical Specification surveillance requirement. This testing is consistent with the guidance found in NUREG-1482, Rev. 1, Section 4.1.6. Valves will be full-forward flow exercised each refueling outage.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-4

System:	LHSI/RHR (E11)
Valve:	Q1(2)E11V0051A, B, C
Other Valve No:	8998A, B, C
Drawing/Coord:	D-175038-1 (C-2, D-2, D-2) D-205038-1 (C-2, D-2, D-2)
Category:	C
Class:	1
Function:	RCS Loop LHSI CL
Quarterly Test Requirements:	Full forward-flow operational readiness per ISTC-3510 and 5221.
Basis for Justification:	These 6 inch Velan swing check valves are located in the shared, high head/low head, safety injection lines to the RCS cold legs. The more conservative flow path testing for these valves is via the low head safety injection lines. Individual line flow rate cannot be utilized to verify individual valve full-flow exercising quarterly, or at cold shutdown because there is not installed flow instrumentation when testing via the low head safety injection lines. Confirmation of full-stroke exercise will be by non-intrusive check valve testing technology or valve disassembly. This test can only be performed at refueling with the RCS depressurized.
Refueling Outage Testing:	Valves will be full-forward flow exercised using nonintrusive testing each refueling. Alternately, the check valve(s) may be disassembled and manually full stroked, on a sampling basis per ISTC-5221(c), during the refueling outage to verify operability. Partial stroking after reassembly is not practical for the reasons stated above.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-5

System: LHSI/RHR (E11)

Valve: Q1(2)E11V0021A, B, C

Other Valve No: 8973A, B, C

Drawing/Coord: D-175038-2 (E-1, F-1, G-1)
D-205038-2 (E-1, F-1, G-1)

Category: AC

Class: 1

Function: RHR Pump Discharge to SI (CL)

Quarterly Test Requirements: Verify forward-flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.

Basis for Justification: These 6 inch Velan swing check valves are located in the LHSI paths to the RCS cold legs. The more conservative flow path testing for these valves is via the low head safety injection lines. Individual line flow rate cannot be utilized to verify individual valve full-flow exercising quarterly, or at cold shutdown because there is not installed flow instrumentation when testing via the low head safety injection lines. Confirmation of full-stroke exercise will be by nonintrusive check valve testing technology or valve disassembly. This test can only be performed at refueling with the RCS depressurized.

Quarterly verification of reverse flow closure is not practicable because the valves are located inside the containment, they are not equipped with any instrumentation to allow closure verification, and any testing would require personnel entry into the containment.

The only practical way of verifying valve closure is by performing a leakage type test. These are PIVs and are required to be leak tested per Tech Specs. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leak rate test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-5 (continued)

Refueling Outage Testing:

Valves will be full-forward flow exercised using nonintrusive testing each refueling outage. Alternately, the check valve(s) may be disassembled and manually full stroked, on a sampling basis per ISTC-5221(c), during the refueling outage to verify operability.

Reverse flow closure will be verified in conjunction with the PIV leakage testing in accordance with the Technical Specification surveillance requirement. This testing is consistent with the guidance found in NUREG-1482, Section, Rev. 1, Section 4.1.6. Partial stroking after reassembly is not practical for the reasons stated above.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-6

System:	LHSI/RHR (E11)
Valve:	Q1(2)E11V0028
Other Valve No:	8958
Drawing/Coord:	D-175038-2 (F-11) D-205038-2 (F-11)
Category:	C
Class:	2
Function:	LHSI/RHR Pump Suction from RWST
Quarterly Test Requirements:	Verify reverse flow closure capability in accordance with ISTC-3510 and 5221.
Basis for Justification:	There are no system design provisions to allow closure verification for QV0028. The only practical method to verify valve closure is by performing an individual flow test or pressure decay type test utilizing leakrate type test equipment. Performing this type test is impractical during normal operation since it renders the entire RHR system inoperable for an extended period of time. In addition, NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leakage type test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure of QV0028 will be verified by a pressure decay or flow type test, or other positive means during refueling outages when the RHR system is not required to be operable.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-7

System:	Containment Spray (E13)
Valve:	Q1(2)E13V0002A, B
Other Valve No:	8822A, B
Drawing/Coord:	D-175038-3 (C-2) D-205038-3 (C-2)
Category:	C
Class:	2
Function:	Containment Spray Pump Discharge
Quarterly Test Requirements:	Verify forward flow operational readiness and reverse flow closure capability in accordance with ISTC-3510 and 5221.
Basis for Justification:	The only way to verify forward-flow operability during normal operation or cold shutdown would be by using the pumps and injecting a large quantity of water into the containment. Spraying the containment would result in extensive damage to safety-related equipment located inside the containment. Quarterly verification of reverse flow closure for QV0002A, B is not practicable because the valves are located inside containment, they are not equipped with any instrumentation to allow closure verification, and any testing would require personnel entry into the containment.
Refueling Outage Testing:	Full forward-flow exercise will be proven with the CPT during each refueling outage. Reverse flow closure will be verified by a leakage test similar to the Type C test, or other positive means, during each refueling outage.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-8

System: Containment Spray (E13)

Valve: Q1(2)E13V0014

Other Valve No: 8816

Drawing/Coord: D-175038-3 (E-10)
D-205038-3 (E-10)

Category: C

Class: 2

Function: Containment Spray Pump Suction from RWST

Quarterly Test Requirements: Verify forward flow operational readiness and reverse flow closure capability in accordance with ISTC-3510 and 5221.

Basis for Justification: The only way to verify forward-flow operability during normal operation or cold shutdown would be by using the pumps and injecting a large quantity of water into the containment. Spraying the containment would result in extensive damage to safety-related equipment located inside the containment.

There are no system design provisions to allow closure verification for QV0014. Nonintrusive techniques cannot be successfully employed to test this valve. This valve is located in the 12" Containment Spray (CS) pump suction line from the Refueling Water Storage Tank (RWST). The only normal water flow through this valve is approximately 150 gpm during quarterly CS pump testing. SNC engineers experienced with nonintrusive check valve testing indicate that this application will not be successful because the 12" check valve will not fully open with 150 gpm flow.

The only practical method to verify valve closure is by performing an individual flow test or pressure decay type test utilizing leakrate type test equipment. Performing this type test is impractical during normal operation since it renders the entire CS system inoperable for an extended period of time. In addition, NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leakage type test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-8 (continued)

Refueling Outage Testing:

Both units have been modified such that spool pieces can be installed downstream of check valves QV0002A and QV0002B. During refueling, these spool pieces will be installed and a full-forward-flow test performed by pumping water through these full-flow test lines to the containment refueling cavity. Because of the time involved in installing the spool pieces and the large quantity of water necessary, this test can only be performed at refueling.

Reverse flow closure of QV0014 will be verified by a pressure decay or flow type test, valve disassembly, or other positive means.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-9

System: Containment Cooling & Purge (E14)

Valve: Q1(2)E14V0001

Other Valve No: NA

Drawing/Coord: D-175010-2 (A-2)
D-205010-2 (A-2)

Category: AC

Class: 2

Function: CTMT Air Sample Check Valve

Quarterly Test Requirements: Verify reverse-flow closure per ISTC-3510 and 5221.

Basis for Justification: Quarterly verification of reverse flow closure is not practicable because the valve is located inside containment, is not equipped with any instrumentation to allow closure verification, and any testing method would require personnel entry into the containment.

The only practical way of verifying valve closure is by performing a leakage type test such as the Appendix J, Type C test. Type C testing this valve requires removal of the containment air sampler from service and the installation of a blind flange downstream of the valve inside the containment. The air sampler is required to be in operation during cold shutdown conditions. Therefore, testing during cold shutdown is impractical. In addition, NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

Refueling Outage Testing: Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-10

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0026
Other Valve No:	8926
Drawing/Coord:	D-175038-1 (E-12) D-205038-1 (E-11)
Category:	C
Class:	2
Function:	RWST to Charging Pump Suction Check Valve
Quarterly Test Requirements:	Verify forward flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.
Basis for Justification:	The only practical method of full flow exercising this valve is by aligning the RWST to the charging pump suction and injecting full design flow into the RCS. Full flow exercising during normal operation is impossible because the charging pumps cannot develop full rated flow against RCS pressure. Injecting the highly borated RWST water into the RCS during normal operation would adversely affect reactivity and RCS temperature. The only practical way of verifying valve closure is by performing an individual flow test, or pressure decay type test, utilizing leakrate type test equipment. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leakrate type test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	The valve will be full exercised with flow during each refueling outage. Reverse flow closure will be verified by a pressure decay or flow type test, or other positive means.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-11

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0052, Q1(2)E21V0058
Other Valve No:	8861, 8947
Drawing/Coord:	D-175038-2 (D-9, A-10) D-205038-2 (D-9, A-10)
Category:	AC
Class:	2
Function:	QV0052 - SIS Accum. Fill QV0058 - Nitrogen Supply to Accumulator Tanks
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	Quarterly verification of reverse flow closure is not practicable because the valve is located inside containment, is not equipped with any instrumentation to allow closure verification, and any testing method would require personnel entry into the containment. The only practical way of verifying valve closure is by performing a leakage type test, such as the Appendix J, Type C test. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6. Bi-directional exercising in the non-safety related open direction will be satisfied by normal system operation.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-12

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0119
Other Valve No:	8381
Drawing/Coord:	D-175039-1 (B-11) D-205039-1 (B-11)
Category:	AC
Class:	2
Function:	CVCS Charging Pump Discharge to Regenerative Hx
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	Quarterly verification of reverse flow closure is not practicable because charging water flow is required during normal operation. Additionally, the valve is located inside containment, is not equipped with any instrumentation to allow closure verification, and any testing method would require personnel entry into the containment. The only practical way of verifying valve closure is by performing a leakage type test, such as the Appendix J, Type C test. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-13

System: SI/CVCS (E21)

Valve: Q1(2)E21V0062A,B,C / Q1(2)E21V0066A,B,C / Q1(2)E21V0078A,B,C / Q1(2)E21V0079A,B,C

Other Valve No: 8997A,B,C / 8995A,B,C / 8990A,B,C / 8992A,B,C

Drawing/Coord: D-175038-1
(E-3, E-3, F-3 / A-4, B-4, C-4 / G-3, G-3, G-3 / G-3, G-2, G-2)
D-205038-1
(E-3, E-3, F-3 / A-4, B-4, C-4 / G-3, G-3, G-3 / G-3, G-2, G-2)

Category: C

Class: 1

Function: QV0062A,B,C - HHSI to RCS CL
QV0066A,B,C - Charging (HHSI) Pump Discharge to RCS (CL)
QV0078A,B,C - HHSI Pumps Discharge to RCS Loops (HL)
QV0079A,B,C - HHSI Pumps Discharge to RCS Loops (HL)

Quarterly Test Requirements: Verify forward flow operational readiness per ISTC-3510 and 5221.

