Exelon Nuclear Generation, LLC 200 Exelon Way Kennett Square, PA 19348

# Braidwood Nuclear Power Station Units 1 & 2

**Commercial Service Dates:** 

Unit 1 – 7/29/88, Docket No. 50-456 Unit 2 – 10/17/88, Docket No. 50-457

> 35100 S. Rt. 53 Suite 84 Braidwood, Illinois 60407

# Inservice Testing Program Fourth Ten Year Interval July 29, 2018- July 28, 2028

**Revision 3** 

RESERVED

### **REVISION RECORD**

|

Date		Prepared; IST Program	Reviewed	Approved;
		Engineer	Corporate IST Engineer	Engr. Programs Manager
7/29/2018	Fourth Ten Year Interval Update	Carl McIlheran 7/19/18	Phil Kehoe 7/19/18	Donald Merkle 7/19/18
8/10/2018	Corrected Valve Tables to latest program intent			
6/8/2020	Minor edits per ATI 4302511-04. This included added Supplemental Position Verification description to Plan (3.1.1), updated Valve Tables to latest program intent (corrected applicable MOV full- stroke exercise frequencies from 2 years to 18 months, corrected 1SX005 and 0SX007 FSE frequencies from quarterly to 18 months, removed the diagnostic test for the 1/2S18808A-D, re-inserted RJ-8), updated Plan and Tables to follow notation of latest version of ER-AA-321-1002. Also corrected CS-15 to note 18-month frequency, added CVCM table (Attachment 16). Removed exempt pumps 0FC03PA/B and 1/2FC01P from pump table per ATI 4343137-03.	Carl McIlheran 6/8/20	See E-mail Approval attached	See E-mail Approval attached
11/25/2020	Added OMN-26 Relief Request, RAI and the applicable SER per ATI 04130629-24. Also performed minor corrections to valve table: 1) Re- inserted 1PS229A, 2) Removed PIT for 1(2)RY8010A/B/C	Carl McIlheran 12/2/20 McIlh eran, Carl Carl LABSO-0600	Weiss, Glenn D. Digitally signed by Weiss, Glenn D. DN: cn=Weiss, Glenn D. Date: 2020.12.02 16:27:46 -05'00'	Murray Patrick Digitally signed Murray, Patrick DN: cn=Murray, Patrick Date: 2020.12.0 07:07:47 -06'00'
	6/8/2020	program intent6/8/2020Minor edits per ATI 4302511-04. This included added Supplemental Position Verification description to Plan (3.1.1), updated Valve Tables to latest program intent (corrected applicable MOV full- stroke exercise frequencies from 2 years to 18 months, corrected 1SX005 and 0SX007 FSE frequencies from quarterly to 18 months, removed the diagnostic test for the 1/2SI8808A-D, re-inserted RJ-8), updated Plan and Tables to follow notation of latest version of ER-AA-321-1002. Also corrected CS-15 to note 18-month frequency, added CVCM table (Attachment 16). Removed exempt pumps 0FC03PA/B and 1/2FC01P from pump table per ATI 4343137-03.11/25/2020Added OMN-26 Relief Request, RAI_ and the applicable SER per ATI 04130629-24. Also performed minor corrections to valve table: 1) Re- inserted 1PS229A, 2) Removed PIT for	8/10/2018       Corrected Valve Tables to latest program intent         6/8/2020       Minor edits per ATI 4302511-04. This included added Supplemental Position Verification description to Plan (3.1.1), updated Valve Tables to latest program intent (corrected applicable MOV full-stroke exercise frequencies from 2 years to 18 months, corrected 1SX005 and 0SX007 FSE frequencies from 2 years to 18 months, removed the diagnostic test for the 1/2S18808A-D, re-inserted RJ-8), updated Plan and Tables to follow notation of latest version of ER-AA-321-1002. Also corrected CS-15 to note 18-month frequency, added CVCM table (Attachment 16). Removed exempt pumps 0FC03PA/B and 1/2FC01P from pump table per ATI 4343137-03.       Carl         11/25/2020       Added OMN-26 Relief Request, RAI and the applicable SER per ATI 04130629-24. Also performed minor corrections to valve table: 1) Reinserted 1PS229A, 2) Removed PIT for 1(2)RY8010A/B/C       Carl	8/10/2018       Corrected Valve Tables to latest program intent         6/8/2020       Minor edits per ATI 4302511-04. This included added Supplemental Position Verification description to Plan (3.1.1), updated Valve Tables to latest program intent (corrected applicable MOV full-stroke exercise frequencies from 2 years to 18 months, corrected 1SX005 and 0SX007 FSE frequencies from quarterly to 18 months, removed the diagnostic test for the 1/2S18808A-D, re-inserted RJ-8), updated Plan and Tables to follow notation of latest version of ER-AA-321-1002. Also corrected CS-15 to note 18-month frequency, added CVCM table (Attachment 16). Removed exempt pumps 0FC03PA/B and 1/2FC01P from pump table per ATI 4343137-03.       Carl McIlheran 12/2/20       Weiss, Glenn 1/2/2/20         11/25/2020       Added OMN-26 Relief Request, RAI and the applicable SER per ATI 04130629-24. Also performed minor corrections to valve table: 1) Reinserted 1PS229A, 2) Removed PIT for 1(2)RY8010A/B/C       Carl McIlh Officiation of Datest 04/2/2/20       Dreinserted 1PS229A, 2) Removed PIT for 1(2)RY8010A/B/C         0.       Dreinserted 200, 200, 200, 200, 200, 200, 200, 200

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### 1.0 **INTRODUCTION**

This IST Plan has been prepared for Braidwood Station Unit 1 and Unit 2. Both Units are Westinghouse Pressurized Water Reactor Nuclear Plant, with a generation of approximately 1242 MWe for Unit 1 and 1210 MWe for Unit 2. Both Braidwood Unit 1 and Unit 2 are licensed as a hot shutdown plant.

The Braidwood Station Unit 1 and Unit 2 are in their fourth 10 year Interval; the Code of Record for Braidwood is ASME OM Code 2012 Edition. The Interval started on July 29, 2018 and will end on July 28, 2028.

### 1.1 Purpose

To provide requirements for the performance and administration of assessing the operational readiness of those pumps and valves whose specific functions are required to:

- Shutdown the reactor to the safe shutdown condition,
- Maintaining the safe shutdown condition, or
- To mitigate the consequences of an accident.

Non-ASME components may be included as "augmented" components within the IST Program.

### 1.2 Scope

All references to the ASME OM Code within this document are intended to apply to the 2012 Code Edition. The program plan was prepared to meet the requirements of the following:

- Subsections of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants, 2012 Edition as follows:
  - ASME OM Code, Subsection ISTA, "General Requirements"

ISTA contains the requirements directly applicable to inservice testing including the Owner's Responsibility and Records Requirements.

• ASME OM Code, Subsection ISTB, "Inservice Testing of Pumps in Light-Water Reactor Nuclear Power Plants – Pre-2000 Plants"

ISTB establishes the requirements for inservice testing of pumps in light-water reactor nuclear power plants. The pumps covered are those provided with an emergency power source, that are required in the shutting down the reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigation of the consequences of an accident.

• ASME OM Code, Subsection ISTC, "Inservice Testing of Valves in Light-Water Reactor Nuclear Power Plants"

ISTC establishes the requirements for inservice testing of valves in light-water reactor nuclear power plants. The valves covered include those that are required to perform a specific function, either active or passive, in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. Valves that provide overpressure protection to systems or portions of system that are required to perform any of these functions are also included.

 ASME OM Code, Division 1, Mandatory Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants"

Appendix I provides the requirements for performance testing and monitoring of nuclear plant pressure relief devices. Methods, intervals, and record requirements for monitoring and testing are established, as well as requirements for the evaluation of results.

 ASME OM Code, Division 1, Mandatory Appendix II, "Check Valve Condition Monitoring Program"

Appendix II provides an alternative to the check valve testing or examination requirements of ISTC-3510, ISTC-3520, ISTC-3530, ISTC-3550, and ISTC-5221. The purpose of this program is both to improve valve performance and to optimize testing, examination, and preventive maintenance activities in order to maintain the continued acceptable performance of a select group of check valves.

• ASME OM Code, Division 1, Mandatory Appendix III, "Preservice and Inservice Testing of Active Electric Motor Operated Valve Assemblies in Light-Water Reactor Power Plants"

Appendix III establishes the requirements for inservice testing to assess the operational readiness of active motor-operated valves (MOVs) in light-water reactor (LWR) power plants.

 ASME OM Code, Division 1, Mandatory Appendix V, "Pump Periodic Verification Test Program"

Appendix V establishes the requirements for implementing a pump periodic verification test. As discussed in ISTB-1400, the Owner shall establish a pump periodic verification test program for certain applicable pumps that are tested in accordance with para. ISTA-1100.

 Additionally, ASME OM Code Cases that have been approved for use by the NRC per Regulatory Guide 1.192 and are adopted for use at Braidwood (subject to additional NRC approval where required) are identified below. These Code Cases shall be used during the fourth 10-Year Interval IST Program implementation with all conditions, as applicable:

• Code Case OMN-20, "Inservice Test Frequency," Revision 0.

During the Third IST 10-Year Interval, OMN-20 was authorized for use by the USNRC per Agency wide Documents Access and Management System (ADAMS) No. ML17046A286, dated February 21, 2017.

On August 17, 2017 the NRC added a new condition as 50.55a(b)(3)(x), "ASME OM Code Case OMN-20," to allow licensees to implement OM Code Case OMN-20, "Inservice Test Frequency," in the OM Code, 2012 Edition. This condition allows voluntary action initiated by the licensee to use the code case and is, therefore, not a backfit.

• Code Case OMN-26, "Alternate Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves."

OMN-26 was authorized for use via approved Code Case by the USNRC. See SER (ADAMS # ML20232A171) dated September 1, 2020.

The Braidwood Nuclear Power Station Pump and Valve Inservice Testing Plan will be in effect through the fourth 120-month interval.

- Unit One: July, 29, 2018 through July 28, 2028
- Unit Two: July 29, 2018 through July 28, 2028
- This plan will be updated as required in accordance with 10 CFR50.55a(f).

The Braidwood Nuclear Power Station Inservice Testing Basis Document includes the justification for inclusion of components in the scope of IST and also the justifications for exclusion from the program. Administrative procedures, surveillance testing procedures, and other records required to define and execute the Inservice Testing Program are all retained and available at Braidwood Nuclear Power Station.

### 2.0 INSERVICE TESTING PLAN FOR PUMPS

### 2.1 **Pump Inservice Testing Plan Description**

The Braidwood Inservice Testing Plan for Pumps meets the requirements of Subsections ISTA and ISTB and Mandatory Appendix V of the ASME OM Code-2012, except where relief has been granted by the NRC. Relief requests, if any, would be provided in Attachment 2.

### 2.2 **Pump Plan Table Description**

The pumps included in the Braidwood Nuclear Power Station IST Plan are listed in Attachment 14. The information contained in that table identifies those pumps required to be tested to the requirements of ASME OM Code, the parameters measured, associated Relief Requests and comments, and other applicable information. The column headings for the Pump Table are listed below with an explanation of the content of each column.

Pump EPN		ique Equipment Part Number (EPN) for the pump. Each EPN is ed with a Unit designator for the pump:		
	0	Common		
	1	Unit 1		
	2	Unit 2		
Pump Name	The descriptive name for the	pump.		
Safety Class		1, 2, or 3) of the pump. Non-ASME Safety 1 "NC." Non-Safety-Related pumps are		
	1	Class 1		
	2 3	Class 2		
	3	Class 3		
	NC	Non-Code, Safety Related		
	NS	Non-Safety Related		
Pump Type	The type of pump.			
	C Centrifugal PDN Positive Displaceme PDR Positive Displaceme VLS Vertical Line Shaft	ent - Non-Reciprocating ent - Reciprocating		

# 2.2 Pump Plan Table Description (Cont'd)

Pump Driver	The type of pump driver.		
	A D M T ENG		Air-motor Diesel Motor (electric) Turbine (steam) Combustion Engine (Diesel)
Pump Group	The pump gro	up as defined i	n ISTB-2000
	Group A Group B Group A/B N/A		routinely operated pumps os not operated routinely
<u>P&amp;ID</u>	The Piping an represented.	d Instrumentati	ion Drawing on which the pump is
P&ID Coor.	The P&ID Co	ordinate locatio	on of the pump.
<u>Test Type</u>	Measured test	parameters.	
	Ν		Speed, measured only for variable speed pumps.
	dP		Differential pressure
	DIS-P		Discharge pressure, measured for positive displacement pumps.
	Q		Flow rate, measured using a rate or quantity meter installed in the pump test circuit.
	V		Pump bearing vibration, either by displacement or velocity as appropriate
	SKID		Skid mounted

2.2	Pump Plan Table	e Description (Cont'd)		
	<u>Test Freq.</u>	The frequency for performing the specified inservice test.		
		Q	Quarterly (92 Days)	
		Y2	Once every two years (Biennial)	
	<u>RR#</u>	by Code unless specifical Request.	ormed at the frequencies specified ly documented by a Relief is listed when a specific code requirement is icable.	
	<u>Tech Pos</u>	are not easily interpreted technical position is use being implemented at the	ber is listed when the requirements of the code and clarifying information is needed. The d to document how Code requirements are station. This provides the Technical Position blicable to the pump or test.	

### 3.0 INSERVICE TESTING PLAN FOR VALVES

### 3.1 Valve Inservice Testing Plan Description

The Inservice Testing Plan for Valves documents compliance with the requirements of Subsection ISTC of the ASME OM Code except where relief has been granted by the NRC. Relief requests are provided in Attachment 5.