Basis for Justification: It is impractical to full-stroke any of these check valves with flow during normal operation because all of the associated flow paths bypass the regenerative heat exchanger, and establishing flow through these valves would result in relatively cold water being injected into the RCS. The thermal stresses produced by injecting cold water could greatly reduce the service life of the injection nozzles. Additionally, pressurizer level would rise uncontrollably during the test possibly leading to an RCS pressurizer high level Rx trip.

These valves cannot be full-stroke exercised during cold shutdowns because the RCS may not contain sufficient expansion volume to accommodate the flow required, and a low temperature overpressure condition could occur.

In addition, initiating flow through valve QV0078A,B,C and QV0079A,B,C would also disturb RCS pressure isolation valves leading to further technical specification required testing.

ROJ-V-13 (continued)

Refueling Outage Testing:

Valves will be full-stroke exercised with flow during each refueling outage. Either permanently installed or removable instrumentation will be utilized to confirm check valve exercising. Confirmation of full-stroke exercising will be either by flow measurement or by the use of nonintrusive check valve testing technology.

Bi-directional exercising in the non-safety related reverse direction will be demonstrated by the ability to establish differential pressure across the valve disc or other positive means.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-14

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0016A,B, Q1(2)E21V0063, Q1(2)E21V0068, Q1(2)E21V0072
Other Valve No:	8803A,B / 8885 / 8886 / 8884
Drawing/Coord:	D-175038-1 (B-6, H-7, J-6, G-7, G-7) D-205038-1 (B-6, H-6, J-6, G-6, G-6)
Category:	B
Class:	2
Function:	QV0016A,B - HHSI to RCS CL Isolation QV0063 - Charging (HHSI) Pumps Discharge to RCS (CL) QV0068 - Charging (HHSI) Pumps Discharge to RCS (HL) QV0072 - Charging (HHSI) Pumps Discharge to RCS (HL)
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Basis for Justification:	It is impractical to exercise these valves during normal operation because all of the associated flow paths bypass the regenerative heat exchanger, and establishing flow through these valves would result in relatively cold water being injected into the RCS. The thermal stresses produced by injecting cold water could greatly reduce the service life of the injection nozzles. Additionally, pressurizer level would rise uncontrollably during the test possibly leading to an RCS pressurizer high level Rx trip. These valves cannot be exercised during cold shutdowns because the RCS may not contain sufficient expansion volume to accommodate the flow required, and a low temperature overpressure condition could occur.
Q/CS Part Stroke Testing:	These motor operated valves are not designed for partial stroke exercising.
Refueling Outage Testing:	Exercise and time during refueling outage when the RCS is drained down to the mid-plane level and all charging pumps are secured or placed in an alignment that allows testing.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-15

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0115A,B,C
Other Valve No:	8368A,B,C
Drawing/Coord:	D-175039-1 (G-2 for all) D-205039-1 (G-2 for all)
Category:	C
Class:	2
Function:	CVCS Seal Injection to RCP
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	Reverse flow closure testing requires isolation of seal injection flow to the RCPs, therefore testing during normal operation is impractical. Valves are located inside containment and testing requires personnel entry into the containment to position associated system valves and to set up testing equipment. Personnel entry into the containment and performance of this test has the potential to: • increase personnel radiation exposure, • increase the potential for RCP seal and bearing damage due to interruption of seal injection flow, and • prolong the shutdown due to the stringent requirements on personnel entry into containment and the time required to perform the test. Therefore, the only practical method available to verify reverse flow closure is by pressure decay or leak testing at each refueling outage.
Refueling Outage Testing:	Reverse flow closure will be confirmed by a pressure decay type test or leak test (similar to Appendix J, Type C test) at each refueling outage. This type test will confirm that the check valve is capable of reverse flow closure. This is consistent with the guidance found in NRC NUREG-1482, Rev. 1, Section 4.1.6.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-16

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0122A,B,C
Other Valve No:	8481A,B,C
Drawing/Coord:	D-175039-6 (F-4, G-4, H-4) D-205039-6 (C-6, E-6, G-5)
Category:	C
Class:	2
Function:	Charging Pump Discharge
Quarterly Test Requirements:	Verify forward-flow operational readiness per ISTC-3510 and 5221.
Basis for Justification:	Charging flow during normal operation is automatically controlled by downstream flow control valve QV0347 in response to RCS operating conditions. To inject full flow into the RCS during normal operation would result in undesirable RCS boron concentrations and system pressure, temperature and level transients. Full-flow exercising these valves at cold shutdown would result in RCS pressure and level transients due to limitations on letdown capability.
Refueling Outage Testing:	Verification of full forward flow operational readiness will be performed each refueling outage.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-17

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0249A,B
Other Valve No:	8112, 8100
Drawing/Coord:	D-175039-1 (C-11, C-11) D-205039-1 (C-11, C-11)
Category:	A
Class:	2
Function:	RCP Seal to Seal Water Hx
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Basis for Justification:	Exercising these valves during normal operation or at cold shutdown results in a loss of normal seal water to the RCS pump seals. If seal water is terminated, reactor coolant is forced from the high pressure RCS into the seals. Reactor coolant normally contains a high particulate matter concentration which is carried with RCS in-leakage and contaminates the seals. Westinghouse has studied this problem (see FNP Manual U-214849, para. 6.1.1, Note 3) and recommends that seal flow be maintained at cold shutdown, as well as during normal operations.
Q/CS Part Stroke Testing:	Partial exercising is precluded for the same reasons stated above.
Refueling Outage Testing:	Exercise and time at refueling outages when the RCS is vented or open to the atmosphere.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-18

System: SI/CVCS (E21)

Valve: Q1(2)E21V0077A,B,C

Other Valve No: 8993A,B,C

Drawing/Coord: D-175038-1 (F-2, G-2, G-1)
D-205038-1 (F-2, G-2, G-2)

Category: AC

Class: 1

Function: HHSI/LHSI and RHR to RCS HL

Quarterly Test Requirements: Verify forward-flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.

Basis for Justification: These 6 inch Velan swing check valves are located inside the containment on the safety injection lines to the RCS hot legs. The valves cannot be full-forward flow exercised quarterly or at cold shutdown because the individual injection lines are not equipped with flow measuring instrumentation. Individual injection line flow rate can be measured for QV0077C in conjunction with the ECCS Branch Line flow conducted during each refueling outage. This test requires considerable test setup time and requires that the vessel head be removed to prevent possible overpressurization with a solid RCS. This test is only a partial flow test for valves QV0077A, B because these valves are also located in the LHSI flow path. Full-forward flow for QV0077A, B can only be verified using nonintrusive testing or valve sample disassembly each refueling. This test can only be performed at refueling with the RCS depressurized.

These valves are located inside the containment and are not equipped with any instrumentation that can be utilized to verify reverse flow closure. Any practical testing method would require personnel entry inside the containment. The only practical way of verifying valve closure is by performing a leakage type test. These are PIVs and are required to be leak tested per Tech Specs. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leak rate test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

ROJ-V-18 (continued)

Refueling Outage Testing:

Valve QV0077C will be full-forward flow exercised in conjunction with the ECCS Branch Line flow test which is performed each refueling outage. Valves QV0077A, B will be full forward flow exercised using nonintrusive testing each refueling. Alternately, the check valve(s) may be disassembled and manually full stroked on a sampling basis during the refueling outage to verify operability per ISTC-5221(c). Partial stroking after reassembly is not practical for the reasons stated above.

Reverse flow closure will be verified in conjunction with the PIV leakage testing in accordance with the Technical Specification surveillance requirement. This testing is consistent with the guidance found in NUREG-1482, Rev. 1, Section 4.1.6.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-19

System: SI/CVCS (E21)

Valve: Q1(2)E21V0032A,B,C And Q1(2)E21V0037A,B,C

Other Valve No: 8948A,B,C And 8956A,B,C

Drawing/Coord: D-175038-2 (D-2, D-2, E-1 And D-3, D-6, D-8)
D-205038-2 (D-2, D-2, E-2 And D-3, D-6, D-8)

Category: AC

Class: 1

Function: Accumulator Tank Discharge to RCS (CL) Check Valves

Quarterly Test Requirements: Verify forward flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.

Basis for Justification: The Safety Injection System (SIS) accumulator tanks are isolated from the Reactor Coolant System (RCS) by these normally closed check valves. Each accumulator is charged with a nitrogen blanket from 601 to 649 psig. This pressure is insufficient during normal operation to inject into the RCS. If these valves were to be full exercised at cold shutdown, the contents of the tank would be dumped into the RCS at the charge pressure of 601 to 649 psig, which could result in overpressurization of the RHR suction lines, resulting in lifting the RHR suction relief valves.

The valves cannot be full-forward flow exercised quarterly or at cold shutdown because the individual lines are not equipped with flow measuring instrumentation. Full-forward flow can only be verified by observation of indirect evidence (such as changes in system pressure, flow, temperature, or level) or other positive means. This testing can only be performed at refueling with the RCS depressurized.

The only practical way of verifying valve closure is by performing a leakage type test. These are PIVs and are required to be leak tested per Tech Specs. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leak rate test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-19 (continued)

Refueling Outage Testing:

Forward flow testing will be verified by the L/D value(s) for the check valves and piping configurations are within acceptable limits, or verifying full open stroke by flow utilizing nonintrusive check valve diagnostic equipment. Alternately, the check valve(s) may be disassembled on a sampling basis per ISTC-5221(c) during refueling outage to verify operability. Partial stroking after reassembly is not practical for the same reasons stated above.

Reverse flow closure will be verified in conjunction with the PIV leakage testing in accordance with the Technical Specification surveillance requirement. This testing is consistent with the guidance found in NUREG-1482, Rev. 1, Section 4.1.6.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-20

System: SI/CVCS (E21)

Valve: Q1(2)E21V0213

Other Valve No: 8103

Drawing/Coord: D-175039-1 (D-11)
D-205039-1 (D-11)

Category: AC

Class: 2

Function: RCP Seal to Seal Water Hx

Quarterly Test Requirements: Verify forward-flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.

Basis for Justification: This check valve provides for pressure equalization of the piping between CIVs QV0249A and QV0249B (Pen. 28) to provide over pressure protection should the RCP seal water return line be isolated during an accident. The valve, as part of the penetration, also provides a containment isolation function. This valve is located inside containment and there is no instrumentation that could be utilized to verify forward flow exercising or reverse flow closure.

The only practical way of verifying valve closure is by performing a seat leakage type test such as the Appendix J, Type C test. The Type C test for these valves requires isolation of seal water to all three Reactor Coolant Pump seals. At least one of these pumps is in service during cold shutdown. This factor makes forward or reverse flow testing during cold shutdown impractical. In addition, the NRC, in NUREG 1482, Rev. 1, Section 4.1.6, has stated that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

This valve does not have a design required forward flow rate since its only function is for containment isolation and pressure equalization due to thermal expansion of a water solid boundary. Therefore, any degree of opening of the check valve would be adequate to verify that it is capable of performing its thermal equalization function.

ROJ-V-20 (continued)

Refueling Outage Testing:

Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6.

Valve QV0213 will be verified to open each refueling outage by flowing air or water through the valve in the forward direction and observing flow out of an open test connection.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-21

System: SI/CVCS (E21)

Valve: Q1(2)E21V0076A,B

Other Valve No: 8988A,B

Drawing/Coord: D-175038-1 (F-4, G-4)
D-205038-1 (F-4, G-4)

Category: AC

Class: 1

Function: Water from Residual Hx to SI to RCS

Quarterly Test Requirements: Verify forward flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.

Basis for Justification: These valves are located inside the containment and are not equipped with any instrumentation that can be utilized to verify forward flow exercising or reverse flow closure. Any practical testing method would require personnel entry inside the containment. Confirmation of full-stroke exercise will be by nonintrusive check valve testing technology or valve sample disassembly. This test can only be performed at refueling with the RCS depressurized.

The only practical way of verifying valve closure is by performing a leakage type test. These are PIVs and are required to be leak tested per Tech Specs. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leak rate test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

Refueling Outage Testing: Valves will be full-forward flow exercised using nonintrusive testing each refueling. Alternately, the check valve(s) may be disassembled and manually full stroked on a sampling basis per ISTC-05221(c) during the refueling outage to verify operability. Partial stroking after reassembly is not practical for the reasons stated above.

Reverse flow closure will be verified in conjunction with the PIV leakage testing in accordance with the Technical Specification surveillance requirement. This testing is consistent with the guidance found in NUREG-1482, Rev. 1, Section 4.1.6.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-22

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0326A, B and Q1(2)E21V0327A, B
Other Valve No:	8132A, B and 8133A, B
Drawing/Coord:	D-175039-6 (D-5, E-5 and F-5) D-205039-6 (D-5, E-5 and F-5)
Category:	B
Class:	2
Function:	CVCS Charging Pump Discharge Header Block Valves
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Basis for Justification:	These valves are normally open and remain open during safety injection. During normal operation, only one charging pump is in operation supplying both charging water to the RCS and seal water to the RCS pump seals. To exercise these valves closed would require starting a second charging pump in order to continue to provide charging and seal water flow. Further, the closure of either of these valves places the high head safety injection system into an alignment different than that required for accident conditions. Since these valves do not receive an automatic signal to open, re-alignment to their safety injection position would require operator action while responding to the accident situation. The low safety significance of these valves (Priority level 3), as established by the FNP MOV Program, does not warrant the risk of removing the system from the normal alignment.
Q/CS Part Stroke Testing:	None. The operating controls for these MOVs were not designed to allow partial stroking.
Refueling Outage Testing:	Exercise and time at refueling outages.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-23

System:	SI/CVCS (E21)
Valve:	Q1(2)E21V0121A, B, C
Other Valve No:	8480A,B,C
Drawing/Coord:	D-175039-6 (F-4, G-4, H-4) D-205039-6 (F-4, G-4, H-4)
Category:	C
Class:	2
Function:	Charging Pump Minimum Flow Line Check Valves
Quarterly Test Requirements:	Verify forward flow operational readiness per ISTC-3510 and 5221.
Basis for Justification:	The valves cannot be full-forward flow exercised quarterly, cold shutdown or during refueling outages because the charging pump minimum flow lines are not equipped with flow measuring instrumentation. Full-stroke exercising in the forward direction can only be verified by disassembly and inspection. This activity can only be performed during refueling outages when the charging pumps can be removed from service.
Refueling Outage Testing:	The check valves shall be disassembled and inspected on a sampling basis per ISTC-5221(c) during refueling outages to verify full opening capability. The valves will be part-stroke exercised in the forward direction subsequent to reassembly.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-24

System: Liquid Waste Disposal (G21)

Valve: Q1(2)G21V0204

Other Valve No: NA

Drawing/Coord: D-175004-1 (G-9)
D-205004-1 (G-9)

Category: AC

Class: 2

Function: CTMT Sump Recirculation

Quarterly Test Requirements: Verify forward flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.

Basis for Justification: This check valve provides for pressure equalization for containment penetration 33 in case of thermal expansion of trapped fluid in a post accident environment. It also provides a recirculation flow path to prevent pump runout, thus protecting the containment sump pumps. This valve is located inside containment and is not equipped with any instrumentation that can be utilized to verify forward flow exercising or reverse flow closure. Any practical testing method would require personnel entry inside the containment.

The only practical way of verifying valve closure is by performing a leakage type test, such as the Appendix J, Type C test. NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

This valve does not have a design required flow rate since its only function is for containment isolation and pressure equalization due to thermal expansion of a water solid boundary. Therefore, any degree of opening of the check valve would be adequate to verify that it is capable of performing its thermal equalization function.

ROJ-V-24 (continued)

Refueling Outage Testing:

Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6.

Valve QV0204 will be verified to open each refueling outage by flowing air or water through the valve in the forward direction and observing flow out of an open test connection.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-25

System: Liquid Waste Disposal (G21)

Valve: Q1(2)G21V0291

Other Valve No: NA

Drawing/Coord: D-175004-1 (H-8)
D-205004-1 (H-8)

Category: AC

Class: 2

Function: Containment Sump Pump Discharge

Quarterly Test Requirements: Verify forward-flow operational readiness and reverse flow closure capability per ISTC-3510 and 5221.

Basis for Justification: This check valve provides for pressure equalization of the piping between CIVs HV3376 and HV3377 (Pen. 78) to provide over pressure protection should the containment sump pump discharge line be isolated during an accident. The valve, as part of the penetration, also provides a containment isolation function. This valve is located inside containment and there is no instrumentation that could be utilized to verify forward flow exercising or reverse flow closure.

The best and only practical way of verifying valve closure for this valve is by performing a seat leakage type test, such as the Appendix J, Type C test. The NRC, in NUREG 1482, Rev. 1, Section 4.1.6, has stated that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

This valve does not have a design required flow rate since its only function is for containment isolation and pressure equalization due to thermal expansion of a water solid boundary. Therefore, any degree of opening of the check valve would be adequate to verify that it is capable of performing its thermal equalization function.

ROJ-V-25 (continued)

Refueling Outage Testing:

Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6.

Valve QV0291 will be verified to open each refueling outage by flowing air or water through the valve in the forward direction and observing flow out of an open test connection.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-26

System:	Auxiliary Steam (N12)
Valve:	Q1(2)N12V0010A, B
Other Valve No:	**NA**
Drawing/Coord:	D-175033-2 (E-6, C-6) D-205033-2 (E-6, C-6)
Category:	C
Class:	2
Function:	Main Steam to TDAFW Pump Turbine Check Valves
Quarterly Test Requirements:	Verify reverse flow closure capability per ISTC-3510 and 5221.
Basis for Justification:	The valves cannot be full-stroke exercised in the reverse direction quarterly, cold shutdown or during refueling due to the lack of upstream test connections or pressure instrumentation. Full-stroke exercising in the reverse direction can only be verified by disassembly and inspection. This activity can only be performed during refueling outages when the steam supply lines from the steam generators can be isolated and the TDAFW pump can be removed from service.
Refueling Outage Testing:	The check valves shall be disassembled and inspected on a sampling basis per ISTC-5221(c) during refueling outages to verify full opening and closure capability. The valves will be part-stroke exercised in the forward direction subsequent to reassembly.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-27

System:	Auxiliary Feedwater (N23)
Valve:	Q1(2)N23V0013A, B, Q1(2)N23V0014A, B, C
Other Valve No:	MOV3210A, B, MOV3209A, B, MOV3216
Drawing/Coord:	D-175007 (A-3, D-3, A-2, D-2, G-3) D-205007 (A-3, D-3, A-2, D-2, G-3)
Category:	B
Class:	3
Function:	QV0013A, B & QV0014A, B - MDAFW Pump Service Water Inlet Valve QV0014C - TDAFW Pump Service Water Inlet Valve
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121.
Basis for Justification:	Exercising these valves open during normal operation or at cold shutdown would introduce chlorides and fluorides into the auxiliary feedwater system and subsequently into the steam generators. The presence of chlorides and fluorides in the secondary water chemistry has been proven to contribute to steam generator degradation. Initiation of auxiliary feedwater during testing would inject a large quantity of service water directly into the steam generators. The only way to isolate the service water system from the auxiliary feedwater system to perform testing is by closing in line manual block valves QV0015E, QV0016A, and QV0016B. If an auxiliary feedwater initiation occurred during testing, one train of auxiliary feedwater would be disabled. In addition, there is no way to verify that subsequent flushing of the affected line has removed all of the service water contaminants.
Q/CS Part Stroke Testing:	None. Partial valve exercising is precluded for the same reasons as stated above.
Refueling Outage Testing:	These valves will be exercised and timed each refueling outage when the service water system can be isolated from the auxiliary feedwater system and extensive flushing of any residual service water can be performed.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-28

System:	Service Water (P16)
Valve:	Q1(2)P16V0075
Other Valve No:	NA
Drawing/Coord:	D-175003-2 (B-9) D-205003-2 (B-9)
Category:	AC
Class:	2
Function:	Service Water to RCP Motor Coolers
Quarterly Test Requirements:	Verify reverse-flow closure per ISTC-3510 and 5221.
Basis for Justification:	This check valve is located inside containment and is not equipped with any instrumentation that can be utilized to verify reverse flow closure. Any practical test method would require personnel entry into the containment. The best and only practical way of verifying valve closure for this valve is by performing a seat leakage type test, such as the Appendix J, Type C test. The Type C test for this valve requires the complete isolation of service water to all Reactor Coolant pump motor air coolers. At least one of the pumps is in service during cold shutdowns. The resulting additional heat input into containment, especially during the summer months, would cause habitability concerns during containment entry. This factor makes testing during cold shutdown impractical. In addition, the NRC, in NUREG 1482, Rev. 1, Section 4.1.6, has stated that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6. Bi-directional exercising in the non-safety related open direction is satisfied by normal system operation.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-29