Where the quarterly exercise testing requirement for various valves have been determined to be impracticable, Cold Shutdown or Refuel Outage Justifications have been identified and written. These justifications are provided in Attachments 9 and 11 respectively. **3.1.1** Supplemental Position Indication

On August 17, 2017, the Code of Federal Regulations was updated with a mandatory condition which emphasizes the critical nature of ensuring effective monitoring of valve obturator position and operational readiness as an integral part of performing ISTC-3700 testing. Mandatory Condition 12 for licensees intending to adopt the 2012 edition of the ASME OM Code reads as follows:

"(xi) OM condition: Valve Position Indication. When implementing paragraph ISTC–3700, "Position Verification Testing," in the ASME OM Code, 2012 Edition through the latest edition and addenda of the ASME OM Code incorporated by reference in paragraph (a)(1)(iv) of this section, licensees shall verify that valve operation is accurately indicated by supplementing valve position indicating lights with other indications, such as flow meters or other suitable instrumentation to provide assurance of proper obturator position for valves with remote position indication within the scope of Subsection ISTC including its mandatory appendices and their verification methods and frequencies."

In response to this new requirement, the Braidwood IST Program has identified, and in some cases developed, methods to verify valve obturator position is accurately indicated. The listing of the methodology used to verify Supplemental Position Indication (SPI) compliance for the applicable valves is maintained in the valve basis documentation.

### 3.2 Valve Plan Table Description

The valves included in the Braidwood Nuclear Station IST Plan are listed in Attachment 15. The information contained in these tables identify those valves that are required to be tested to the requirements of ASME OM Code, the test methods and frequency of testing, the associated relief requests, and other applicable information. The headings for the valve tables are delineated below.

Valve Name	The descriptive name of the valve.		
Valve EPN	A unique identifier for the valve. designator for the valve:	Each EPN is preceded with a Unit	

	0 1	Common Unit 1
	2	Unit 2
<u>Safety Class</u>	Class valves are designated	. 1,2, or 3) of the valve. Non-ASME Safety d "NC". Non-Safety-Related valves are ed valves are designated as "0".
	1	Class 1
	2	Class 2
	3	Class 3
	NC	Non-Code, Safety Related
	NS	Non-Safety Related
	0	Augmented

# 3.2 Valve Plan Table Description (Cont'd)

Cat	The code category (or cat Subsection ISTC-1300.	regories) as defined in 2012 ASME OM Code
	A B C D A/C B/C	Seat Leakage Limited. Seat Leakage Not Required. Self-Actuating Valves. Single Use Valves. Both Categories A and C Both Categories B and C
Size	The nominal pipe size of	the valve, in inches.
Valve Type	The valve body style abb	reviation.
	3W 4W ANG BAL BTF CK DAM DIA GA GL NDL PCV PLT PLG PPT RV RPD SV SCK SHR TC VB XFC	3-Way Valve 4-Way Valve Angle Valve Ball Valve Butterfly Valve Check Valve Damper Diaphragm Valve Gate Valve Globe Valve Needle Valve Pressure Control Valve Pilot Valve Plug Valve Poppet Valve Relief Valve Rupture Disk Safety Valve Stop Check Valve Shear Valve/SQUIB Valve Testable Check Valve Vacuum Breaker Valve

# 3.2 Valve Plan Table Description (Cont'd)

Act. Type	The actuator type abbreviation.	
	AO	Air Operator
	DF	Dual Function (Self Actuated and
		Power Operated)
	EXP	Explosive Actuator
	НО	Hydraulic Operator
	Μ	Manual
	МО	Motor Operator
	SA	Self-Actuating
	SAP	Self-Actuated Pilot
	SO	Solenoid Operator
Active/Passive		
	А	Active
	Р	Passive
<u>Positions</u> <u>Norm/Fail/Safety</u>	Abbreviations used to ide positions for the valve. Abb	ntify the normal, fail, and safety-related previations used are:
	AI	As Is
	C	Closed
	CKL	Closed/Actuator Key Locked
	D	De-energized
	D/E	De-energized or Energized
	Е	Energized
	LC	Locked Closed
	LO	Locked Open
	LT	Locked Throttled
	N/A	No Safety Related Position
	0	Open
	O/C	Open or Closed
	OKL	Open/Actuator Key Locked
	SYS	System Condition Dependent
	Т	Throttled

# 3.2 Valve Plan Table Description (Cont'd)

<u>P&amp;ID</u>	The Piping and Instrumentation Drawing (P&ID) number on which the valve appears. If the valve appears on multiple P&IDs, the primary P&ID will be listed.		
P&ID Coor.	The coordinate location on the coordinate locati	ne P&ID where the valve appears.	
<u>Test Type</u>	the types of testing which a	A listing of abbreviations used to designate re required to be performed on the valve actional requirements. Abbreviations used	
	BDC	Bidirectional Check Valve test (non-	
		safety related closure test)	
	BDO	Bidirectional Check Valve test (non- safety related open test)	
	$CC^2$	Check Valve Exercise Test - Closed	
	$CO^2$	Check Valve Exercise Test – Open	
	$CP^2$	Check Valve Partial Exercise Test	
	DIAG	Diagnostic Test	
	DT	Category D Test	
	EC	Exercise Test – Closed (manual valve)	
	EO	Exercise Test – Open (manual valve)	
	FC	Fail-Safe Exercise Test - Closed	
	FO	Fail-Safe Exercise Test - Open	
	$LT^{1}$	Leak Rate Test	
	OMN-C	OMN-1 Criteria Closed Test	
	OMN-O	OMN-1 Criteria Open Test	
	PI	Position Indication Verification Test	
	TRV	Replace Thermal Relief Valves	
	RT	Relief Valve Test	
	SC	Exercise Closed (without stroke-timing)	
	SD	Solenoid De-energize	
	SE	Solenoid Energize	
	SO	Exercise Open (without stroke-timing)	
	SPO	Partial Exercise Open (Cat. A or B)	
	SPC	Partial Exercise Close (Cat. A or B)	
	STC	Exercise/Stroke-Time Closed	
	STO	Exercise/Stroke-Time Open	

<sup>1</sup> A third letter, following the "LT" designation for leakage rate test, may be used to differentiate between the tests.

For example, Appendix J leak tests will be designated as "LTJ", low pressure (non-Appendix J) leak tests as "LTL", high pressure leak tests as "LTH", and leak test other than containment isolation valves and high or low (i.e. ISTC 3630) "LTP". <sup>2</sup> Three letter designations should be used for check valve tests to differentiate between the various methods of exercising check valves. The letter following "CC", "CO" or "CP" should be "A" for acoustics, "D" for disassembly and inspection, "F" for flow indication, "L" for leakage test, "M"for magnetics, "R" for radiography, "U" for ultrasonics, "T" for temperature, or "X" for manual exercise.

#### 3.2 Valve Plan Table Description (Cont'd)

<u>Test Freq.</u>

The test frequency abbreviation.

AJ	Appendix J
СМ	Condition Monitoring
CS	Cold Shutdown
M[n]	Once every n months
MOV	Per the MOV program or Relief
	Request RR-1
OP	Normal Operation
Q	Quarterly
RR	Refuel Outage
R[n]	Once every n Refuel Outages
SA	Sample Disassemble & Inspect
S2	1 Squibb 24 months / 100% in 120
	months
TS	Per Technical Specification
	Requirements
TS1	50% each Refueling Outage per TS
Y[n]	Once every n years
~ ~	

<u>RR</u>

Just.

A cross-reference to the applicable Cold Shutdown Justification (CS) or Refuel Outage Justification (RJ) which describes the reasons why reduced-frequency exercise testing is necessary for the applicable valve.

Relief Request applicable to the specific test

A relief request number is listed when a specific code requirement is

determined to be impracticable. This identifies the number of the

Tech PosA technical position number is listed when the requirements of the<br/>code are not easily interpreted and clarifying information is needed.<br/>The technical position is used to document how Code requirements<br/>are being implemented at the station. This provides the Technical<br/>Position identification number applicable to the valve or test.

### 4.0 ATTACHMENTS

# SYSTEM AND P&ID Listing

P&ID's for each component are listed in the Pump and Valve tables, and not listed separately here

# PUMP RELIEF REQUEST INDEX

NONE USED

### ATTACHMENT 3 PUMP RELIEF REQUESTS

NONE USED

# VALVE RELIEF REQUEST INDEX

Relief Request Number	Relief Request Title	Approval Date
RR-1	Proposed Alternative to Utilize Code Case OMN-26, Revision 1.	9/1/2020

### VALVE RELIEF REQUESTS

RR-1 (Proposed Alternative to Utilize Code Case OMN-26, Revision 1): The text of this Relief Request is shown in the RAI, which contains the applicable Revision 1 version of the Relief Request (ADAMS # ML20188A264).

### **RELIEF REQUEST RAIs AND SERs**

RAI (ADAMS # ML20188A264) on the following pages includes Revision 1 to the Relief Request

SER (ADAMS # ML20232A171) is also included on the following pages



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10 CFR 50.55a

July 6, 2020

U.S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, DC 20555-0001

> Braidwood Station, Units 1 and 2 Renewed Facility Operating License Nos. NPF-72 and NPF-77 NRC Docket Nos. STN 50-456 and STN 50-457

Calvert Cliffs Nuclear Power Plant, Units 1 and 2 Renewed Facility Operating License Nos. DPR-53 and DPR-69 <u>NRC Docket Nos. 50-317 and 50-318</u>

Clinton Power Station, Unit 1 Facility Operating License No. NPF-62 NRC Docket No. 50-461

R.E. Ginna Nuclear Power Plant Renewed Facility Operating License No. DPR-18 <u>NRC Docket No. 50-244</u>

Limerick Generating Station, Units 1 and 2 Renewed Facility Operating License Nos. NPF-39 and NPF-85 <u>NRC Docket Nos. 50-352 and 50-353</u>

Nine Mile Point Nuclear Station, Units 1 and 2 Renewed Facility Operating License Nos. DPR-63 and NPF-69 <u>NRC Docket Nos. 50-220 and 50-410</u>

Peach Bottom Atomic Power Station, Units 2 and 3 Renewed Facility Operating License Nos. DPR-44 and DPR-56 <u>NRC Docket Nos. 50-277 and 50-278</u>

- Subject: Proposed Alternative to Utilize Code Case OMN-26 Response to Request for Additional Information
- References: 1. Exelon letter to the NRC, "Proposed Alternative to Utilize Code Case OMN-26," dated January 31, 2020 (ADAMS Accession No. ML20034C819)
  - 2. Email from J. Wiebe (USNRC) to D. Neff (Exelon), "Preliminary RAI for Fleet Request to Use Alternative OMN-26," dated June 1, 2020 (ADAMS Accession No. ML20153A704)

Proposed Alternative to Utilize Code Case OMN-26 Response to Request for Additional Information July 6, 2020 Page 2

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (z)(1), Exelon Generation Company, LLC (Exelon), requested NRC approval of a proposed relief request associated with the Inservice Testing (IST) Programs for the cited Exelon Nuclear Power Plants (NPPs) (Reference 1). Specifically, the request proposes to implement the American Society of Mechanical Engineers (ASME) Code Case OMN-26, "Alternate Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves." During their technical review of the application, the NRC Staff identified the need for additional information. Reference 2 provided the Request for Additional Information (RAI). Attachment 1 to this response provides the response to the RAI. Attachment 2 to this response provides a revision to the Relief Request to Utilize Code Case OMN-26 submitted in Reference 1 with the changes highlighted based on the RAI response provided in Attachment 1.

There are no regulatory commitments contained in this response.

If you have any questions, please contact Mr. David Neff at (267) 533-1132.

Respectfully,

D. G. Helper

David P. Helker Sr. Manager - Licensing and Regulatory Affairs Exelon Generation Company, LLC

Attachments:

- 1. Response to Request for Additional Information
- 2. Relief Request to Utilize Code Case OMN-26, Revision 1
- Regional Administrator NRC Region I CC: Regional Administrator - NRC Region III NRC Senior Resident Inspector - Braidwood Station NRC Senior Resident Inspector - Calvert Cliffs Nuclear Power Plant NRC Senior Resident Inspector - Clinton Power Station NRC Senior Resident Inspector - R.E Ginna Nuclear Power Plant NRC Senior Resident Inspector - Limerick Generating Station NRC Senior Resident Inspector - Nine Mile Point Nuclear Station NRC Senior Resident Inspector - Peach Bottom Atomic Power Station NRC Project Manager - Braidwood Station NRC Project Manager - Calvert Cliffs Nuclear Power Plant NRC Project Manager - Clinton Power Station NRC Project Manager - R.E. Ginna Nuclear Power Plant NRC Project Manager - Limerick Generating Station NRC Project Manager - Nine Mile Point Nuclear Station NRC Project Manager - Peach Bottom Atomic Power Station Illinois Emergency Management Agency - Department of Nuclear Safety R. R. Janati - Bureau of Radiation Protection, Commonwealth of Pennsylvania S. Seaman - State of Marvland A. L. Peterson - NYSERDA

#### Attachment 1

Braidwood Station, Units 1 and 2 Calvert Cliffs Nuclear Power Plant, Units 1 and 2 Clinton Power Station, Unit No. 1 R.E. Ginna Nuclear Power Plant Limerick Generating Station, Units 1 and 2 Nine Mile Point Nuclear Station, Units 1 and 2 Peach Bottom Atomic Power Station, Units 2 and 3

Proposed Alternative to Utilize Code Case OMN-26

**Response to Request for Additional Information** 

#### Response to NRC Staff's Request for Additional Information

By application dated January 31, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20034C819), Exelon Generation Company, LLC (Exelon) submitted a request in accordance with paragraph 50.55a(z)(1) of Title 10 of the Code of Federal Regulations (10 CFR) for a proposed alternative to the requirements of 10 CFR 50.55a and the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) at Braidwood Station, Units 1 and 2, Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Clinton Power Station, Unit No. 1, R.E. Ginna Nuclear Power Plant, Limerick Generating Station, Units 1 and 2, Nine Mile Point Nuclear Station, Units 1 and 2, and Peach Bottom Atomic Power Station, Units 2 and 3. The proposed alternative would provide a Risk-Margin based methodology that establishes limitations for maximum inservice test intervals for Motor Operated Valves (MOVs).

In an email dated June 1, 2020, from the NRC (Joel Wiebe) to Exelon (David Neff) (ADAMS Accession No. ML20153A704), the NRC provided a draft Request for Additional Information (RAI) seeking clarification of certain issues related to the RAI. A clarification call was conducted on June 8, 2020, with representatives from Exelon and the NRC where the draft RAI text was confirmed with no changes. Exelon agreed to provide the response to the RAI within 30 days of June 8, 2020. The response to the RAI is provided below. A revised version of the subject Relief Request is provided in Attachment 2 with changes highlighted based on the RAI response provided below.

### <u>RAI 1</u>

In its submittal dated January 31, 2020, Exelon is requesting the implementation of American Society of Mechanical Engineers (ASME) Code Case OMN-26, "Alternate Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves," for the diagnostic testing intervals for active motor-operated valves (MOVs) as an alternative to the provisions in ASME Operation and Maintenance of Nuclear Power Plants, Division 1, OM Code: Section IST (OM Code), 2012 Edition, Mandatory Appendix III, "Preservice and Inservice Testing of Active Electric Motor Operated Valve Assemblies in Light-Water Reactor Power Plants," as incorporated by reference in 10 CFR 50.55a, in accordance with 10 CFR 50.55a(z)(1). Code Case OMN-26 provides separate tables with notes for the diagnostic test intervals for the High Safety Significant Component (HSSC) MOVs and Low Safety Significant Component (LSSC) MOVs. In its submittal, Exelon has combined the OMN-26 tables into one table. It is not clear that the table in the Exelon submittal has accurately included all of the provisions specified in OMN-26 to allow the extended diagnostic test intervals. For example, the HSSC and LSSC tables in OMN-26 specify that to implement the extended diagnostic test intervals allowed in the code case, an MOV must be routinely operated at Design Basis Pressure Conditions with Note (A) in the OMN-26 tables specifying that this routine operation occurs at a periodicity no less frequent than once a refueling outage. The Exelon submittal as detailed in the proposed Exelon table does not appear to include these OMN-26 provisions. Exelon is requested to justify that all of the provisions in both of the OMN-26 tables have been accurately combined into the single table in its submittal, or specify in its submittal that the actual OMN-26 tables will be implemented.

#### RESPONSE

Exelon will implement the relief request (RR) in compliance with Code Case OMN-26 in its entirety, including all tables and associated notes. A complete review of the RR submittal versus the Code Case OMN-26 was performed and identified that all of the provisions in the code case were included in the RR submittal except for Notes A and D. Notes A and D were omitted from the RR submittal as both the design basis stroking frequency (Note A) and the inservice test intervals (Note D) are deemed to be covered by existing processes and procedures at Exelon. Minor editorial changes are also made to Notes 6 and 7 to align with the language in the corresponding OMN-26 Table notes.

In order to incorporate Code Case OMN-26 Note A from Tables 1 and 2, Note 6 of the Exelon Table in the RR submittal is revised as follows to include all the text in Note A. A clarification is added regarding the routine stroking of MOVs during normal operations. A second clarification is added regarding the periodicity of test strokes; once a refueling outage is replaced with once a refueling cycle. The stations included in this relief request are on either an 18- or a 24-month refueling cycle. The Code Case OMN-26 Note A language unnecessarily restricts the test strokes to occur during a refueling outage. Changes are shown with revision markers.

6. To utilize these intervals, test strokes at or exceeding design basis system conditions must occur at a periodicity no less frequent than once a refueling outage cycle, must be in the applicable safety function direction(s), and the MOV and must have no known applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse that potentially impacts on MOV functional margin or the capability of the MOV to perform its design basis function. These routine strokes during the inservice test interval are not required to be diagnostically monitored.

In order to incorporate editorial changes, Note 7 is revised as follows with revision markers.

7. Operating plants that have acquired the requisite test data to satisfy Appendix III, paragraphs III-3310(b) or III 3722(c) must complete one cycle of collecting diagnostic test data at an extended test interval, minimum 9 and maximum 12 years, before extending the test interval by engineering evaluation to the maximum 16-year test interval.

In order to incorporate Code Case OMN-26 Note D from Tables 1 and 2, a new Note 8 to the Exelon Table in the RR submittal is added as follows to include all the text in Note D. A clarification is added regarding the inservice test interval for MOVs.

8. The MOV functional margin limits apply to the As-Left MOV condition at the start of the inservice test interval and includes applicable test uncertainties and allowance for service-related degradation. The inservice test interval is uniquely established for each MOV based on margin and risk classification of the MOV.

Relief Request to Utilize Code Case OMN-26, Revision 1

#### 1. ASME Code Component(s) Affected:

Active safety related motor operated valves (MOVs) that are required by Subsection ISTC of the 2012 Edition of the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code to be tested in accordance with ASME OM Code Mandatory Appendix III.

### 2. Applicable ASME OM Code Edition:

PLANT	INTERVAL	OM EDITION	START	END
Braidwood Station Units 1 and 2	Fourth	2012 Edition	July 29, 2018	July 28, 2028
Calvert Cliffs Nuclear Power Plant, Units 1 and 2	Fifth	2012 Edition	July 1, 2018	June 30, 2028
Nine Mile Point Nuclear Station, Unit 1 and 2	Fifth - U1 Fourth-U2	2012 Edition	January 1, 2019	December 31, 2028
Peach Bottom Atomic Power Station, Unit 2 and 3	Fifth	2012 Edition	November 16, 2018	August 14, 2028
R.E. Ginna Nuclear Power Plant Unit 1	Sixth	2012 Edition	January 1, 2020	December 31, 2029
Limerick Generating Station, Units 1 and 2	Fourth	2012 Edition	January 8, 2020	January 7, 2030
Clinton Power Station, Unit 1	Fourth	2012 Edition	July 1, 2020	June 30, 2030

#### 3. Applicable Code Requirements:

The ASME OM Code Mandatory Appendix III, Preservice and Inservice testing of Active Electric Motor-Operated Valve Assemblies in Water Cooled Reactor Nuclear Power Plants.

The following Appendix III Paragraphs are affected by this Relief Request to adopt Code Case OMN-26, "Alternate Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves."

III-3310 (c).

III-3700 Risk-Informed MOV Inservice Testing.

III-3721 HSSC MOVs.

III-3722 (d).

For each of these paragraphs, relief is being sought for alternative treatments described in Section 5 of this relief request based on the ASME Board of Nuclear Codes and Standards (BNCS) approved Code Case OMN-26.

#### 4. Reason for Request:

In accordance with 10 CFR 50.55a(z)(1), Exelon Generation Company, LLC (Exelon) is requesting approval to adopt ASME OM Code Case OMN-26 in conjunction with implementing Mandatory Appendix III for all Exelon plants identified in Section 2.

Code Case OMN-26 better aligns OM Code Mandatory Appendix III to the Risk and Margin Based Licensee Motor Operated Valve (MOV) Programs developed in response to NRC Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves," that have been in effect since 1998. The Appendix III ten-year maximum inservice test interval was originally established to align with the maximum test interval allowed under the Generic Letter 96-05 MOV Programs that, for most Licensees, was established by the Joint Owners Group (JOG) MOV Periodic Verification Program. There is no formal technical basis for the current Appendix III tenyear maximum interval that applies to all MOVs regardless of Risk and Margin. Over the past twenty years, Exelon MOV Programs have demonstrated many margin stable MOVs that can be readily justified to extend from their current MOV Program maximum inservice test intervals of six years (for High Risk) and ten years (for Low Risk).

#### 5. Proposed Alternative and Basis for Use:

#### **Proposed Alternative:**

Exelon proposes to implement the ASME OM Code Case OMN-26 alternative risk and margin informed rules for inservice testing of MOVs in its entirety as described below:

#### Proposed Alternative to III-3310

*(c)* The maximum inservice test interval shall not exceed 10 years unless Risk Informed Inservice Testing applies under the provisions of para. III-3700. MOV inservice tests conducted per para. III-3400 may be used to satisfy this requirement.

#### Proposed Alternative to III-3700

Risk-informed MOV inservice testing that incorporate risk insights in conjunction with MOV Functional Margin to establish MOV grouping, acceptance criteria, exercising requirements and test interval may be implemented.

#### Proposed Alternative to III-3721

**III-3721 HSSC MOVs.** HSSC MOVs shall be tested in accordance with para. III-3300 and exercised in accordance with para. III-3600 while applying the following HSSC MOV Risk insights and limitations:

- (a) HSSC MOVs that can be operated during plant operation shall be exercised quarterly, unless the potential increase in core damage frequency (CDF) and large early release (LER) associated with a longer exercise interval is small.
- (b) For HSSC MOVs, the maximum inservice test interval shall be established in accordance with Table 1 of OMN-26 (see below)

#### OMN-26 Table 1

#### HSSC MOV – Margin Based Maximum Inservice Test Intervals

HSSC MOV Functional Margin <sup>(D)</sup>	Maximum Inservice Test Interval (Years)	If MOV is routinely <sup>(A)</sup> operated at Design Basis Pressure Conditions - Max Inservice Test Interval (Years) <sup>(B)</sup>
Low (< 5%)	2	4
Medium (≥ 5% and < 10%)	4	9
High (≥ 10% and < 20%)	9	9
Very High (≥ 20%)	9	12

#### OMN-26 Table 1 – Notes

- (A) Occurs at a periodicity no less frequent than once a refueling outage.
- (B) To utilize these intervals, test strokes at or exceeding design basis system conditions must be in the applicable safety function direction(s) and have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function.
- (D) For the purpose of this code case, the MOV functional margin limits apply to the As-Left MOV condition at the start of the inservice test interval and include applicable test uncertainties and allowance for service- related degradation.

#### Proposed Alternative to III-3722 (d)

(d) For LSSC MOVs, the maximum inservice test interval shall be established in accordance with Table 2 of OMN-26 (see below)

LSSC MOV Functional Margin <sup>(D)</sup>	Maximum Inservice Test Interval (Years)	If MOV is routinely <sup>(A)</sup> operated at Design Basis Pressure Conditions - Max Inservice Test Interval (Years) <sup>(B)</sup>		
Low (< 5%)	4	9		
Medium (≥ 5% and < 10%)	9	12		
High (≥ 10% and < 20%)	12	12		
Very High (≥ 20%)	12	16 <sup>(C)</sup>		

OMN-26 Table 2 LSSC MOV – Margin Based Maximum Inservice Test Intervals

#### OMN-26 Table 2 Notes:

- (A) Occurs at a periodicity no less frequent than once a refueling outage.
- (B) To utilize these intervals, test strokes at or exceeding design basis system conditions must be in the applicable safety function direction(s) and have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function.
- (C) Operating plants that have acquired the requisite test data to satisfy Appendix III, paragraphs III-3310(b) or III-3722(c) must complete one cycle of collecting diagnostic test data at an extended test interval, minimum 9 and maximum 12 years, before extending the test interval by engineering evaluation to the maximum 16-year test interval.
- (D) For the purpose of this code case, the MOV functional margin limits apply to the As-Left MOV condition at the start of the inservice test interval and include applicable test uncertainties and allowance for service- related degradation.

#### Basis for Use:

The requested relief to adopt OMN-26 is in line with the current JOG MOV Periodic Verification Test Program that Exelon has implemented since the late 1990's in response to NRC Generic Letter 96-05. Both the JOG MOV PV Program and Code Case OMN-26 provide a Risk-Margin based methodology that establishes limitations for maximum inservice test intervals for MOVs. Code Case OMN-26 simply provides a reasonable extension of this Risk-Informed philosophy based on the lessons learned and accumulated MOV performance data gathered over more than 25 years of MOV Performance Verification Testing. Appendix III alone, in isolation from OMN-26, provides no such methodology other than a maximum limit for the inservice test interval regardless of Risk or Margin.

The requested allowed maximum inservice test intervals are modest extensions with many of the Low Risk MOVs extending from 10 to 12 years (20% increase). This test interval change can be readily adopted with no loss of MOV performance and/or safety system reliability provided that no adverse performance trends are indicated. Exelon's MOV Performance Trending Governance will ensure that only MOV's with good performance history, high stable margins and no adverse diagnostic trends would be candidates for the OMN-26 based inservice test interval extensions.

The requested High Margin Maximum interval changes afforded by OMN-26 align with Exelon's desire to adopt a divisional MOV outage testing strategy that reduces the implementation burden of MOV Inservice Testing and allows greater flexibility in optimizing safety system availability. The current six and ten-year JOG Program based High-Margin Maximum Intervals do not support this strategy.

The requested relief reduces the maximum test interval for High Safety Significant Component (HSSC) MOVs allowed by Appendix III from ten years to nine years

commensurate with Risk Informed Methodology. Further under this relief request, Exelon will treat MOVs currently classified as Medium Risk by the 3-Tier JOG Risk Ranking as High Risk (HSSC) thereby providing more rigorous periodic verification requirements for the applicable valves especially those with less than high margin.