System:	Service Water (P16)
Valve:	Q1P16V0635A,B and Q1P16V0636A,B Q2P16V0635B and Q2P16V0636B
Other Valve No:	NA
Drawing/Coord:	D-175013 (E-2, E-11, E-2, E-11) D-200014 (D-9 and D-9)
Category:	C
Class:	3
Function:	Treated and Non-Treated SW to SW Pump Seals and Motor Coolers
Quarterly Test Requirements:	Verify forward flow operational readiness and reverse-flow closure capability per ISTC-3510 and 5221.
Basis for Justification:	These check valves are located at the junction of cooling/lube water supplies from the cyclone separator (non-safety related) and the service water pumps. There are no system design provisions to facilitate monitoring any parameters that can be utilized to verify either full forward flow operational readiness or reverse-flow closure.
Refueling Outage Testing:	These valves will be disassembled and manually full stroke exercised on a sampling basis per ISTC-5221(c) during refueling outages. The valve internals will be verified to be structurally sound (no loose or corroded parts), and the disk will be manually exercised to verify full stroke capability. The valves will be part stroked with flow after reassembly. The necessary valve obturator movement, verifying part stroke exercising, will be confirmed by changes in system pressure, temperature, proper sequencing of the cooling/lube water supplies from the cyclone separator and service water pumps, or other positive means, or through the use of ultrasonic (or similar) flow measuring devices. Part stroke exercising in the forward direction will be performed subsequent to reassembly.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-30

System:	Service Water (P16)
Valve:	Q1(2)P16V0206A, B, C, D
Other Valve No:	NA
Drawing/Coord:	D-175003-1 (E-2, E-11, E-2, E-11) D-205003-1 (A-7, C-7, E-7, F-7)
Category:	C
Class:	2
Function:	SW to CTMT Coolers Check Valves
Quarterly Test Requirements:	Verify reverse-flow closure per ISTC-3510 and 5221.
Basis for Justification:	These check valves are located inside containment and are not equipped with any instrumentation that can be utilized to verify reverse flow closure quarterly, at cold shutdown or refueling outage. Nonintrusive techniques cannot be successfully employed to test this valve.
Refueling Outage Testing:	These valves will be disassembled and manually full stroke exercised on a sampling basis per ISTC-5221(c) during refueling outages. The valve internal will be verified to be structurally sound (no loose or corroded parts), and the disk will be manually exercised to verify full stroke capability. The valves will be part stroked with flow after reassembly. The necessary valve obturator movement, verifying part stroke exercising, will be confirmed by changes in system pressure, temperature, or other positive means, or through the use of ultrasonic (or similar) flow measuring devices.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-31

System:	Service Water (P16)
Valve:	Q1(2)P16V0659, Q1(2)P16V0660
Other Valve No:	NA
Drawing/Coord:	D-170119-3 (C-3, C-8) D-200013-3 (C-3, C-10)
Category:	C
Class:	3
Function:	Unit 1 Service Water Supply to Diesel Generator 2C and 1C Check Valves Unit 2 Service Water Supply to Diesel Generator 2C and 1C Check Valves
Quarterly Test Requirements:	Verify reverse flow closure capability per ISTC-3510 and 5221.
Basis for Justification:	The valves cannot be full-stroke exercised in the reverse direction quarterly, cold shutdown or during refueling due to the lack of upstream test connections or pressure instrumentation. Full-stroke exercising in the reverse direction can only be verified by disassembly and inspection. This activity can only be performed during refueling outages, when service water can be isolated, and the associated diesel generator is not required to be in standby.
Refueling Outage Testing:	The check valves shall be disassembled and inspected on a sampling basis per ISTC-5221(c) during refueling outages to verify full opening and closure capability. The valves will be part-stroke exercised in the forward direction subsequent to reassembly.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-32

System:	Service Water (P16)
Valve:	Q1(2)P16V0564, Q(2)1P16V0565
Other Valve No:	NA
Drawing/Coord:	D-170119-3 (G-2) D-200013-3 (G-2)
Category:	C
Class:	3
Function:	Unit 1 Diesel Generator Service Water Train Return Check Valves Unit 2 Diesel Generator Service Water Train Return Check Valves
Quarterly Test Requirements:	Verify forward flow operational readiness per ISTC-3510 and 5221.
Basis for Justification:	The valves cannot be full-stroke exercised with flow in the forward direction quarterly, cold shutdown or during refueling due to the lack of flow measuring instrumentation in the service water return headers. Full-stroke exercising in the forward direction can only be verified by disassembly and inspection. This activity can only be performed during refueling outages, when service water can be isolated, and the associated diesel generators are not required to be in standby.
Refueling Outage Testing:	The check valves shall be disassembled and inspected on a sampling basis per ISTC-5221(c) during refueling outages to verify full opening and closure capability. The valves will be part-stroke exercised in the forward direction subsequent to reassembly.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-33

System:	Component Cooling Water (P17)
Valve:	Q1(2)P17V0082, Q1(2)P17V0097, Q1(2)P17V0099, Q1(2)P17HV3045, Q1P17HV3184
Other Valve No:	MOV3052, MOV3046, MOV3182, NA, NA
Drawing/Coord:	D-175002-2/C-1, B-5, C-6, D-6, D-5 D-205002-2/C-1, B-6, C-7, D-6, D-6
Category:	A
Class:	2
Function:	QV0082 - CCW to RCP QV0097/QV0099 - CCW Return from RCP Bearings HV3045/HV3184 - CCW Return from RCP Thermal Barrier
Quarterly Test Requirements:	Exercise and time per ISTC-3510 and 5121 (QV0082, QV0097, QV0099). Exercise, time and fail per ISTC-3510, 5131 and 3560 (HV3045&HV3184).
Basis for Justification:	These are the CIVs in the CCW supply and return lines to the RCP thermal barriers and bearing oil coolers. A loss of cooling water to these components for more than a few minutes could result in extensive damage to the reactor coolant pumps. Westinghouse recommends that cooling water be provided to these components at all times when RCS temperature is ≥ 200° F. In addition, plant operating procedures require at least one RCP to be in operation when RCS temperatures are > 160° F for hydrogen control of the reactor coolant. For short duration cold shutdowns, where the RCS temperature is maintained near 200° F, stopping cooling water to these components could result in RCP degradation and unnecessary pump repairs.
Q/CS Part Stroke Testing:	None. These valves full-stroke exercise on initiation and cannot be partial-stroke exercised.
Refueling Outage Testing:	Exercise, time, and fail (as appropriate) at each refueling outage when all reactor coolant pumps are secured. This is consistent with NRC NUREG-1482, Rev. 1, Section 3.1.1.4.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-34

System:	Component Cooling Water (P17)
Valve:	Q1(2)P17V0083, Q1(2)P17V0159
Other Valve No:	NA
Drawing/Coord:	D-175002-2 (C-2, E-2) D-205002-2 (C-2, E-2)
Category:	AC
Class:	2
Function:	QV0083 - CCW to RCP QV0159 - CCW Supply to Excess Letdown HX
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	These valves are located inside the containment and are not equipped with any instrumentation that can be utilized to verify closure exercising. Any practical test method would require personnel entry into the containment. The only practical way of verifying valve closure is by performing a seat leakage type test such as the Appendix J, Type C test. Type C testing for these valves requires the complete isolation of component cooling water to the RCP thermal barriers and the Excess Letdown Hx and the RCDT Hx, which is not practical during normal plant operation. These components are required to remain inservice during cold shutdown, thus testing during cold shutdown is also impractical. In addition, NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6. Bi-directional exercising in the non-safety open direction will be satisfied by normal system operation.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-35

System:	Component Cooling Water (P17)
Valve:	Q1(2)P17V0087A,B,C
Other Valve No:	NA
Drawing/Coord:	D-175002-2 (B-3 C-3, D-3) D-205002-2 (B-3 C-3, D-3)
Category:	C
Class:	3
Function:	CCW Inlet to RCP Thermal Barrier Check Valve
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	The only way to verify reverse flow closure of these valves requires isolating CCW flow to the RCPs, at least one of which is required to be operated during cold shutdown. Personnel entry into the containment and the RCP cubicle is required to locally measure backflow leakage. Personnel entry into containment is strictly regulated by Plant procedures during normal operation and at cold shutdown.
Refueling Outage Testing:	During each refueling outage, CCW flow to the RCPs will be isolated and reverse flow closure will be verified by measuring backflow leakage. Alternately, the check valve(s) may be disassembled and manually full stroked on a sampling basis per ISTC-5221(c) during the refueling outage to verify operability. Bi-directional exercising in the non-safety open direction will be satisfied by normal system operation. If disassembled, the valves will be part-stroke exercised in the open direction subsequent to reassembly.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-36

System:	Component Cooling Water (P17)
Valve:	Q1(2)P17HV3067, Q1(2)P17HV3095, Q1(2)P17HV3443
Other Valve No:	NA
Drawing/Coord:	D-175002-2 (F-6, F-1, F-5) D-205002-2 (E-6, E-1, E-5)
Category:	A
Class:	2
Function:	CCW to the Excess Letdown and Reactor Coolant Drain Tank Heat Exchangers
Quarterly Test Requirements:	Exercise, time and fail per ISTC-3510, 5131 and 3560.
Basis for Justification:	Exercising these valves closed creates a pressure/flow transient in the RCS pump thermal barrier and oil cooler lines. Pressure and flow are monitored at the discharge of the thermal barrier cooling water lines and will automatically close valve HV3184 on an increase of pressure or flow rate. Operating history indicates that the transient caused by closing these valves may be sufficient to cause HV3184 to close. Loss of cooling water to the pumps thermal barrier removes one of two cooling sources to the RCP seals. Closure of this cooling path is considered a threat to the seal package as part of the reactor coolant system boundary. Plant operating procedures require maintaining CCW flow to the thermal barriers or seal injection flow at all times when RCS temperature is greater than 150°F. The plant maintenance history and equipment failure trending program indicate that these valves are highly reliable. The increased risk of transients versus any gain in operational confidence level associated with quarterly testing is thus not warranted.
Q/CS Part Stroke Testing:	None. The operating controls for these valves were not designed to allow partial stroking.
Refueling Outage Testing:	Exercise, time and fail at refueling outage when all reactor coolant pumps are secured.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-37