The requested relief takes credit for routine design basis differential pressure testing (DBDPT) of MOVs to justify extending the maximum Inservice test interval to 12 Years for Very High Margin HSSC MOVs and 16 years for Very High Margin Low Safety Significant Component (LSSC) MOVs.

With the exception of Low Risk MOVs routinely operated at design basis differential pressure (D-P) conditions, Code Case OMN-26 does not allow maximum MOV Inservice Test intervals to exceed ten years unless the associated MOVs are classified as High Margin. Most High Risk MOVs are limited to four years or less for Low/Medium Margins and most Low Risk MOVs are limited to nine years or less for Low/Medium Margins. Code Case OMN-26 provides more rigorous requirements targeted specifically to Low/Medium Margin MOVs than currently allowed under Appendix III. This Risk/Margin approach is in line with accepted Risk-Informed Strategies such as the JOG MOV Periodic Verification Program.

Use of the proposed alternative is expected to result in improved MOV Margins at each Exelon station in order to attain higher margin status to allow use of the extended maximum inservice test intervals permitted by the OMN-26 Code Case.

For the majority of applicable MOVs (i.e., those MOVs not subject to periodic stroking under design basis D-P conditions), the Code Case limited the scope to only High Margin Valves for extending test intervals incrementally beyond current limits:

- Test intervals for High Risk MOVs go from six to nine years (Note: Nine years is aligned to Pressurized Water Reactor nuclear power plants (PWRs) on 18-month refueling cycles)
- Test intervals for Low Risk MOVs go from ten to 12 years (Note: 12 years is aligned for all Boiling Water Reactor nuclear power plants (BWRs) and PWRs with either 18- or 24month refueling cycles)

The Table below provides a detailed comparison of the Maximum MOV Test Intervals for the JOG MOV Program, Mandatory Appendix III and Code Case OMN-26 that Exelon seeks to adopt via this relief request. MOVs identified with **Bold** type have maximum MOV inservice test intervals exceeding the current Appendix III ten-year limit.

	Maximum Inservice Test Intervals (Years)								
	HSSC MOVs			LSSC MOVs					
MOV Margin <sup>(8)</sup>	JOG MOV PV Program	Appendix III	OMN-26	OMN-26 w/DBDPT (6)	JOG MOV PV Program	Appendix III	OMN-26	OMN-26 w/DBDPT (6)	
Low (<5%)	2	10	2 (1,2)	4 (5)	6	10	4 <sup>(1,3,5)</sup>	9 (5)	
Medium (≥5% and <10%)	4	10	4 (1,2,5)	9 (5)	10	10	9 (1,3,5)	12 (4,5)	
High (≥10% and <20%)	6	10	9 (5)	9 (5)	10	10	12 <sup>(4,5)</sup>	12 (4,5)	
Very High (≥ 20%)	N/A	10	9 (5)	12 (4,5)	N/A	10	12 <sup>(4,5)</sup>	16 (4,5,7)	
Description ->	Existing Industry Standard	Existing ASME OM Code	Relief Request	Relief Request	Existing Standard	Existing ASME OM Code	Relief Request	Relief Request	

#### Exelon Maximum MOV Test Intervals Based on Code Case OMN-26

#### Table Notes

- 1. Code Case Maximum Inservice Test Intervals for all Low/Medium Margin MOVs are less than or equal to current ten-year Appendix III limit. (i.e., Code Case is more conservative than Appendix III for Low/Medium Margin MOVs).
- 2. Code Case Maximum Inservice Test Intervals for Low/Medium Margin HSSC MOVs are equal to the current JOG MOV PV Program limits of two/four years respectively. (Code Case intervals are aligned with JOG MOV).
- 3. Code Case Maximum Inservice Test Intervals for Low/Medium Margin LSSC MOVs (four/nine years) are less than the current JOG MOV PV Program limits of six/ten years respectively.
- 4. The following four categories of MOVs have maximum inservice test intervals that exceed the current ten-year limit:
  - a. High Margin, LSSC MOVs. (12 Years)
  - b. Very High Margin, HSSC MOVs that are periodically stroked at design basis DP conditions (DBDPT) (12 Years)
  - c. Medium Margin, LSSC MOVs that are periodically DBDPT (12 Years)
  - d. Very High Margin, LSSC MOVs that are periodically DBDPT (16 Years).
- 5. Except for Low Margin HSSC MOVs, the Maximum MOV Inservice Test Intervals are optimized for Divisional Outage Scheduling (i.e., 4, 9, 12, 16 years). Nine years is optimal for PWRs restricted to 18 month refueling outages. 12 years is optimal for both PWRs and BWRs and supports both 18-month and 24-month refueling outages.
- 6. To utilize these intervals, test strokes at or exceeding design basis system conditions must occur at a periodicity no less frequent than once a refueling outage cycle,

#### EXELON GENERATION COMPANY, LLC IST PROGRAM – RELIEF REQUEST Proposed Alternative in Accordance with 10 CFR 50.55a(z)(1) Relief Request to Utilize Code Case OMN-26, Revision 1

must be in the applicable safety function direction(s), and the MOV must and have no known applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse that potentially impacts on MOV functional margin or the capability of the MOV to perform its design basis function. These routine strokes during the inservice test interval are not required to be diagnostically monitored.

- 7. Operating plants that have acquired the requisite test data to satisfy **Appendix III**, **paragraphs** III-3310(b) or III-3722(c) must complete one cycle of collecting diagnostic test data at an extended test interval, minimum 9 and maximum 12 years, before extending the test interval by engineering evaluation to the maximum 16-year test interval.
- 8. The MOV functional margin limits apply to the As-Left MOV condition at the start of the inservice test interval and includes applicable test uncertainties and allowance for service-related degradation. The inservice test interval is uniquely established for each MOV based on margin and risk classification of the MOV.

#### 6. Duration of Proposed Alternative:

The proposed alternative is for use of the Code Case for the remainder of each plant's tenyear Inservice Testing interval as specified in Section 2.

#### 7. Precedent:

None

#### 8. References:

1. ASME OM Code Case OMN-26, Alternative Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves, approved by ASME Board of Nuclear Codes and Standards (BNCS) December 2019.



#### UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

September 1, 2020

Mr. Bryan C. Hanson Senior Vice President Exelon Generation Company, LLC President and Chief Nuclear Officer (CNO) Exelon Nuclear 4300 Winfield Road Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2; CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2; CLINTON POWER STATION, UNIT 1; R. E. GINNA NUCLEAR POWER PLANT; LIMERICK GENERATING STATION, UNITS 1 AND 2; NINE MILE POINT, UNITS 1 AND 2; AND PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 – REQUEST TO USE ALTERNATIVE CODE CASE OMN-26 (EPID L-2020-LLR-0012)

Dear Mr. Hanson:

By letter dated January 31, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20034C819), as supplemented by letter dated July 6, 2020 (ADAMS Accession No. ML20188A264), Exelon Generation Company, LLC (Exelon) submitted a request in accordance with paragraph 50.55a(z)(1) of Title 10 of the *Code of Federal Regulations* (10 CFR) to implement the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Case OMN-26, "Alternate Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves," at Braidwood Station, Units 1 and 2; Calvert Cliffs Nuclear Power Plant, Units 1 and 2; Clinton Power Station, Unit 1; R. E. Ginna Nuclear Power Plant; Limerick Generating Station, Units 1 and 2; Nine Mile Point, Units 1 and 2; and Peach Bottom Atomic Power Station, Units 2 and 3.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the subject request and concludes, as set forth in the enclosed safety evaluation, that the proposed alternative to implement ASME OM Code Case OMN-26, as described in Exelon's letters dated January 31, 2020, and July 6, 2020, provides an acceptable level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(1).

Therefore, the NRC staff authorizes the proposed alternative for the implementation of ASME OM Code Case OMN-26, for the specified 10-year inservice testing program intervals.

All other ASME OM Code requirements for which relief or an alternative was not specifically requested and approved in the subject requests remain applicable.

If you have any questions, please contact Joel Wiebe at 301-415-6606 or via e-mail at <u>Joel Wiebe@nrc.gov</u>.

Sincerely,

Nancy L. Salgado, Chief Plant Licensing Branch III Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

Docket Nos. STN 50-456, STN 50-457, 50-317, 50-318, 50-461, 50-244, 50-352, 50-353, 50-220, 50-410, 50-277, and 50-278

Enclosure: Safety Evaluation

cc: Listserv



#### UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

## SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

## ALTERNATIVE REQUEST TO USE ASME OM CODE CASE OMN-26

#### RELATED TO THE INSERVICE TESTING PROGRAMS FOR

#### BRAIDWOOD, UNITS 1 AND 2, CALVERT CLIFFS, UNITS 1 AND 2, CLINTON, UNIT 1,

#### R.E. GINNA, LIMERICK, UNITS 1 AND 2, NINE MILE POINT, UNITS 1 AND 2, AND

#### PEACH BOTTOM, UNITS 2 AND 3

#### DOCKET NOS. STN 50-456, STN 50-457, 50-317, 50-318, 50-461, 50-244

#### 50-352, 50-353, 50-220, 50-410, 50-277, AND 50-278

#### 1.0 INTRODUCTION

By a letter dated January 31, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20034C819), as supplemented by letter dated July 6, 2020 (ADAMS Accession No. ML20188A264), Exelon Generation Company, LLC (Exelon, the licensee), submitted to the U.S. Nuclear Regulatory Commission (NRC) an alternative test plan in lieu of certain inservice testing (IST) requirements of the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST [inservice testing] (OM Code) for the IST programs at the following plants:

Table 1					
Plant	Docket	ASME Test Interval	ASME OM Code Edition	Interval Start Date	Interval End Date
Braidwood Station Unit 1	50-456	4 <sup>th</sup>	2012	7/29/2018	7/28/2028
Braidwood Station Unit 2	50-457	4 <sup>th</sup>	2012	7/29/2018	7/28/2029
Calvert Cliffs Nuclear Power Plant Unit 1	50-317	5 <sup>th</sup>	2012	7/1/2018	6/30/2028
Calvert Cliffs Nuclear Power Plant Unit 2	50-318	5 <sup>th</sup>	2012	7/1/2018	6/30/2028

Table 1					
Plant	Docket	ASME Test Interval	ASME OM Code Edition	Interval Start Date	Interval End Date
Clinton Power Station Unit 1	50-461	3 <sup>rd</sup>	2012	7/1/2020	6/30/2030
R.E. Ginna Nuclear Power Plant	50-244	6 <sup>th</sup>	2012	1/1/2020	12/31/2029
Limerick Generating Station Unit 1	50-352	4 <sup>th</sup>	2012	1/8/2020	1/7/2030
Limerick Generation Station Unit 2	50-353	4 <sup>th</sup>	2012	1/8/2020	1/7/2030
Nine Mile Point Nuclear Station Unit 1	50-220	5 <sup>th</sup>	2012	1/1/2019	12/31/2028
Nine Mile Point Nuclear Station Unit 2	50-410	4 <sup>th</sup>	2012	1/1/2019	12/31/2028
Peach Bottom Atomic Power Station Unit 2	50-277	5 <sup>th</sup>	2012	11/16/2018	8/14/2028
Peach Bottom Atomic Power Station Unit 3	50-278	5 <sup>th</sup>	2012	11/16/2018	8/14/2028

Specifically, pursuant to Title 10, of the *Code of Federal Regulations* (CFR), Part 50, Section 55a, paragraph (z), subparagraph (1) (10 CFR 50.55a(z)(1)), the licensee requested to implement ASME OM Code Case OMN-26 related to the testing of certain active motor-operated valves (MOVs) on the basis that the alternative provides an acceptable level of quality and safety.

# 2.0 REGULATORY EVALUATION

The NRC regulations in 10 CFR 50.55a(f), "Inservice Testing Requirements," require, in part, that IST of certain ASME Code Class 1, 2, and 3 components must meet the requirements of the ASME OM Code and applicable addenda, except where alternatives have been authorized pursuant to paragraph 10 CFR 50.55a(z)(1) or 10 CFR 50.55a(z)(2).

In proposing alternatives, a licensee must demonstrate that the proposed alternatives provide an acceptable level of quality and safety (10 CFR 50.55a(z)(1)) or compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety (10 CFR 50.55a(z)(2)).

#### 3.0.1 Applicable ASME OM Code

The following request is an alternative test plan in lieu of certain IST requirements of the 2012 Edition of the ASME OM Code for the IST programs at the plants listed in Table 1 of this safety evaluation (SE) for the duration of their current 10-year IST program interval.

#### 3.1.1 Licensee's Alternative Request

ASME OM Code Requirements:

Mandatory Appendix III, "Preservice and Inservice Testing of Active Electric Motor Operated Valve Assemblies in Light-Water Reactor Power Plants," paragraph III-3310, "Inservice Test Interval," subparagraph (c) states, in part, that "The maximum inservice test interval shall not exceed 10 yr."

Mandatory Appendix III, paragraph III-3700, "Risk-Informed MOV Inservice Testing," states that "Risk-informed MOV inservice testing that incorporates risk insights in conjunction with performance margin to establish MOV grouping, acceptance criteria, exercising requirements and testing interval may be implemented."

Mandatory Appendix III, paragraph III-3721, "[High Safety Significant Component] HSSC MOVs," states that "HSSC MOVs shall be tested in accordance with para. III-3300 and exercised in accordance with para. III-3600. HSSC MOVs that can be operated during plant operation shall be exercised quarterly, unless the potential increase in core damage frequency (CDF) and large early release (LER) associated with a longer exercise interval is small."

Mandatory Appendix III, paragraph III-3722, "[Low Safety Significant Component] LSSC MOVs," subparagraph (d), states that "LSSC MOVs shall be inservice tested at least every 10 yr in accordance with para. III-3310."

Alternative testing is requested for safety-related MOVs that are currently required to meet these ASME OM Code requirements.

The licensee states, in part:

#### Reason for Request

Code Case OMN-26 better aligns OM Code Mandatory Appendix III to the Risk and Margin Based Licensee Motor Operated Valve (MOV) Programs developed in response to NRC Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves," that have been in effect since 1998. The Appendix III ten-year maximum inservice test interval was originally established to align with the maximum test interval allowed under the Generic Letter 96-05 MOV Programs that, for most Licensees, was established by the Joint Owners Group (JOG) MOV Periodic Verification Program. There is no formal technical basis for the current Appendix III ten-year maximum interval that applies to all MOVs regardless of Risk and Margin. Over the past twenty years, Exelon MOV Programs have demonstrated many margin stable MOVs that can be readily justified to extend from their current MOV Program maximum inservice test intervals of six years (for High Risk) and ten years (for Low Risk).

#### **Proposed Alternative**

Exelon proposes to implement the ASME OM Code Case OMN-26 alternative risk and margin informed rules for inservice testing of MOVs in its entirety.

HSSC MOVs shall be tested in accordance with para. III-3300 and exercised in accordance with para. III-3600 while applying the following HSSC MOV risk insights and limitations:

- (a) HSSC MOVs that can be operated during plant operation shall be exercised quarterly, unless the potential increase in core damage frequency (CDF) and large early release (LER) associated with a longer exercise interval is small.
- (b) For HSSC MOVs, the maximum inservice test interval shall be established in accordance with Table 1 of OMN-26

OMN-26 – Table 1 HSSC MOV – Margin Based Maximum Inservice Test Intervals

HSSC MOV Functional Margin <sup>(D)</sup>	Maximum Inservice Test Interval (Years)	If MOV is routinely <sup>(A)</sup> operated at Design Basis Pressure Conditions – Max Inservice Test Interval (Years) <sup>(B)</sup>
Low (< 5%)	2	4
Medium (≥ 5% and < 10%)	4	9
High (≥ 10% and < 20%)	9	9
Very High (≥ 20%)	9	12

#### OMN-26 Table 1 – Notes

- (A) Occurs at a periodicity no less frequent than once a refueling outage.
- (B) To utilize these intervals, test strokes at or exceeding design basis system conditions must be in the applicable safety function direction(s) and have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function.
- (D) For the purpose of this code case, the MOV functional margin limits apply to the As-Left MOV conditions at the start of the inservice test interval and include applicable test uncertainties and allowance for service-related degradation.

For LSSC MOVs, the maximum inservice test interval shall be established in accordance with Table 2 of OMN-26

LSSC MOV Functional	Maximum Inservice	If MOV is routinely <sup>(A)</sup> operated at
Margin <sup>(D)</sup>	Test Interval (Years)	Design Basis Pressure Conditions
		<ul> <li>Max Inservice Test Interval</li> </ul>
		(Years) <sup>(B)</sup>
Low (< 5%)	4	9
Medium (≥ 5% and < 10%)	9	12
High (≥ 10% and < 20%)	12	12
Very High (≥ 20%)	12	16 <sup>(C)</sup>

OMN-26 – Table 2 LSSC MOV – Margin Based Maximum Inservice Test Intervals

#### OMN-26 Table 2 – Notes

- (A) Occurs at a periodicity no less frequent than once a refueling outage.
- (B) To utilize these intervals, test strokes at or exceeding design basis system conditions

must be in the applicable safety function direction(s) and have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function.

- (C) Operating plants that have acquired the requisite test data to satisfy Appendix III, paragraphs III-3310(b) or III-3722(c) must complete one cycle of collecting diagnostic test data at an extended test interval, minimum 9 and maximum 12 years, before extending the test interval by engineering evaluation to the maximum 16-year test interval.
- (D) For the purpose of this code case, the MOV functional margin limits apply to the As-Left MOV conditions at the start of the inservice test interval and include applicable test uncertainties and allowance for service-related degradation.

#### Basis for Use

In its letters dated January 31 and July 6, 2020, the licensee describes the basis for its proposed alternative to implement ASME OM Code Case OMN-26 for the nuclear power plants listed in Table 1 of this SE. In summary, the licensee considers the requested alternative to adopt OMN-26 to be in line with the current JOG MOV periodic verification test program that Exelon has implemented since the late 1990's in response to Generic Letter(GL) 96-05. Both the JOG MOV periodic verification program and Code Case OMN-26 provide a risk-margin based methodology that establishes limitations for maximum IST intervals for MOVs. The licensee considers Code Case OMN-26 to provide a reasonable extension of this risk-Informed philosophy based on the lessons learned and accumulated MOV performance data gathered over more than 25 years of MOV performance verification testing. The licensee states that Appendix III alone, in isolation from Code Case OMN-26, provides no such methodology other than a maximum limit for the IST interval regardless of risk or margin.

In its letter dated July 6, 2020, the licensee clarifies the implementation of Code Case OMN-26 to be consistent with its plant operations. For example, the licensee states that to implement to extended intervals with MOV design-basis differential pressure testing, test strokes at or exceeding design basis system conditions must occur at a periodicity no less frequent than once a refueling cycle in the applicable safety function direction(s), and the MOV must have no applicable operating experience, degradation or diagnostic test anomaly with the potential for adverse impact on MOV functional margin or the capability of the MOV to perform its design basis function. The licensee notes that these routine strokes during the IST interval are not required to be diagnostically monitored. The licensee also states that the MOV functional margin limits apply to the As-Left MOV condition at the start of the IST interval and includes applicable test uncertainties and allowance for service-related degradation. The licensee notes that the IST interval and includes applicable test uncertainties and allowance for service-related degradation. The licensee notes that the IST interval is uniquely established for each MOV based on margin and risk classification of the MOV.

#### 3.1.2 NRC Staff Evaluation

The NRC regulations in 10 CFR 50.55a(b)(3)(ii) require nuclear power plant licensees to comply with the provisions of the ASME OM Code incorporated by reference in 10 CFR 50.55a, and must establish a program to ensure that MOVs continue to be capable of performing their design-basis safety function. The NRC staff considers ASME OM Code testing specified in Mandatory Appendix III with the conditions in 10 CFR 50.55a(b)(3)(ii), and the MOV diagnostic test programs developed in response to NRC GL 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance" (ADAMS Accession No. ML031150300) and GL 96-05, "Periodic

Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves" ADAMS Accession No. ML031110010), together will satisfy the regulatory requirements of 10 CFR 50.55a(b)(3)(ii).

In GL 89-10, the NRC staff requested that each nuclear power plant licensee establish a program to demonstrate that safety-related MOVs are capable of performing their design basis functions. During the implementation of GL 89-10, the NRC staff provided four acceptable methods a licensee could use to demonstrate the design basis capability of safety-related MOVs. The four methods for demonstrating capability in descending order of acceptability are:

- 1) Dynamic testing at or near design basis conditions with diagnostics of each MOV where practicable. Valves dynamically tested at less than design basis conditions may be extrapolated with proper justification.
- 2) Electric Power Research Institute (EPRI) MOV Performance Prediction Methodology (PPM). This method was developed for those valves that could not be dynamically tested. The PPM required internal valve measurements to provide assurance that the valve performance was predictable. The NRC staff began accepting the use of the PPM even where dynamic testing for an MOV was practicable.
- 3) MOV valve grouping. Where valve-specific dynamic testing was not performed and the PPM was not used, the staff accepted grouping of MOVs that were dynamic tested at the plant to apply the plant-specific test information to an MOV in the group.
- 4) The use of valve test data from other plants or research programs. The NRC ranks this as the least-preferred approach (with the most margin required) because the licensee would have minimal information regarding the tested valve and its history.

In superseding GL 89-10, GL 96-05 requested that each licensee establish a program, or ensure the effectiveness of its current program, to verify on a periodic basis that safety-related MOVs continue to be capable of performing their safety functions within the current licensing basis of the facility. The program should ensure that changes in required performance resulting from degradation (such as those caused by age) can be properly identified and addressed.

In response to GL 96-05, the nuclear industry joined together to form the JOG MOV periodic verification program. The JOG program consisted of three elements: (1) an "interim" MOV periodic verification program for licensees to use in response to GL 96-05 during development of a long-term program; (2) a 5-year MOV dynamic diagnostic test program; and (3) a long-term MOV periodic diagnostic test program to be based on the information from the dynamic testing program. The JOG effort was intended to answer the valve degradation question as it pertained to valve configuration, design, and system application. The JOG test program was not intended to provide data to the industry for the purpose of justifying valve performance. The final JOG program plan consisted of periodic diagnostic test program that is based on risk and margin. The NRC staff approved the JOG final program plan, with conditions, in an SE dated September 25, 2006 (ADAMS Accession No. ML061280315).

The ASME OM Code establishes the requirements for preservice and inservice testing and examination of certain components to assess their operational readiness in light-water reactor nuclear power plants. These requirements apply to pumps and valves that are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. The

ASME OM Code also applies to pressure relief devices and dynamic restraints.

Prior to the development of Mandatory Appendix III, the ASME OM Code testing for MOVs consisted of:

- 1) Valve exercising to include quarterly stroke time testing
- 2) Valve obturator movement verification during the exercise test
- 3) Valve leakage testing (only if the valve has a leakage limit requirement)
- 4) Remote position indication verification

In the past, these required tests were considered to be adequate to assess MOV operational readiness. However over the course of several years of operating experience and testing, it was determined that quarterly stroke time testing of MOVs was not an adequate indicator of valve degradation. As an alternative to MOV stroke-time testing, ASME developed Code Case OMN-1 to allow periodic exercising and diagnostic testing in assessing operational readiness of active MOVs in lieu of quarterly stroke-time testing. ASME provided additional guidance by developing Code Case OMN-11, "Risk-Informed Testing for Motor-Operated Valves," for MOVs in the IST program that are determined to have a high safety significance. The NRC staff has reviewed and accepted these Code Cases with certain conditions as noted in Regulatory Guide (RG) 1.192, "Operation and Maintenance Code Case Acceptability ASME OM Code" (ADAMS Accession No. ML19128A261), which is incorporated by reference in 10 CFR 50.55a. ASME merged these two Code Cases into an updated version of Code Case OMN-1 published in the 2006 Addenda of the ASME OM Code. This updated OMN-1 Code Case was later adopted into the 2009 Edition of ASME OM Code as Mandatory Appendix III. The NRC conditions for use of Mandatory Appendix III are specified in 10 CFR 50.55a(b)(3)(ii).

Most licensees of operating nuclear power plants committed to follow the JOG MOV periodic verification program as part of their response to GL 96-05. The NRC staff reviewed each licensee's GL 96-05 program and risk methodology (including implementation of the JOG program) and prepared an SE describing its review of each of those programs with conditions. Many licensees committed to the Boiling Water Reactor Owners Group (BWROG) risk methodology NEDC-32264A (Revision 2) approved by NRC staff on February 27, 1996, Westinghouse Owners Group (WOG) risk method V-EC-1658-A (Revision 2) approved by NRC staff on August 13, 1998, or a plant-specific risk methodology. The nuclear power plants listed in Table 1 of this SE committed to the following risk ranking method:

- Limerick committed to follow the BWROG risk method SE dated November 17, 2000 (ADAMS Accession No. ML003755447)
- Braidwood committed to follow the WOG risk method Response to Request for Additional Information (RAI) dated April 12, 1999 (ADAMS Accession No. ML17191B310)
- Calvert Cliffs committed to follow the WOG risk method SE dated December 15, 1999 (ADAMS Accession No. ML993550374)
- Clinton committed to follow a plant-specific risk method SE dated February 8, 2000 (ADAMS Accession No. ML003681570)
- 5) Ginna committed to follow the WOG risk method SE dated December 27, 1999 (ADAMS Accession No. ML003672670)
- Nine Mile committed to follow a plant-specific risk method SE dated July 18, 2000 (ADAMS Accession No. ML003729304)
- 7) Peach Bottom committed to follow the BWROG risk method SE dated November 16, 2000 (ADAMS Accession No. ML003752691)

Licensees of operating nuclear power plants must meet the requirements of 10 CFR 50.55a(b)(3)(ii) to follow the ASME OM Code requirements, and have an MOV program that periodically verifies that MOVs will continue to perform their safety functions. The NRC staff considers the JOG program plan and Mandatory Appendix III to meet 10 CFR 50.55a(b)(3)(ii) with conditions. Both programs are similar but have differences such as:

- The JOG program incorporates risk into its MOV diagnostic testing schedule, but Mandatory Appendix III does not require the implementation of a risk-informed program. Applying risk in Mandatory Appendix III relaxes valve grouping requirements which allows for more flexible testing.
- 2) The JOG program has specific test intervals based on risk and margin. High risk MOVs have shorter test intervals dependent on margin with a maximum test interval of 6 years for high margin MOVs and 2 years for low margin MOVs. Mandatory Appendix III relies on the plant MOV engineer to set the correct test interval not to exceed 10 years based on specific MOV diagnostic test data. High risk valves can be justified to extend the test interval to 10 years.
- 3) The licensee's implementation of the JOG program is a commitment, whereas the implementation of Mandatory Appendix III is a regulatory requirement.
- 4) The JOG program applies to valve performance, and the licensee is responsible for justifying the periodic verification of the actuator performance.