System:	Component Cooling Water (P17)
Valve:	Q1(2)P17V0111
Other Valve No:	NA
Drawing/Coord:	D-175002-1/ E-1 D-205002-2/ E-1
Category:	C
Class:	3
Function:	CCW Pump Suction Check Valve
Quarterly Test Requirements:	Verify reverse flow closure capability in accordance with ISTC-3510 and 5221.
Basis for Justification:	This check valve is located in the miscellaneous equipment return header to the CCW pump suction. There are no system design provisions to allow closure verification for QV0111 when CCW is in service. The only practical method to verify valve closure is by performing a reverse flow test or pressure decay type test utilizing leakrate type test equipment. Performing this type test is impractical during normal operation since it would require isolation of cooling water return flow from miscellaneous equipment or removal of the entire CCW system from service for an extended period of time. In addition, NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up leakage type test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure of QV0111 will be verified by pressure decay or a flow type test, or other positive means during refueling outages when the CCW system is not required to be operable. Bi-directional exercising in the non-safety related open direction is satisfied by normal system operation.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-38

System:	Instrument Air (P19)
Valve:	Q1(2)P19V0002
Other Valve No:	NA
Drawing/Coord:	D-175034-3 (E-3) D-205034-4 (E-3)
Category:	AC
Class:	2
Function:	CTMT Instrument Air Supply
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	This valve is located inside the containment and is not equipped with any instrumentation that can be utilized to verify closure exercising. Any practical test method would require personnel entry into the containment. The only practical way of verifying valve closure is by performing a leakage type test, such as the Appendix J, Type C test. Type C testing for this valve requires the complete isolation of instrument air to the containment. Isolating instrument air to the containment affects the operation of all air operated instrument controls and valves while the instrument air header is isolated. The affected components are required to remain inservice during cold shutdown, thus testing during cold shutdown is also impractical. In addition, NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6. Bi-directional exercising in the non-safety open direction will be satisfied by normal system operation.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-39

System:	Instrument Air (P19)
Valve:	Q1(2)P19V0004
Other Valve No:	NA
Drawing/Coord:	D-175034-1 (D-10) D-205034-4 (B-6)
Category:	AC
Class:	2
Function:	Backup Air Supply to Pressurizer PORVs
Quarterly Test Requirements:	Verify reverse flow closure per ISTC-3510 and 5221.
Basis for Justification:	This valve is located inside the containment and is not equipped with any instrumentation that can be utilized to verify closure exercising. Any practical test method would require personnel entry into the containment. The only practical way of verifying valve closure is by performing a leakage type test, such as the Appendix J, Type C test. Type C testing for this valve requires the isolation of backup air to the PORVs which is not practical during normal operation or cold shutdown. In addition, NRC NUREG-1482, Rev. 1, Section 4.1.6, states that the need to set up Appendix J, Type C test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.
Refueling Outage Testing:	Reverse flow closure will be verified by an Appendix J, Type C test, other seat leakage testing similar to the Type C test, or other positive means. The Appendix J, Type C test will be performed during certain refueling outages, at frequencies per the requirements of Appendix J, Option B. Other seat leakage testing similar to the Type C test, or other positive means of confirming reverse flow closure, will be used during all other refueling outages. This testing is consistent with the guidance found in NUREG 1482, Rev. 1, Section 4.1.6.

REFUELING OUTAGE JUSTIFICATIONS

ROJ-V-40

System:	Instrument Air (P19)
Valve:	Q1(2)P19HV3611
Other Valve No:	NA
Drawing/Coord:	D-175034-2 (E-11) D-205034-2 (E-10)
Category:	A
Class:	2
Function:	CTMT Instrument Air Supply
Quarterly Test Requirements:	Exercise, time and fail test per ISTC-3510, 5131, and 3560.
Basis for Justification:	Testing this valve requires the complete isolation of instrument air to the containment. Isolating instrument air to the containment affects the operation of all air operated instrument controls and valves while the instrument air header is isolated. The affected components are required to remain in service during normal operation and cold shutdown.
Q/CS Part Stroke Testing:	Part stroke testing verification quarterly or during cold shutdown is also not practicable for the same reasons as stated above.
Refueling Outage Testing:	Valve will be exercised, stroke timed and fail position tested at refueling outages.

Joseph M. Farley Nuclear Plant – Units 1 and 2

Enclosure 2

Detailed Phase-in Schedule for FNP Units 1 & 2 Affected Procedures

Procedure Number	Procedure Title	Update Completed By	Comprehensive Pump Test and Preservice Procedures Needed?
FNP-0-SOP-0.0	GENERAL INSTRUCTIONS TO OPERATIONS PERSONNEL	12/1/2007	
FNP-0-AP-57	INSERVICE INSPECTION AND TESTING OF ASME CODE CLASS 1, 2, AND 3 SYSTEMS	12/1/2007	
FNP-2-STP-628.21	WASTE PROCESSING SYSTEM PENETRATION 31 SAFETY RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	2/29/2008	
FNP-2-STP-742	VERIFICATION OF RE-67 FLOW	2/29/2008	
FNP-2-STP-628.10	VERIFICATIO OF RELIEF VALVE (N2P19SV2228) SETPOINT FOR PORV AIR SUPPLY	2/29/2008	
FNP-2-STP-22.29	TURBINE DRIVEN AUXILIARY FEEDWATER CHECK VALVE REVERSE FLOW CLOSURE OPERABILITY	2/29/2008	
FNP-2-STP-22.13	TURBINE DRIVEN AUX. FEEDWATER PUMP CHECK VALVES FLOW VERIFICATION	2/29/2008	yes
FNP-2-STP-45.6	TURBINE BUILDING SERVICE WATER COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-1-STP-45.6	TURBINE BUILDING SERVICE WATER COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-22.20	TDAFW PUMP STEAM ADMISSION VALVES AIR ACCUMULATOR TEST	2/29/2008	yes
FNP-2-STP-644.8	TDAFP STEAM SUPPLY CHECK VALVE (Q2N12VO10A, B) FULL STROKE TEST	2/29/2008	
FNP-2-STP-45.13	SGBD COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-1-STP-45.13	SGBD COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-24.21B	SERVICE WATER PUMPS B TRAIN REMOTE SHUTDOWN CAPABILITY TEST (PUMP BREAKERS IN TEST)	2/29/2008	yes
FNP-2-STP-24.21A	SERVICE WATER PUMPS A TRAIN REMOTE SHUTDOWN CAPABILITY TEST (PUMP BREAKERS IN TEST)	2/29/2008	yes
FNP-1-STP-24.13	SERVICE WATER PUMP 2D AND 2E COLD SHUTDOWN/REFUELING INSERVICE TEST	2/29/2008	yes
FNP-2-STP-24.12	SERVICE WATER PUMP 2A, 2B, AND 2C COLD SHUTDOWN/REFUELING INSERVICE TEST	2/29/2008	yes
FNP-1-STP-24.12	SERVICE WATER PUMP 1A, 1B AND 1C COLD SHUTDOWN/REFUELING INSERVICE TEST	2/29/2008	yes
FNP-2-STP-24.11	SERVICE WATER CYCLONE SEPARATOR VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-45.12	SEAL RETURN AND B TRAIN ECCS MOV'S COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-1-STP-45.12	SEAL RETURN AND B TRAIN ECCS MOV'S COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-40.0	SAFETY INJECTION WITH LOSS OF OFF-SITE POWER TEST	2/29/2008	
FNP-2-STP-628.0	RHR PUMP SUCTION SAFETY RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	2/29/2008	yes
FNP-2-STP-628.14	RHR HEAT EXCHANGER TO CHARGING PUMP SUCTION SAFETY RELIEF VALVE SETPOINT AND SEAT TIGHTNESS TESTING	2/29/2008	yes
FNP-2-STP-628.1	RHR HEAT EXCHANGER DISCHARGE SAFETY RELIEF VALVE SETPOINT & SEAT TIGHTNESS TEST	2/29/2008	
FNP-2-STP-45.5	RHR COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-1-STP-45.5	RHR COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-11.4	RHR B TRAIN CHECK VALVE FLOW TEST	2/29/2008	
FNP-2-STP-11.3	RHR A TRAIN CHECK VALVE FLOW TEST	2/29/2008	
FNP-2-STP-4.10	REVERSE FLOW TEST OF RWST TO CHARGING PUMP CHECK VALVE	2/29/2008	yes
FNP-2-STP-45.0	REFUELING VALVE INSERVICE TEST	2/29/2008	
FNP-2-STP-24.15	REFUELING OUTAGE B-TRAIN SERVICE WATER VALVES REMOTE POSITION INDICATION INSERVICE TEST	2/29/2008	
FNP-2-STP-24.14	REFUELING OUTAGE A-TRAIN SERVICE WATER VALVES REMOTE POSITION INDICATION INSERVICE TEST	2/29/2008	
FNP-2-STP-45.2	REACTOR VESSEL HEAD VENT VALVES OPERABILITY TEST	2/29/2008	
FNP-2-STP-628.20	REACTOR MAKEUP WATER SYSTEM PENETRATION 30 SAFETY RELIEF VALVE SET PRESSURE & SEAT TIGHTNESS TESTING	2/29/2008	
FNP-2-STP-158	REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVE LEAK TEST	2/29/2008	
FNP-2-STP-628.12	REACTOR COOLANT PUMP SEAL WATER RETURN SAFETY VALVE SETPOINT AND SEAT TIGHTNESS	2/29/2008	yes
FNP-2-STP-628.19	REACTOR COOLANT PUMP MOTOR COOLER SERVICE WATER SAFETY RELIEF VALVE SETPOINT AND	2/29/2008	yes
FNP-2-STP-8.1	RCS SEAL CONTROLLED LEAKAGE TEST (HCV-186 BYPASSED)	2/29/2008	
FNP-2-STP-8.0	RCP SEAL CONTROLLED LEAKAGE TEST	2/29/2008	
FNP-2-STP-604.1	PRESSURIZER SAFETY VALVE TESTING AT WYLE LABORATORIES	2/29/2008	
FNP-2-STP-604	PRESSURIZER SAFETY VALVE TEST	2/29/2008	
FNP-2-STP-168	NON-INTRUSIVE TESTING OF CHECK VALVES	2/29/2008	

Procedure Number	Procedure Title	Update Completed By	Comprehensive Pump Test and Preservice Procedures Needed?
FNP-2-STP-170	NON-INTRUSIVE FORWARD FLOW TESTING OF ACCUMULATOR DISCHARGE CHECK VALVES	2/29/2008	
FNP-2-STP-45.7	MSIV AND BYPASS VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-22.12	MOTOR DRIVEN AUX. FEEDWATER CHECK VALVES FLOW VERIFICATION	2/29/2008	
FNP-2-STP-47.1	MISCELLANEOUS SOLENOID VALVES REMOTE POSITION INDICATION INSERVICE TEST	2/29/2008	
FNP-1-STP-45.11	MISCELLANEOUS COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-45.11	MISCELLANEOUS COLD SHUTDOWN INSERVICE TEST	2/29/2008	
FNP-2-STP-608.1	MAIN STEAM SAFETY VALVE OPERATIONAL TEST BY FURMANITE	2/29/2008	
FNP-2-STP-608.0	MAIN STEAM SAFETY VALVE OPERATIONAL TEST	2/29/2008	
FNP-2-STP-46.0	MAIN FEEDWATER VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-45.10	MAIN FEEDWATER STOP VALVES COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-1-STP-45.10	MAIN FEEDWATER STOP VALVES COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-627.1	LOCAL LEAK RATE TESTING OF THE CONTAINMENT PURGE SYSTEM	2/29/2008	
FNP-2-STP-627	LOCAL LEAK RATE TESTING OF CONTAINMENT PENETRATIONS	2/29/2008	
FNP-2-STP-628.11	LETDOWN ORIFICE OUTLET SAFETY RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	2/29/2008	
FNP-2-STP-627.2	LEAK TESTING OF THE CONTAINMENT PURGE SYSTEM	2/29/2008	
FNP-2-STP-166	INSERVICE VALVE TESTING	2/29/2008	
FNP-2-STP-644.7	HHSI/CVCS ACCUMULATOR TANK DISCHARGE CHECK VALVE FULL STROKE TEST	2/29/2008	
FNP-2-STP-628.17	EXCESS LETDOWN AND RCDT HX'S COMPONENT COOLING WATER SAFETY RELIEF VALVE SETPOINT	2/29/2008	
FNP-2-STP-10.4	EMERGENCY BORATION VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-45.4	ECCS COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-1-STP-45.4	ECCS COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-40.8	ECCS BRANCH LINE FLOW VERIFICATION AND CHARGING PUMP LOW DISCHARGE HEAD FLOW TEST (SEAL INJECTION IN SERVICE)	2/29/2008	yes
FNP-2-STP-40.7	ECCS BRANCH LINE FLOW VERIFICATION AND CHARGING PUMP LOW DISCHARGE HEAD FLOW TEST	2/29/2008	yes
FNP-2-STP-644.2	DIESEL GENERATORS 12" SERVICE WATER CHECK VALVE FULL STROKE TEST AND INSPECTION	2/29/2008	
FNP-2-STP-628.9	DIESEL GENERATOR AIR RECEIVER RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	2/29/2008	
FNP-2-STP-644.11	DG SERVICE WATER SUPPLY CHECK VALVE FULL STROKE TEST & INSPECTION	2/29/2008	
FNP-2-STP-644.3	CYCLONE SEPARATOR CHECK VALVE FULL STROKE TEST	2/29/2008	
FNP-2-STP-45.1	CVCS COLD SHUTDOWN VALVES INSERVICE TEST	2/29/2008	
FNP-1-STP-45.1	CVCS COLD SHUT DOWN VALVES INSERVICE TEST	2/29/2008	
FNP-2-STP-628.16	CTMT SUMP DISCHARGE SAFETY RELIEF VALVE SETPOINT & SEAT TIGHTNESS TESTING	2/29/2008	
FNP-2-STP-640.1	CTMT SPRAY PUMP SUCTION FROM RWST CHECK VALVE FULL STROKE TEST	5/31/2008	yes
FNP-2-STP-640.0	CTMT SPRAY PUMP DISCHARGE CHECK VALVE Q2E13V002A & B FULL STROKE TEST	5/31/2008	yes
FNP-2-STP-628.15	CONTAINMENT COOLERS SERVICE WATER RETURN SAFETY RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	5/31/2008	
FNP-2-STP-644.15	CONTAINMENT COOLER SERVICE WATER SUPPLY CHECK VALVE FULL STROKE TEST AND INSPECTION	5/31/2008	
FNP-2-STP-628.8	COMPONENT COOLING WATER SURGE TANK VACUUM RELIEF OPERATIONAL TEST (Q2P17V263A, B)	5/31/2008	
FNP-2-STP-628.6	COMPONENT COOLING WATER SURGE TANK RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	5/31/2008	
FNP-2-STP-628.18	COMPONENT COOLING WATER SUPPLY & RETURN TO RCPS SAFETY RELIEF VALVE SETPOINT	5/31/2008	
FNP-2-STP-628.7	COMPONENT COOLING WATER RHR HEAT EXCHANGER RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	5/31/2008	
FNP-2-STP-644.14	CHARGING PUMP RELIEF VALVE DISCHARGE TO PRT CHECK VALVE FULL STROKE TEST	5/31/2008	yes
FNP-2-STP-644.0	CHARGING PUMP MINIMUM FLOW LINE CHECK VALVE FULL FLOW STROKE TEST	5/31/2008	yes
FNP-2-STP-23.12	CCW TO RCP THERMAL BARRIER CHECK VALVES REVERSE FLOW TEST	5/31/2008	
FNP-2-STP-45.9	CCW COLD SHUTDOWN VALVES INSERVICE TEST	5/31/2008	
FNP-1-STP-45.9	CCW COLD SHUTDOWN VALVES INSERVICE TEST	5/31/2008	
FNP-2-STP-2.5	BORIC ACID TRANSFER PUMP OPERABILITY TEST COLD SHUT DOWN	5/31/2008	yes
FNP-1-STP-2.5	BORIC ACID TRANSFER PUMP OPERABILITY TEST COLD SHUT DOWN	5/31/2008	yes
FNP-2-STP-628.5	AUXILIARY FEEDWATER PUMP SUCTION LINE RELIEF VALVE OPERATIONAL TEST	5/31/2008	yes
FNP-2-STP-22.26	AUXILIARY FEEDWATER PUMP 2A COLD SHUTDOWN INSERVICE TEST	5/31/2008	yes

Procedure Number	Procedure Title	Update Completed By	Comprehensive Pump Test and Preservice Procedures Needed?
FNP-1-STP-22.27	AUXILIARY FEEDWATER PUMP 1B COLD SHUTDOWN INSERVICE TEST	5/31/2008	yes
FNP-1-STP-22.26	AUXILIARY FEEDWATER PUMP 1A COLD SHUTDOWN INSERVICES TEST	5/31/2008	yes
FNP-2-STP-22.28	AUX FEEDWATER PUMP SUCTION CHECK VALVES REVERSE FLOW CLOSURE OPERABILITY TEST	5/31/2008	yes
FNP-2-STP-22.27	AUX FEEDWATER PUMP 2B COLD SHUTDOWN INSERVICE TEST	5/31/2008	yes
FNP-2-STP-32.1	ACCUMULATOR DISCHARGE CHECK VALVES LEAKAGE TEST	5/31/2008	
FNP-1-STP-32.1	ACCUMULATOR DISCHARGE CHECK VALVES LEAKAGE TEST	5/31/2008	
FNP-2-STP-24.13	1C, 1D AND 1E SERVICE WATER PUMPS COLD SHUTDOWN/REFUELING INSERVICE TEST	5/31/2008	yes
FNP-2-STP-644.12	1-2A DIESEL GENERATOR SERVICE WATER SUPPLY CHECK VALVE FULL STROKE TEST AND INSP	5/31/2008	
FNP-0-GMP-27.2 (PM TASK)	DISASSEMBLY, INSPECTION, REPAIR AND REASSEMBLY OF SAFETY RELATED AND NON-SAFETY RELATED CHECK VALVES	5/31/2008	
FNP-0-STP-154.1	1-2A DIESEL GENERATOR AIR DRYER OPERABILITY VERIFICATION	5/31/2008	
FNP-0-STP-154.2	1C DIESEL GENERATOR AIR DRYER OPERABILITY VERIFICATION	5/31/2008	
FNP-0-STP-154.3	2C DIESEL GENERATOR AIR DRYER OPERABILITY VERIFICATION	5/31/2008	
FNP-0-STP-24.17	DIESEL GENERATOR SERVICE WATER VALVES REMOTE POSITION INDICATION INSERVICE TEST	5/31/2008	
FNP-0-STP-25.1	RIVER WATER PUMPS 1 2 3 4 AND 5 INSERVICE TEST	5/31/2008	yes
FNP-0-STP-25.2	RIVER WATER PUMPS 6 7 8 9 AND 10 INSERVICE TEST	5/31/2008	yes
FNP-0-STP-25.8	RIVER WATER DISCHARGE VALVE INSERVICE TEST	5/31/2008	
FNP-0-STP-26.1	CONTROL ROOM VENTILATION VALVE INSERVICE TEST	5/31/2008	
FNP-0-STP-26.2	CONTROL ROOM PRESSURIZATION-FILTRATION OPERABILITY TEST	5/31/2008	
FNP-0-STP-80.1	DG 1-2A OPERABILITY TEST	5/31/2008	
FNP-1-STP-80.14	DIESEL GENERATOR 2C OPERABILITY TEST	5/31/2008	
FNP-0-STP-80.17	DIESEL GENERATOR 2C OPERABILITY TEST	5/31/2008	
FNP-0-STP-80.2	DG 1C OPERABILITY TEST	5/31/2008	
FNP-0-STP-81.1	1-2A DIESEL GENERATOR FUEL OIL TRANSFER SYSTEM INSERVICE TEST	5/31/2008	
FNP-0-STP-81.3	1C DIESEL GENERATOR FUEL OIL TRANSFER SYSTEM INSERVICE TEST	5/31/2008	
FNP-0-STP-81.4	2C DIESEL GENERATOR FUEL OIL TRANSFER SYSTEM INSERVICE TEST	5/31/2008	
FNP-2-STP-10.3	EMERGENCY CORE COOLING VALVES INSERVICE TEST	5/31/2008	
FNP-2-STP-10.5	EMERGENCY BORATION VALVE QUARTERLY INSERVICE TEST	5/31/2008	
FNP-2-STP-11.1	RHR PUMP 2A INSERVICE TEST	5/31/2008	yes
FNP-2-STP-11.2	RHR PUMP 2B INSERVICE TEST	5/31/2008	yes
FNP-2-STP-11.6	RESIDUAL HEAT REMOVAL VALVES INSERVICE TEST	5/31/2008	
FNP-2-STP-154.1	2B DIESEL GENERATOR AIR DRYER OPERABILITY VERIFICATION	5/31/2008	
FNP-2-STP-16.1	CONTAINMENT SPRAY PUMP 2A INSERVICE TEST	5/31/2008	yes
FNP-2-STP-16.10	2A CONTAINMENT SPRAY LOOP CHECK VALVE FLOW VERIFICATION	5/31/2008	
FNP-2-STP-16.11	2B CONTAINMENT SPRAY LOOP CHECK VALVE FLOW VERIFICATION	5/31/2008	
FNP-2-STP-16.2	CONTAINMENT SPRAY PUMP 2B INSERVICE TEST	5/31/2008	yes
FNP-2-STP-16.7	CONTAINMENT SPRAY SYSTEM VALVE INSERVICE TEST	5/31/2008	
FNP-2-STP-17.0	CONTAINMENT COOLING SYSTEM TRAIN A-B OPERABILITY TEST	5/31/2008	
FNP-2-STP-18.3	CONTAINMENT PURGE AND EXHAUST VALVE INSERVICE TEST	5/31/2008	
FNP-2-STP-18.5	CONTAINMENT MINIPURGE AND EXHAUST VALVE INSERVICE TEST	5/31/2008	
FNP-2-STP-19.3	REACTOR CAVITY COOLING HYDROGEN MIXING AND POST-LOCA VENT AND SAMPLE VALVES INSERVICE TEST	5/31/2008	
FNP-2-STP-2.6	2A BORIC ACID TRANSFER PUMP QUARTERLY INSERVICE TEST	5/31/2008	yes
FNP-2-STP-2.7	2B BORIC ACID TRANSFER PUMP QUARTERLY INSERVICE TEST	5/31/2008	yes
FNP-2-STP-20.0	PENETRATION ROOM FILTRATION SYS. TRAIN A-B OPERABILITY AND VALVE INSERVICE TEST	5/31/2008	
FNP-2-STP-21.3	TDAFWP STEAM SUPPLY VALVES VALVE INSERVICE TEST	5/31/2008	
FNP-2-STP-22.1	AUX. FEEDWATER PUMP 2A INSERVICE TEST	5/31/2008	yes
FNP-2-STP-22.16	TURBINE DRIVEN AUX. FEEDWATER PUMP INSERVICE TEST	5/31/2008	yes
FNP-2-STP-22.2	AUX. FEEDWATER PUMP 2B INSERVICE TEST	5/31/2008	yes