ASME developed Code Case OMN-26 to reduce the amount of programmatic changes for licensees incorporating Mandatory Appendix III for the first time when the licensees update their IST program plans. Code Case OMN-26 aligns those portions of Mandatory Appendix III to follow the JOG approach of the test interval being based on both margin and risk that has been successfully implemented for the last 20 years. In some instances, Code Case OMN-26 is more restrictive in that certain valves (without periodic design-basis testing) are not allowed to have test intervals up to the 10-year interval allowed in Mandatory Appendix III. On the other hand, Code Case OMN-26 will allow certain valves to have test intervals based on their risk and margin that are beyond the 10-year interval in Appendix III. The NRC staff considers the extensions of the test intervals in Code Case OMN-26 to be reasonable based on many years of successful test data in implementing the JOG program by nuclear power plant licensees.

Another improvement in Code Case OMN-26 is that for high-risk valves with very high margins that are successfully stroked at least once per operating cycle under full design pressure and flow, the test interval may be extended to 12 years. Similarly, the diagnostic test interval for low-risk valves with very high margins and that are successfully stroked at least once per operating cycle under full design pressure and flow, the test interval may be extended to 16 years. Essentially, each successful stroke under full design pressure and flow is a reasonable demonstration of a very high margin MOV being operationally ready to perform its safety function without diagnostic test equipment.

In its letter dated July 6, 2020, the licensee states that the provisions of Code Case OMN-26 will be implemented in their entirety, including all tables and associated notes. The licensee specifies minor clarifications of the notes in the tables in Code Case OMN-26 to be consistent with its normal plant operations. The NRC staff has determined that the licensee's proposed alternative to implement Code Case OMN-26, as described in the licensee's letters dated January 31, 2020, and July 6, 2020, at the nuclear power plants listed in Table 1 of this SE, provides an acceptable level of quality and safety for their current 10-year IST program intervals.

#### 4.0 <u>CONCLUSION</u>

As described above, the NRC staff concludes that the proposed alternative to implement ASME OM Code Case OMN-26, as described in the licensee's letters dated January 31, 2020, and July 6, 2020, provides an acceptable level of quality and safety for the nuclear power plants listed in Table 1 of this SE. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(1).

Therefore, the NRC staff authorizes the proposed alternative for the implementation of ASME OM Code Case OMN-26, for the specified 10-year IST program intervals for the nuclear power plants listed in Table 1 of this SE.

All other ASME OM Code requirements for which relief or an alternative was not specifically requested and approved in the subject requests remain applicable.

Principal Contributor: Michael Farnan, NRR

Date of issuance: September 1, 2020

#### B. Hanson

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2; CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2; CLINTON POWER STATION, UNIT NO. 1; R. E. GINNA NUCLEAR POWER PLANT; LIMERICK GENERATING STATION, UNITS 1 AND 2; NINE MILE POINT, UNITS 1 AND 2; AND PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 – REQUEST TO USE ALTERNATIVE CODE CASE OMN-26 (EPID L-2020-LLR-0012) DATED SEPTEMBER 1, 2020

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# ATTACHMENT 7

# CODE CASE INDEX

ASME OM Code Cases that have been approved for use by the NRC per Regulatory Guide 1.192 and are adopted for use at Braidwood (subject to additional NRC approval where required) are identified below. These Code Cases shall be used during the fourth 10-Year Interval IST Program implementation with all conditions, as applicable:

• Code Case OMN-20, "Inservice Test Frequency," Revision 0.

During the Third IST 10-Year Interval, OMN-20 was authorized for use by the USNRC per Agency wide Documents Access and Management System Accession No. ML17046A286, dated February 21, 2017.

On August 17, 2017 the NRC added a new condition as 50.55a(b)(3)(x), "ASME OM Code Case OMN-20," to allow licensees to implement OM Code Case OMN-20, "Inservice Test Frequency," in the OM Code, 2012 Edition. This condition allows voluntary action initiated by the licensee to use the code case and is, therefore, not a backfit.

• Code Case OMN-26, "Alternate Risk-Informed and Margin Based Rules for Inservice Testing of Motor Operated Valves."

OMN-26 was authorized for use via approved Code Case by the USNRC. See SER (ADAMS # ML20232A171) dated September 1, 2020.

# **ATTACHMENT 8**

# COLD SHUTDOWN JUSTIFICATION INDEX (Page 1 of 2)

<u>Designator</u>	Description	<b>Revision Date</b>
CS-1	(1/2MS001A-D ) Stroke Time Test (SC) during Cold Shutdown	July 29, 2018
CS-2	RESERVED	
CS-3	(1/2FW009A-D) Stroke Time Test (SC) during Cold Shutdown	July 29, 2018
CS-4	1/2CV8152; 1/2CV8160) Stroke Time Test (SC) / Fail Safe Test Closed (FC) during Cold Shutdown	July 29, 2018
CS-5	RESERVED	
CS-6	(1/2RC014A-D ) Stroke Time Test (SC) / Fail Safe Test Closed (FC) during Cold Shutdown	July 29, 2018
CS-7	(1/2RH8730A/B) Full Stroke Test (CO) / Close Stroke Test (CC) during Cold Shutdown.	July 29, 2018
CS-8	(1/2SI8818A-D; 1/2SI8958A/B) Full Stroke Test (CO) during Cold Shutdown	July 29, 2018
CS-9	(2FW039A-D) Stroke Time Test (SC) and Fail Safe Test Closed (FC) during Cold Shutdown	July 29, 2018
CS-10	(1/2CV459; 1/2CV460) Stroke Time Test (SC) and Fail Safe Test Closed (FC) during Cold Shutdown	July 29, 2018

# COLD SHUTDOWN JUSTIFICATION INDEX (Page 2 of 2)

<b>Designator</b>	Description	<b>Revision Date</b>
CS-11 CS-12 CS-13	RESERVED RESERVED Pressure Isolation Valves (PIVs) and 1/2RH8705A/B and 1RH8706A Leak Test (LT) during Cold Shutdown for all per Technical Specifications and Close Stroke Test (CC) for Check Valves at the same frequency	July 29, 2018
CS-14	(2RH8716A/B) Exercised during Cold Shutdown	July 29, 2018
CS-15	1/2CC685, Exercised during Cold Shutdown with no RCPs running	June 8, 2020
CS-16	RESERVED	
CS-17	RESERVED	

CS-18 (1SD054A-H; 2SD054B,D,F,H) Stroke Time Test July 29, 2018 (SC) and Fail Safe Test Closed (FC) during Cold Shutdown

# **ATTACHMENT 9**

# **COLD SHUTDOWN JUSTIFICATIONS**

(Page 1 of 1)

Component Number	<u>System</u>	Code Class	<b>Category</b>
1/2MS001A	Main Steam	2	В
1/2MS001B	Main Steam	2	В
1/2MS001C	Main Steam	2	В
1/2MS001D	Main Steam	2	В

#### **Component Function(s)**

These are the Main Steam Isolation Valves (MSIVs). In the normally open position, steam is supplied to the turbine. The valves are required to close to isolate the main steam line to prevent: reverse flow into containment during a main steam line break, Steam Generator Blowdown during a major steamline break outside of containment, and secondary system contamination from a Steam Generator tube rupture.

#### **Justification**

Closure of the main steam isolation valves 1MS001A-D or 2MS001A-D during Unit operation would result in a significant steam generator transient and a manual reactor trip. Failure of these valves during partial stroke testing can result in valve closure and subsequent reactor trip.

Because stroke testing of these valves at power would result in a reactor trip, and because partial stroke testing at power presents the unwarranted risk of a potential reactor trip, testing of these valves during operation is not practical. Stroke time testing of the Main Steam Isolation Valves will be completed during cold shutdown, as conditions allow, in accordance with ISTC-3521(c). The actual test modes are Modes 3-6, but normally testing is performed in Modes 3 or 4 before or after cold shutdowns.

RESERVED

(Page 1 of 1)

Component Number	<u>System</u>	Code Class	<b>Category</b>
1/2FW009A	Feed Water	2	В
1/2FW009B	Feed Water	2	В
1/2FW009C	Feed Water	2	В
1/2FW009D	Feed Water	2	В

#### **Component Function(s)**

These are the main feedwater isolation valves (FWIVs). They are open during normal operation to allow flow to the Steam Generator (non-IST function). They are required to close for Feedwater Isolation and Containment Isolation. (Not subject to Type C leakage testing per Tech Spec Table B.3.6.3-1.)

# **Justification**

The main feedwater isolation valves cannot be fully stroked during operation as feedwater would be terminated causing a reactor trip. Failure of these valves during partial stroke testing can result in valve closure and subsequent reactor trip.

Because stroke testing of these valves at power would result in a reactor trip, and because partial stroke testing at power presents the unwarranted risk of a potential reactor trip, testing of these valves during operation is not practical. Stroke time testing of the Main Feedwater Isolation Valves will be completed during cold shutdown, as conditions allow, in accordance with ISTC-3521(c).

(Page 1 of 1)

<u>Component Number</u>	<u>System</u>	<u>Code Class</u>	<b>Category</b>
1/2CV8152	Chemical And Volume Control	2	А
1/2CV8160	Chemical And Volume Control	2	А

#### **Component Function(s)**

The 1/2CV8152 and the 1/2CV8160 are the letdown line containment isolation valves. These valves are part of the chemical and volume control system (CVCS).

#### **Justification**

Closure of these letdown isolation valves 1/2CV8152, and 1/2CV8160 during normal Unit operation would cause a loss of charging flow which would result in a reactor coolant inventory transient, and possibly, a subsequent reactor trip. Additionally, isolating letdown during normal Unit operation would result in a thermal transient on the charging nozzle. Valves 1/2CV8152 and 1/2CV8160 will be stroke time tested during cold shutdown in accordance with ISTC-3521(c) (also covers fail-safe tests for 1/2CV8152 and 1/2CV8160). It is not the intent of this justification to require charging pump shutdown only to perform the exercise test for these valves. Valves 1/2CV8152 and 1/2CV8152 and 1/2CV8160 will be tested during Cold Shutdown in which the charging pumps are secured for sufficient duration to perform the tests, which is in accordance with ISTC-3521(c).

RESERVED

(Page 1 of 1)

Component Number	System	Code Class	<b>Category</b>
1/2RC014A	Reactor Coolant	1	В
1/2RC014B	Reactor Coolant	1	В
1/2RC014C	Reactor Coolant	1	В
1/2RC014D	Reactor Coolant	1	В

#### **Component Function(s)**

These are the reactor head vent valves and are used to vent the reactor of hydrogen or other post-accident gases.

#### **Justification**

The Reactor Pressure Vessel Vent Valves 1RC014A-D and 2RC014A-D cannot be stroked during Unit operation, as they provide a pressure boundary between the Reactor Coolant system and containment atmosphere. Failure of one of these valves in the open position would result in leaving only one valve as the high pressure boundary. These valves will be full stroke exercised and fail safe tested when the RCS pressure is at a minimum during cold shutdown, in accordance with ISTC-3521 (c).

(Page 1 of 1)

<b>Component Number</b>	System	Code Class	<b>Category</b>
1/2RH8730A	Residual Heat Removal	2	C
1/2RH8730B	Residual Heat Removal	2	С

#### **Component Function(s)**

These are the RHR pump discharge check valves. The open function of these valves is to provide an RHR pump flowpath. The closure function is to prevent back leakage while the opposite train is in operation during post-accident situations.

#### **Justification**

The Residual Heat Removal Pump discharge check valves 1RH8730A/B and 2RH8730A/B cannot be full stroke exercised during Unit operation due to the RCS pressure being greater than the RHR pumps are capable of delivering. Since the RH pumps cannot be run on full flow conditions during normal operation, the ability to pass design accident flow through the subject check valves is not possible. Although not required, these check valves will be partial stroke tested, however, on a quarterly basis during the mini-flow recirculation RHR pump tests and full stroke exercised during cold shutdown. This is in accordance with ISTC-3522 (b).

Additionally, it would be impractical to backflow test these valves during Unit operation. The methodology for testing these valves involves closing the mini-flow valve on the train being tested and subsequently cross-tying the RH pumps discharge headers and having the opposite train provide pressure against the check valve being tested. The test is satisfied by verifying that the pump on the same train as the check valve is not rotating backwards. However, this testing would put the plant in an undesirable condition as both trains of RH would be considered inoperable. During cold shutdowns, the train running on shutdown cooling may be used to pressurize against the opposite train's check valve. For this reason, these valves will be backflow tested during cold shutdown in accordance with ISTC-3522(b).

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Component Number	System	Code Class	<b>Category</b>
1/2SI8818A	Safety Injection	1	A/C
1/2SI8818B	Safety Injection	1	A/C
1/2SI8818C	Safety Injection	1	A/C
1/2SI8818D	Safety Injection	1	A/C
1/2SI8958A	Safety Injection	2	С
1/2SI8958B	Safety Injection	2	С

#### **Component Function(s)**

The SI8818 valves are the safety injection RCS Loop 1 cold leg upstream check valves located in the flowpath from the Residual Heat Removal (RHR) pumps. The SI8958 valves are the safety injection RWST outlet check valves to the RHR pumps.

#### **Justification**

Due to the high RCS pressure during Unit operation (2235 psi), these valves cannot be full or partial stroke exercised during quarterly testing. The 1/2SI8958A/B check valves, although located at the suction of the RHR pumps, are not in the recirculation flow path to allow partial stroking each quarter. These valves will be full stroke exercised during cold shutdown, in accordance with ISTC-3522(b).