Procedure Number	Procedure Title	Update Completed By	Comprehensive Pump Test and Preservice Procedures Needed?
FNP-2-STP-22.23	TURBINE DRIVEN AUX FEEDWATER PUMP TRIP AND THROTTLE VALVE INDICATION OPERABILITY	5/31/2008	yes
FNP-2-STP-22.24	AUX FEEDWATER SYSTEM CHECK VALVE REVERSE CLOSURE OPERABILITY TEST	5/31/2008	
FNP-2-STP-22.25	STEAM GENERATOR BLOWDOWN INSERVICE VALVE EXERCISE TEST INSERVICE TEST	5/31/2008	
FNP-2-STP-22.8	AUX. FEEDWATER INSERVICE VALVE EXERCISE TEST	5/31/2008	
FNP-2-STP-23.1	COMPONENT COOLING WATER PUMP 2A INSERVICE TEST	5/31/2008	yes
FNP-2-STP-23.2	COMPONENT COOLING WATER PUMP 2B INSERVICE TEST	5/31/2008	yes
FNP-2-STP-23.3	COMPONENT COOLING WATER PUMP 2C INSERVICE TEST	5/31/2008	yes
FNP-2-STP-23.8	COMPONENT COOLING WATER VALVE INSERVICE TEST	8/31/2008	
FNP-2-STP-24.1	SERVICE WATER PUMP 2A 2B AND 2C INSERVICE TEST	8/31/2008	yes
FNP-2-STP-24.16	CTMT CLR AND RCP MTR AIR CLR SERVICE WATER VALVE INSERVICE TEST	8/31/2008	
FNP-2-STP-24.2	SERVICE WATER PUMP 2D 2E AND 2C INSERVICE TEST	8/31/2008	yes
FNP-2-STP-24.7	SERVICE WATER VALVES INSERVICE TEST	8/31/2008	
FNP-2-STP-4.1	CHARGING PUMP 2A INSERVICE TEST	8/31/2008	yes
FNP-2-STP-4.2	CHARGING PUMP 2B INSERVICE TEST	8/31/2008	yes
FNP-2-STP-4.3	CHARGING PUMP 2C INSERVICE TEST	8/31/2008	yes
FNP-2-STP-44.0	LIQUID RAD WASTE VALVE INSERVICE TEST	8/31/2008	
FNP-2-STP-47.0	MISCELLANEOUS VALVES INSERVICE TEST	8/31/2008	
FNP-2-STP-80.1	DG 2B OPERABILITY TEST	8/31/2008	
FNP-2-STP-81.5	2B DIESEL GENERATOR FUEL OIL TRANSFER SYSTEM INSERVICE TEST	8/31/2008	
FNP-1-STP-10.3	EMERGENCY CORE COOLING VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-10.4	EMERGENCY BORATION VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-10.5	EMERGENCY BORATION VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-11.1	RHR PUMP 1A INSERVICE TEST	8/31/2008	yes
FNP-1-STP-11.2	RHR PUMP 1B INSERVICE TEST	8/31/2008	yes
FNP-1-STP-11.3	RHR A TRAIN CHECK VALVE FLOW TEST	8/31/2008	
FNP-1-STP-11.4	RHR B TRAIN CHECK VALVE FLOW TEST	8/31/2008	
FNP-1-STP-11.6	RESIDUAL HEAT REMOVAL VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-154.1	1B DIESEL GENERATOR AIR DRYER OPERABILITY VERIFICATION	8/31/2008	
FNP-1-STP-158	REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVE LEAK TEST	8/31/2008	
FNP-1-STP-16.1	CONTAINMENT SPRAY PUMP 1A INSERVICE TEST	8/31/2008	yes
FNP-1-STP-16.10	CONTAINMENT SPRAY SYSTEM CHECK VALVES FLOW TEST-A TRAIN	8/31/2008	
FNP-1-STP-16.11	CONTAINMENT SPRAY SYSTEM CHECK VALVES FLOW TEST-B TRAIN	8/31/2008	
FNP-1-STP-16.13	CONTAINMENT SPRAY SYSTEM CHECK VALVES AND PUMP FLOW TEST-A TRAIN & B TRAIN	8/31/2008	yes
FNP-1-STP-16.2	CONTAINMENT SPRAY PUMP 1B INSERVICE TEST	8/31/2008	yes
FNP-1-STP-16.7	CONTAINMENT SPRAY SYSTEM VALVE INSERVICE TEST	8/31/2008	
FNP-1-STP-166	INSERVICE VALVE TESTING	8/31/2008	
FNP-1-STP-168	NON-INTRUSIVE FORWARD FLOW TESTING OF SAFETY INJECTION CHECK VALVES	8/31/2008	
FNP-1-STP-169	CONTAINMENT SPRAY RWST SUCTION CHECK VALVE REVERSE CLOSURE TEST	8/31/2008	
FNP-1-STP-17.0	CONTAINMENT COOLING SYSTEM TRAIN A-B OPERABILITY TEST	8/31/2008	
FNP-1-STP-170	NON-INTRUSIVE FORWARD FLOW TESTING OF ACCUMULATOR DISCHARGE CHECK VALVES	8/31/2008	
FNP-1-STP-18.3	CONTAINMENT PURGE AND EXHAUST VALVE INSERVICE TEST	8/31/2008	
FNP-1-STP-18.5	CONTAINMENT MINIPURGE AND EXHAUST VALVE INSERVICE TEST	8/31/2008	
FNP-1-STP-19.3	REACTOR CAVITY COOLING HYDROGEN MIXING AND POST-LOCA VENT AND SAMPLE VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-2.6	1A BORIC ACID TRANSFER PUMP QUARTERLY INSERVICE TEST	8/31/2008	yes
FNP-1-STP-2.7	1B BORIC ACID TRANSFER PUMP QUARTERLY INSERVICE TEST	8/31/2008	yes
FNP-1-STP-20.0	PENETRATION ROOM FILTRATION SYSTEM TRAIN A(B) QUARTERLY OPERABILITY AND VALVE INSERVICE TEST	8/31/2008	