(Page 1 of 1)

Component Number	<u>System</u>	Code Class	<b>Category</b>
2FW039A	Feed Water	2	В
2FW039B	Feed Water	2	В
2FW039C	Feed Water	2	В
2FW039D	Feed Water	2	В

#### **Component Function(s)**

These are the steam generator feedwater preheater bypass downstream isolation valves. They provide for Feedwater/Containment isolation in the closed position. (Not subject to Type C leakage testing per Tech Spec Table B.3.6.3-1.) They are normally open air operated valves located on the cross-tie lines connecting the main FW line to the tempering line.

#### **Justification**

It is not practical for the 2FW039A-D valves to be stroke tested during normal operation as closure of these valves would require a power reduction from full power to less than 80%. Stroking these valves closed above 80% would result in undesirable Steam Generator preheater tube vibrations thereby causing undue stress and potentially reducing the life expectancy of the Steam Generators. These valves will be stroke timed and fail safe tested during cold shutdown, in accordance with ISTC-3521(c).

#### COLD SHUTDOWN JUSTIFICATION: CS-10 (Page 1 of 1)

(Page 1	of 1)
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Component Number	<u>System</u>	Code Class	<u>Category</u>
1/2CV459	Chemical And Volume Control	1	В
1/2CV460	Chemical And Volume Control	1	В

#### **Component Function(s)**

1/2CV459 and 1/2CV460 valves are normally OPEN with the Unit at power, allowing letdown flow to occur. The valves auto close on low Pressurizer level and on letdown isolation due to an interlock with the orifice isolation valves.

#### **Justification**

It is impractical to full or partial stroke exercise and stroke time the above listed valves on a quarterly basis. Due to the interlocks between the 1/2CV459, 1/2CV460, & the 1/2CV8149A-C valves, exercising these valves during normal operation results in (multiple) total letdown flow isolation events. The impact of a letdown isolation with the Unit at power is a thermal transient to the RPV charging nozzle. A letdown isolation also results in some amount of pressurizer level fluctuation until equilibrium letdown and makeup is re-established. While the piping and components are designed for thermal transients, each cycle presents some additional stress to all of the affected equipment. As implied in section 2.4.5 of NUREG-1482, Revision 2, it is prudent to minimize the number of transients the equipment is required to undergo to prevent premature failures.

Due to the above, these valves will be stroke tested and failed safe tested in Cold Shutdowns in accordance with ISTC-3521(c).

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Revision Date: November 25, 2020

# COLD SHUTDOWN JUSTIFICATION: CS-13 (Page 1 of 2)

<u>Component Number</u>	<u>System</u>	<b>Category</b>	Code Class
1/2RH8705A	Residual Heat Removal	A/C	2
1/2RH8705B	Residual Heat Removal	A/C	2
1RH8706A	Residual Heat Removal	A/C	2
1/2SI8815	Safety Injection	A/C	1
1/2SI8818A	Safety Injection	A/C	1
1/2SI8818B	Safety Injection	A/C	1
1/2SI8818C	Safety Injection	A/C	1
1/2SI8818D	Safety Injection	A/C	1
1/2SI8819A	Safety Injection	A/C	1
1/2SI8819B	Safety Injection	A/C	1
1/2SI8819C	Safety Injection	A/C	1
1/2SI8819D	Safety Injection	A/C	1
1/2SI8841A	Safety Injection	A/C	1
1/2SI8841B	Safety Injection	A/C	1
1/2SI8900A	Safety Injection	A/C	1
1/2SI8900B	Safety Injection	A/C	1
1/2SI8900C	Safety Injection	A/C	1
1/2SI8900D	Safety Injection	A/C	1
1/2SI8905A	Safety Injection	A/C	1
1/2SI8905B	Safety Injection	A/C	1
1/2SI8905C	Safety Injection	A/C	1
1/2SI8905D	Safety Injection	A/C	1
1/2SI8948A	Safety Injection	A/C	1
1/2SI8948B	Safety Injection	A/C	1
1/2SI8948C	Safety Injection	A/C	1
1/2SI8948D	Safety Injection	A/C	1
1/2SI8949A	Safety Injection	A/C	1
1/2SI8949B	Safety Injection	A/C	1
1/2SI8949C	Safety Injection	A/C	1
1/2SI8949D	Safety Injection	A/C	1
1/2SI8956A	Safety Injection	A/C	1
1/2SI8956B	Safety Injection	A/C	1
1/2SI8956C	Safety Injection	A/C	1
1/2SI8956D	Safety Injection	A/C	1

# COLD SHUTDOWN JUSTIFICATION: CS-13 (Contd.) (Page 2 of 2)

### **Component Function(s)**

The listed valves have been identified as intersystem LOCA valves. Only the closed function of these valves will be addressed in this justification. These valves form a pressure boundary between the RCS and the other essential components in order to protect these components from damage.

### **Justification**

All of these valves are considered pressure isolation valves (PIVs) per the Technical Specifications, except for the 1/2RH8705A/B valves, which will be tested on the same frequency since they are tested in conjunction with the 1/2RH8701A/B valves. Online closure verification constitutes a leak test, which presents significant hardships such as the use of temporary test equipment inside containment, excessive radiation exposure to test personnel, and entry into multiple and simultaneous LCO's thereby making closure testing impracticable. The performance of the leak test also satisfies the test required for ASME OM Code, ISTC-3630. These valves will be backflow/leak tested during cold shutdowns, in accordance with ISTC-3521(c) and ISTC-3522(b).

Additionally, pressure isolation valves are required to be tested in accordance with Technical Specification SR 3.4.14.1. The Technical Specification requires that if the Unit is in cold shutdown for 7 days or more and the valves have not been tested in the past nine months, they will be leak tested prior to entry into Mode 2.

# 1/2SI8948A-D; 1/2SI8956A-D Note

Valves 1/2SI8948A-D and 1/2SI8956A-D are now in the Condition Monitoring Program. Should they be removed from that program they would require being tested to the "regular," valve Code – ISTC, in accordance with this deferral. These valves are surveillance tested with the above valves, at a Cold Shutdown frequency, as they are required to be by the Technical Specifications. They will continue to be listed in this Cold Shutdown Justification for these reasons.

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Component Number	<u>System</u>	Code Class	<b>Category</b>
2RH8716A	Residual Heat Removal	2	В
2RH8716B	Residual Heat Removal	2	В

#### **Component Function(s)**

Valves 2RH8716A/B are the Residual Heat Removal system cross connect valves that are required to be open to allow injection into the RCS loops. These valves are required to be open for train operability of either train of RHR. The valves are required to be closed during cold leg recirculation and open during hot leg recirculation.

#### **Justification**

Technical Specifications require these valves to be open. Stroking this valve closed would make both trains of RH inoperable, which is a violation of the Technical Specification. This valve can only be exercised during cold shutdown or refuel. These high risk ranked valves will be exercise tested and, if applicable, stroke time tested during Cold Shutdown conditions.

#### COLD SHUTDOWN JUSTIFICATION: CS-15 (Page 1 of 1)

Component NumberSystemCode ClassCategory1/2CC685Component Cooling2A

#### **Component Function(s)**

Motor operated valves 1/2CC685 function in the closed position to provide a limited leakage barrier between the containment atmosphere and the environment during accident conditions. These valves open to provide a return flow path from the RCP Thermal Barrier.

#### **Justification**

These valves cannot be full or partial stroke exercised during normal operations because closure would isolate flow to the Reactor Coolant Pumps. Failure of a CC valve in the closed position during an exercise test would result in a loss of cooling flow to the pumps and eventual pump damage and/or trip. Therefore, these high risk ranked valves will be stroke tested during cold shutdowns, in accordance with III-3620 provided all of the RCPs are shutdown. This test frequency will adequately maintain these valves in a state of operational readiness by testing them as often as safely possible.

This frequency is consistent with the guidelines presented in NUREG-1482, Revision 2, Section 3.1.1.4.

Note: Valves 1/2CC9413A, 1/2CC9413B, 1/2CC9414, 1/2CC9415, 1/2CC9416, 1/2CC9438, 1/2CV8100, and 1/2CV8112 have been removed from this CS deferral based on implementation of ASME OM Code Appendix III. These MOVs have a risk ranking of Low and are therefore only required to be exercise and/or stroke time tested once every 18 months.

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<u>Component Number</u>	<u>System</u>	Code Class	<b>Category</b>
1SD054A	Steam Generator Blowdown	2	В
1/2SD054B	Steam Generator Blowdown	2	В
1SD054C	Steam Generator Blowdown	2	В
1/2SD054D	Steam Generator Blowdown	2	В
1SD054E	Steam Generator Blowdown	2	В
1/2SD054F	Steam Generator Blowdown	2	В
1SD054G	Steam Generator Blowdown	2	В
1/2SD054H	Steam Generator Blowdown	2	В

#### **Component Function(s)**

The SD054 valves are normal Steam Generator Blowdown throttle control valves. An additional function of the Unit 1, (A through H valves) and the Unit 2, (B train valves [B, D, F, & H]) is to isolate Blowdown in the event of a High Energy Line Break (HELB) in the SD system.

#### **Justification**

It is impractical to exercise and stroke time the above listed valves on a quarterly basis. The valves have no Open / Closed hand switch. They are normally operated by means of a potentiometer which ultimately controls an air signal to a positioner. Attainment of repeatable stroke time results requires the valves to be stroked by causing (or simulating) HELB relay actuation. This method of closure causes multiple valve actuations resulting in complete steam generator blowdown isolation. Furthermore, the remote position indicator, (a 0-100% indicator - not based on limit switch operation) may lag actual valve position. Therefore, the only repeatable method of stroke timing these valves involves stationing personnel locally at the valve(s) to witness actual valve movement.

Full stroke exercising the valves is a Unit operation concern in that closure of these valves during normal operation presents a thermal transient to the downstream piping and components including the blowdown condenser. While the valves, piping, and components are designed to withstand this thermal transient, each transient produce's stress which may lead to premature failure of the affected components. As implied in section 2.4.5 of NUREG-1482, Revision 2, it is prudent to minimize the number of thermal transients that these high energy lines are required to undergo.

# COLD SHUTDOWN JUSTIFICATION: CS-18 (Contd.) (Page 2 of 2)

Personnel safety concerns exist with this stroking exercise during normal operation in that the valves are physically located in the Main Steam Isolation (MSIV) Valve Room, off the Steam Tunnel. This room contains the MSIVs, Feedwater Isolation Valves (FWIVs), Main Steam Safety Valves, Main Steam PORVs, and other miscellaneous piping and valves. The normal ambient temperature in this room with the Unit at power is greater than 110 °F. Almost all of the piping (most of which is insulated) and instrument tubing in the room are normally at temperatures of approximately 500 °F or more. The SD054 valves are located above the floor some 16 to 20 feet and are not visible from the floor being obscured by Main Steam and Feedwater Piping. Since personnel must be stationed locally at the valve to witness actual valve movement, it is necessary to climb around very hot piping in a hot and very noisy ambient atmosphere. In some cases it may be necessary to erect scaffolding to conduct this test with the Unit in normal operation.

Due to the above, these valves will be stroke time/fail safe tested during Cold Shutdowns of sufficient duration to allow safe access to the valves, including the erection of scaffolding, if required. This testing frequency is in accordance with ISTC-3521(c).

# **ATTACHMENT 10**

# **REFUEL OUTAGE JUSTIFICATION INDEX**

(Page 1 of 1)

<b>Designator</b>	Description	<b>Revision Date</b>
RJ- 1	(1/2SX007) Stroke Time Tested (SO) during Refueling	July 29, 2018
RJ-2	(1/2SI8811A/B) Exercised during Refueling	July 29, 2018
RJ-3	(1/2IA065; 1/2IA066) Stroke Time Test (SC) and Fail-Safe Test Closed (FC) during Refueling.	July 29, 2018
RJ-4	(1/2SI8819A-D; 1/2SI8905A-D; 1/2SI8922A/B; 1/2SI8949B,D) All Valves Full Stroke Tested (CO) during Refueling.	July 29, 2018
RJ-5	(1/2CV8481A/B; 1/2SI8815; 1/2SI8900A- D) All Valves Full Stroke Tested (CC) during Refueling.	July 29, 2018
RJ-6	(1/2SI8841A/B; 1/2SI8949A,C) Full Stroke Test (CO) during Refueling.	July 29, 2018
RJ-7	(1/2RH8705A/B, 1RH8706A) Full Stroke Test (CO) during Refueling.	July 29, 2018
RJ-8	(1/2FW510A; 1/2FW520A; 1/2FW530A; 1/2FW540A; 1/2FW510; 1/2FW520; 1/2FW530; 1/2FW540; 1/2FW034A-D) Augmented Fail-Safe Test Closed (FC) during Refueling per Braidwood Technical Specifications.	June 8, 2020
RJ-9 RJ-10	RESERVED 1/2RF026-I/A-CHK Close Test (CC) during Refueling	July 29, 2018

# **ATTACHMENT 11**

# **REFUEL OUTAGE JUSTIFICATIONS**

VALVE NUMBER	CATEGOR	CODE Y CLASS	DRAWING NUMBER	DRAWING COORDINATE
1/2SX007	В	3	M-42-2B	D4 (B3)

### **FUNCTION(S):**

The normally open butterfly SX Outlet Throttle Valves for the respective unit's CC Heat Exchanger, which provides a flow path for SX through the associated CC Heat Exchanger.

#### **JUSTIFICATION:**

Full and Partial exercising the 1/2SX007 valves presents a concern for the equipment cooled by the CCW System. The 1/2SX007 flow control valves are normally throttled to provide proper flow to the applicable unit's CC heat exchanger. The Unit 0 CC heat exchanger is aligned to one unit at a time. Full stroke of the 1/2SX007 for the unit not aligned to the Unit 0 CC heat exchanger results in a loss of cooling to CC components on the applicable cooling loop. As a result, performance of the 1/2SX007 valve strokes requires swapping the Unit 0 CC heat exchanger to the applicable unit. Swapping the Unit 0 CC heat exchanger between Unit 1 and Unit 2 is a concern for equipment cooled by the CCW System.