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FNP-1-STP-21.3	TDAFWP STEAM SUPPLY VALVES VALVE INSERVICE TEST	8/31/2008	
FNP-1-STP-22.1	AUXILIARY FEEDWATER PUMP 1A INSERVICE TEST	8/31/2008	yes
FNP-1-STP-22.12	MOTOR DRIVEN AUX. FEEDWATER CHECK VALVES FLOW VERIFICATION	8/31/2008	
FNP-1-STP-22.13	TURBINE DRIVEN AUX. FEEDWATER PUMP CHECK VALVES FLOW VERIFICATION	8/31/2008	yes
FNP-1-STP-22.16	TURBINE DRIVEN AUX. FEEDWATER PUMP INSERVICE TEST	8/31/2008	yes
FNP-1-STP-22.2	AUXILIARY FEEDWATER PUMP 1B INSERVICE TEST	8/31/2008	yes
FNP-1-STP-22.20	TDAFW PUMP STEAM ADMISSION VALVES AIR ACCUMULATOR TEST	8/31/2008	yes
FNP-1-STP-22.23	TURBINE DRIVEN AUXILIARY FEEDWATER PUMP TRIP AND THROTTLE VALVE INDICATOR OPERABILITY	8/31/2008	yes
FNP-1-STP-22.24	AUX FEEDWATER SYSTEM CHECK VALVE REVERSE FLOW CLOSURE OPERABILITY TEST	8/31/2008	
FNP-1-STP-22.25	STEAM GENERATOR BLOWDOWN INSERVICE VALVE EXERCISE TEST	8/31/2008	
FNP-1-STP-22.28	AUX FEEDWATER PUMP SUCTION CHECK VALVES REVERSE FLOW CLOSURE OPERABILITY TEST	8/31/2008	yes
FNP-1-STP-22.29	TURBINE DRIVEN AUXILIARY FEEDWATER CHECK VALVE REVERSE FLOW CLOSURE OPERABILITY	8/31/2008	
FNP-1-STP-22.8	AUXILIARY FEEDWATER INSERVICE VALVE EXERCISE TEST	8/31/2008	
FNP-1-STP-23.1	COMPONENT COOLING WATER PUMP 1A INSERVICE TEST	8/31/2008	yes
FNP-1-STP-23.12	CCW TO RCP THERMAL BARRIER CHECK VALVE REVERSE FLOW TEST	8/31/2008	
FNP-1-STP-23.2	COMPONENT COOLING WATER PUMP 1B INSERVICE TEST	8/31/2008	yes
FNP-1-STP-23.3	COMPONENT COOLING WATER PUMP 1C INSERVICE TEST	8/31/2008	yes
FNP-1-STP-23.8	COMPONENT COOLING WATER VALVE INSERVICE TEST	8/31/2008	
FNP-1-STP-24.1	SERVICE WATER PUMP 1A 1B AND 1C INSERVICE TEST	8/31/2008	yes
FNP-1-STP-24.11	SERVICE WATER CYCLONE SEPARATOR VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-24.14	REFUELING OUTAGE A-TRAIN SERVICE WATER VALVES REMOTE POSITION INDICATION INSERVICE TEST	8/31/2008	
FNP-1-STP-24.15	REFUELING OUTAGE B-TRAIN SERVICE WATER VALVES REMOTE POSITION INDICATION INSERVICE TEST	8/31/2008	
FNP-1-STP-24.16	CTMT CLR AND RCP MTR AIR CLR SERVICE WATER VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-24.2	SERVICE WATER PUMP 1D 1E AND 1C INSERVICE TEST	8/31/2008	yes
FNP-1-STP-24.21A	SERVICE WATER PUMPS A TRAIN REMOTE SHUTDOWN CAPABILITY TEST (PUMP BREAKERS IN TEST)	8/31/2008	yes
FNP-1-STP-24.21B	SERVICE WATER PUMPS B TRAIN REMOTE SHUTDOWN CAPABILITY TEST (PUMP BREAKERS IN TEST)	8/31/2008	yes
FNP-1-STP-24.7	SERVICE WATER VALVES INSERVICE TEST	8/31/2008	
FNP-1-STP-4.1	CHARGING PUMP 1A INSERVICE TEST	8/31/2008	yes
FNP-1-STP-4.10	REVERSE FLOW TEST OF RWST TO CHARGING PUMP CHECK VALVE	11/30/2008	yes
FNP-1-STP-4.2	CHARGING PUMP 1B INSERVICE TEST	11/30/2008	yes
FNP-1-STP-4.3	CHARGING PUMP 1C INSERVICE TEST	11/30/2008	yes
FNP-1-STP-40.0	SAFETY INJECTION WITH LOSS OF OFF-SITE POWER TEST	11/30/2008	
FNP-1-STP-40.7	ECCS BRANCH LINE FLOW VERIFICATION AND CHARGING PUMP LOW DISCHARGE HEAD FLOW TEST	11/30/2008	yes
FNP-1-STP-40.8	ECCS BRANCH LINE FLOW VERIFICATION AND CHARGING PUMP LOW DISCHARGE HEAD FLOW TEST (SEAL INJECTION IN SERVICE)	11/30/2008	yes
FNP-1-STP-44.0	LIQUID RAD WASTE VALVE INSERVICE TEST	11/30/2008	
FNP-1-STP-45.0	REFUELING VALVE INSERVICE TEST	11/30/2008	
FNP-1-STP-45.2	REACTOR VESSEL HEAD VENT VALVES OPERABILITY TEST	11/30/2008	
FNP-1-STP-45.7	MSIV AND BYPASS VALVES INSERVICE TEST	11/30/2008	
FNP-1-STP-46.0	MAIN FEEDWATER VALVE INSERVICE TEST	11/30/2008	
FNP-1-STP-47.0	MISCELLANEOUS VALVES INSERVICE TEST	11/30/2008	
FNP-1-STP-47.1	MISCELLANEOUS SOLENOID VALVES REMOTE POSITION INDICATION INSERVICE TEST	11/30/2008	
FNP-1-STP-604	PRESSURIZER SAFETY VALVE TEST	11/30/2008	
FNP-1-STP-604.1	PRESSURIZER SAFETY VALVE TESTING AT WYLE LABORATORIES	11/30/2008	
FNP-1-STP-608	MAIN STEAM SAFETY VALVE OPERATIONAL TEST	11/30/2008	
FNP-1-STP-608.1	MAIN STEAM SAFETY VALVE OPERATIONAL TEST BY FURMANITE	11/30/2008	
FNP-1-STP-627	LOCAL LEAK RATE TESTING OF CONTAINMENT PENETRATIONS	11/30/2008	

Procedure Number	Procedure Title	Update Completed By	Comprehensive Pump Test and Preservice Procedures Needed?
FNP-1-STP-627.1	LOCAL LEAK RATE TESTING OF THE CONTAINMENT PURGE SYSTEM	11/30/2008	
FNP-1-STP-627.2	LEAK TESTING OF THE CONTAINMENT PURGE SYSTEM	11/30/2008	
FNP-1-STP-628.0	RHR PUMP SUCTION SAFETY RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	11/30/2008	yes
FNP-1-STP-628.1	RHR HEAT EXCHANGER DISCHARGE SAFETY RELIEF VALVE SETPOINT & SEAT TIGHTNESS TEST	11/30/2008	
FNP-1-STP-628.10	VERIFICATION OF RELIEF VALVE (N1P19PSV2228) SETPOINT FOR PORV BACKUP AIR SUPPLY	11/30/2008	
FNP-1-STP-628.11	LETDOWN ORIFICE OUTLET SAFETY RELIEF VALVE SETPOINT AND SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-628.12	RCP PUMP SEAL WATER RETURN SAFETY RELIEF VALVE SETPOINT & SEAT TIGHTNESS TESTING	11/30/2008	yes
FNP-1-STP-628.14	RHR HEAT EXCHANGER TO CHARGING PUMP SUCTION SAFETY RELIEF VALVE SETPOINT AND SEAT TIGHTNESS TESTING	11/30/2008	yes
FNP-1-STP-628.15	CONTAINMENT COOLERS SERVICE WATER RETURN SAFETY RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-628.16	CTMT SUMP DISCHARGE SAFETY RELIEF VALVE SETPOINT &SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-628.17	EXCESS LETDOWN AND RCDT HX'S COMPONENT COOLING WATER SAFETY RELIEF VALVE SETPOINT	11/30/2008	
FNP-1-STP-628.18	COMPONENT COOLING WATER SUPPLY & RETURN TO RCP SAFETY RELIEF VALVE SETPOINT	11/30/2008	
FNP-1-STP-628.19	RCP MOTOR COOLER SERVICE WATER SAFETY RELIEF VALVE SETPOINT & SEAT TIGHTNESS	11/30/2008	
FNP-1-STP-628.20	REACTOR MAKEUP WATER SYSTEM PENETRATION 30 SAFETY RELIEF VALVE SET PRESSURE & SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-628.21	WASTE PROCESSING SYSTEM PENETRATION 31 SAFETY RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-628.5	AUXILIARY FEEDWATER PUMP SUCTION LINE RELIEF VALVE SETPOINT & SEAT TIGHTNESS	11/30/2008	yes
FNP-1-STP-628.6	COMPONENT COOLING WATER SURGE TANK RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-628.7	COMPONENT COOLING WATER RHR HEAT EXCHANGER RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-628.8	COMPONENT COOLING WATER SURGE TANK VACUUM RELIEF OPERATIONAL TEST (Q1P17V263A,B)	11/30/2008	
FNP-1-STP-628.9	DIESEL GENERATOR AIR RECEIVER RELIEF VALVE SET PRESSURE AND SEAT TIGHTNESS TESTING	11/30/2008	
FNP-1-STP-640.2	CTMT SPRAY PUMP SUCTION FROM RWST CHECK VALVE (Q1E13V014) FULL STROKE TEST	11/30/2008	yes
FNP-1-STP-640.3	CONTAINMENT SPRAY PUMP DISCHARGE CHECK VALVE (Q1E13V002A AND B) FULL STROKE TEST	11/30/2008	yes
FNP-1-STP-644.0	CHARGING PUMP MINIMUM FLOW LINE CHECK VALVE FULL FLOW STROKE TEST	11/30/2008	yes
FNP-1-STP-644.11	DG SERVICE WATER SUPPLY CHECK VALVEB FULL STROKE TEST & INSPECTION	11/30/2008	
FNP-1-STP-644.12	1-2A DG SW SUPPLY CHECK VALVE FULL STROKE TEST & INSPECTION	11/30/2008	
FNP-1-STP-644.14	CHARGING PUMP RELIEF VALVE DISCHARGE TO PRT CHECK VALVE FULL STROKE TEST	11/30/2008	yes
FNP-1-STP-644.15	CONTAINMENT COOLER SERVICE WATER SUPPLY CHECK VALVE FULL STROKE TEST AND INSEPCTION	11/30/2008	
FNP-1-STP-644.2	DG 12" SERVICE WATER CHECK VALVE FULL STROKE TEST & INSPECTION	11/30/2008	
FNP-1-STP-644.3	CYCLONE SEPARATOR CHECK VALVE FULL STROKE TEST	11/30/2008	
FNP-1-STP-644.7	HHSI/CVCS ACCUMULATOR TANK DISCHARGE CHECK VALVE FULL STROKE TEST	11/30/2008	
FNP-1-STP-644.8	TDAFP STEAM SUPPLY CHECK VALVE Q1N12V010A,B FULL STROKE TEST	11/30/2008	
FNP-1-STP-742	VERIFICATION OF RE-67 FLOW	11/30/2008	
FNP-1-STP-8.0	RCP SEAL CONTROLLED LEAKAGE TEST	11/30/2008	
FNP-1-STP-8.1	RCS SEAL CONTROLLED LEAKAGE TEST (HCV-186 BYPASSED)	11/30/2008	
FNP-1-STP-80.1	DG 1B OPERABILITY TEST	11/30/2008	
FNP-1-STP-81.2	1B DIESEL GENERATOR FUEL OIL TRANSFER SYSTEM INSERVICE TEST	11/30/2008	