## **TEST FREQUENCY:**

The 1/2SX007 high risk ranked valves will be exercised during refueling outages in accordance with III-3620.

VALVE NUMBER	CATEGOR	CODE RY CLASS	DRAWING NUMBER	DRAWING COORDINATE
1/2SI8811A	B	2	M-61-4(M-136-4)	C5 (C5)
1/2SI8811B	B	2	M-61-4(M-136-4)	A5 (A5)

# **FUNCTION(S):**

The normally closed gate Containment recirculation sump isolation motor operated valves (MOV) provide an isolation boundary between the suctions of the residual heat removal (RH) and containment spray (CS) pumps, and the containment recirculation sumps. They are considered high safety significant components (HSSC) under ASME OM Code Appendix III.

ASME OM Code 2012 Edition, III-3610 "Normal Exercising Requirements states that all MOVs, within the scope of this Mandatory Appendix, shall be full cycle exercised at least once per refueling cycle with the maximum time between exercises to be not greater than 24 mo. Full cycle operation of an MOV, as a result of normal plant operations or Code requirements, may be considered an exercise of the MOV, if documented. If full stroke exercising of an MOV is not practical during plant operation or cold shutdown, full stroke exercising shall be performed during the plant's refueling outage.

Sub-section III-3721 states that "HSSC MOVs shall be tested in accordance with para. III-3300 and exercised in accordance with para. III-3600. HSSC MOVs that can be operated during plant operation shall be exercised quarterly, unless the potential increase in core damage frequency (CDF) and large early release (LER) associated with a longer exercise interval is small." This establishes the requirement that these particular MOVs should be tested quarterly unless there is adequate justification that they cannot be operated during plant operation and supporting documentation is available showing that the potential increase in core damage frequency (CDF) and large early release (LER) associated with a longer exercise interval is small."

# **JUSTIFICATION:**

Under normal plant operating conditions, the RH and CS systems are filled with borated water and the containment recirculation sumps are maintained in a dry state. A stroke test of these valves requires the RH and CS pumps for a given train to be removed from service and the

# REFUEL OUTAGE JUSTIFICATION RJ-2 (Continued)

suction lines drained to prevent water flow from the refueling water storage tank (RWST) and associated system piping into the normally empty containment recirculation sump. It takes approximately 24 hours to drain the RH and CS systems, perform the required valve tests, and refill

and restore the systems to their normal configuration. An estimated 600 gallons of radioactive, borated water are drained and must be processed by the radioactive waste systems.

This same amount of borated water must be used to refill the system. This sequence of events is required whether the testing is done online or during a refueling outage. In addition, this testing process would render a train of RH and CS simultaneously inoperable for a period of 24 hours each quarter. Based upon the complexity of the actions that are required to stroke test the valves, as well as the impact upon plant configuration and risk associated with the concurrent inoperability of an RH and CS train, it is not practical to perform these activities on a quarterly frequency during operation or during cold shutdowns.

# **TEST FREQUENCY:**

Valves 1/2SI8811A and 1/2SI8811B will be exercise tested as required by ASME OM-2012 Code, Appendix III during every refuel outage.

VALVE NUMBER	CATEGOR	CODE XY CLASS	DRAWING NUMBER	DRAWING COORDINATE
1/2IA065	A	2	M-55-4(M-55-5)	D3 (E6)
1/2IA066	A	2	M-55-4(M-55-5)	D6 (E4)

### **FUNCTION(S):**

Air Operated Valves 1/2IA065 and 1/2IA066 are the outboard and inboard (respectively) containment isolation valves for Instrument Air supply lines to containment. The closed safety function of these valves is to provide a leak-tight barrier between the containment atmosphere and the environment during accident conditions.

# **JUSTIFICATION:**

Stroke/fail-safe testing of the 1/2IA065 and 1/2IA066 valves during plant operation or cold shutdowns would, by design, isolate the air to air operated instruments inside the containment building. Additionally, the valve's control circuitry does not provide for partial stroke capability. Stroke/fail-safe testing would introduce the possibility of major operating perturbations and/or personnel safety concerns should these valves fail to re-open during testing activities. This would result in scenarios such as:

1. Loss of Pressurizer Pressure Control -

The pressurizer spray valves 1/2RY455B & C and the pressurizer auxiliary spray valve 1/2CV8145 would fail closed and not be available for pressurizer pressure control.

2. Loss of Chemical Volume Control System Letdown Flow (both normal and excess) and Charging Flow -

The loss of instrument air would cause a disruption in the Unit letdown flow paths resulting in pressurizer level increases. Such valves as the letdown orifice containment outlet header isolation valve 1/2CV8160, the letdown line isolation valves 1/2CV459 and 1/2CV460, the letdown orifice outlet isolation valves 1/2CV8149A, B & C, the excess letdown heat exchanger inlet isolation valves 1/2CV8153A & B, and the regenerative heat exchanger letdown inlet isolation valves 1/2CV8389A & B would go to their fail closed positions. Additionally, the ability to normally make-up reactor coolant inventory and adjust the reactor chemical shim (i.e. normal boration/dilution) would also be lost as the regenerative heat exchanger inlet isolation valves 1/2CV8324A & B would fail to their respective closed positions.

# REFUEL OUTAGE JUSTIFICATION RJ-3 (continued)

3. Loss of Component Cooling to Containment Penetrations -

The loss of instrument air supply would cause the penetration cooling supply flow control valve 1/2CC053 to go to its fail closed position. The loss of penetration cooling would result in elevated temperatures being imposed on the penetrations being supported by the component cooling system.

4. Loss of Personnel Breathing Air -

The loss of Instrument Air supply to the Service Air downstream isolation valve 1/2SA033 would cause this valve to go to its fail close position. This loss of Service Air in the containment building would eliminate the normal source of supplied breathing air needed to support numerous maintenance and component inspection activities in a contaminated environment.

# **TEST FREQUENCY:**

Air Operated Valves 1/2IA065 and 1/2IA066 will be stroke tested and fail safe tested during refueling outages on the respective Unit in accordance with ISTC-3521(e).

VALVE NUMBER	CATEGORY	CODE CLASS	DRAWING NUMBER	DRAWING COORDINATE
1/2SI8819A	A/C	1	M-61-3(M-136-3)	A5 (B4)
1/2SI8819B	A/C	1	M-61-3(M-136-3)	A7 (B2)
1/2SI8819C	A/C	1	M-61-3(M-136-3)	A6 (B2)
1/2SI8819D	A/C	1	M-61-3(M-136-3)	A6 (B3)
1/2SI8905A	A/C	1	M-61-3(M-136-3)	E4 (E4)
1/2SI8905B	A/C	1	M-61-3(M-136-3)	D7 (D2)
1/2SI8905C	A/C	1	M-61-3(M-136-3)	C7 (C2)
1/2SI8905D	A/C	1	M-61-3(M-136-3)	E4 (E5)
1/2SI8922A	С	2	M-61-1A(M-136-1)	E7 (D4)
1/2SI8922B	С	2	M-61-1A(M-136-1)	C7 (B4)
1/2SI8949B	A/C	1	M-61-3(M-136-3)	D8 (D1)
1/2SI8949D	A/C	1	M-61-3(M-136-3)	E8 (E1)

#### **FUNCTION(S):**

All of the "A/C" category valves in this refueling outage justification are pressure isolation valves (PIVs) and will be leak tested (and close stroke tested) per Braidwood Station Tech Specs (see CS-13). This refueling outage justification will only include the open functions of all the check valves listed above.

Check valves 1/2SI8819A-D are located in the lines going from the Safety Injection pumps to the reactor vessel <u>cold legs</u>. Their safety function in the open direction is to permit flow of coolant to the reactor vessel cold legs during a safety injection.

Check valves 1/2SI8905A-D and 1/2SI8949B/D are located in the lines going from the Safety Injection pumps to the reactor vessel <u>hot legs</u>. Their safety function in the open direction is to permit flow of coolant to the reactor vessel hot legs during the Hot Leg Recirculation portion of a safety injection.

Check valves 1/2SI8922A/B are located on the Safety Injection pumps discharge line. They are required to open for ECCS injection and recirculation phases.

# REFUEL OUTAGE JUSTIFICATION RJ-4 (continued)

## **JUSTIFICATION:**

These valves cannot be full stroke exercised during operation as the shut-off head of the Safety Injection pumps is lower than the reactor coolant system pressure. These valves cannot be full stroke exercised during routine Mode 5 cold shutdowns due to the Braidwood Station Technical Specification requirement that all Safety Injection pumps and all but one Charging pump be inoperable during Modes 4, (temperature less than 330 F) 5, and 6, except when the reactor vessel head is removed. This requirement minimizes the possibility of low temperature over pressurization (LTOP) of the Reactor Coolant System (RCS). The alternate method of protecting against over-pressurization by partially draining the RCS to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core. Full stroke exercising of these valves may only be safely performed in Mode 6 with the Reactor vessel head removed.

# **TEST FREQUENCY:**

These valves will be full stroke exercised during refueling outages in accordance with ISTC - 3522(c).

VALVE NUMBER	CATEGORY	CODE CLASS		DRAWING COORDINATE
1/2CV8481A 1/2CV8481B 1/2SI8815 1/2SI8900A 1/2SI8900B 1/2SI8900C	C C A/C A/C A/C A/C	2 2 1 1 1 1	M-64-3A(M-138-3A) M-64-3A(M-138-3A) M-61-2(M-136-2) M-61-2(M-136-2) M-61-2(M-136-2) M-61-2(M-136-2)	) C6 (C7) D5 (D4) E7 (E2) D7 (D2) C7 (C2)
1/2SI8900D	A/C	1	M-61-2(M-136-2)	B7 (B2)

#### **FUNCTION(S):**

All of the "A/C" category valves in this refueling outage justification are pressure isolation valves (PIVs) and will be leak tested (and backflow tested) per Braidwood Station Tech Specs (see CS-13). This refueling outage justification will only include the open functions of all the check valves listed above.

Check valves 1/2SI8815 are located in the lines from the Chemical and Volume Control (CV) Centrifugal Charging pump. Their safety function in the open direction is to permit flow of coolant from the centrifugal charging pumps to the four lines which branch off and provide flow to the reactor vessel cold legs during the high pressure injection phase of a safety injection.

Check Valves 1/2SI8900A-D are in the four lines which branch off from the lines containing the 1/2SI8815 valves. Their safety function in the open direction is to permit flow of coolant from the chemical and volume Control Centrifugal Charging Pumps to the reactor vessel cold legs during the high pressure injection phase of a safety injection.

Check valves 1/2CV8481A/B are located at the discharge of the Chemical and volume Control charging pumps. They are required to open to permit flow of coolant during a safety injection.

# **JUSTIFICATION:**

The full stroke exercising of check valves 1/2SI8815 and 1/2SI8900A-D associated with the Emergency Core Cooling System during operation would induce thermal stresses on their respective reactor vessel nozzles as the Reactor Coolant System (maintained at greater than 500° F) is injected with water from the Refueling Water Storage Tank (maintained at approximately 65° F). The 1/2CV8481A/B check valves are in series and cannot be full stroke exercised without causing stroking of 1/2SI8815 and 1/2SI8900A-D check valves.

# REFUEL OUTAGE JUSTIFICATION RJ-5 (continued)

These valves cannot be full stroke exercised during routine Mode 5 cold shutdowns due to Braidwood Station Technical Specifications LCO 3.4.12 requirements that all Safety Injection pumps and all but one charging pump be inoperable during Modes 4, (temperature less than 330 F) 5, and 6, except when the reactor vessel head is removed. This requirement minimizes the possibility of low temperature over pressurization (LTOP) of the Reactor coolant System (RCS). The alternate method of protecting against over-pressurization by partially draining the RCS to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core. In addition, injecting large quantities of highly borated water from the RWST would likely delay reactor start up and the cost of processing the reactor coolant to restore the optimum boron concentration is consequential. Full stroke exercising of these valves may only be safely performed in Mode 6 with the Reactor vessel head removed.

# **TEST FREQUENCY:**

These valves will be full stroke exercised during refueling outages in accordance with ISTC-3522(c).

VALVE NUMBER	CATEGORY	CODE CLASS	DRAWING <u>NUMBER</u>	DRAWING COORDINATE
1/2SI8841A 1/2SI8841B 1/2SI8949A 1/2SI8949C	A/C A/C A/C A/C	1 1 1	M-61-3(M-136-3) M-61-3(M-136-3) M-61-3(M-136-3) M-61-3(M-136-3)	E4 (E4) C7 (C2) E8 (E1) C8 (C1)

# **FUNCTION(S):**

All of the "A/C" category valves in this refueling outage justification are pressure isolation valves (PIVs) and will be leak tested (and backflow tested) per Braidwood Station Tech Specs (see CS-13). This refueling outage justification will only include the open functions of all the check valves listed above.

Check valves 1/2SI8841A/B are located in the lines from the Residual Heat Removal (RHR) pumps to the "A" and "C" Reactor Coolant System hot legs. Their safety function in the open direction is to permit flow of coolant from the RHR pumps to the reactor vessel hot legs during the Hot Leg Recirculation phase of a safety injection.

Check Valves 1/2S18949A/C are located in an ECCS line to the RCS "A" and "C" hot legs. They are required to open to permit flow of makeup water upon a safety injection from: (1) the Safety Injection Pumps during the high pressure safety injection phase, or (2) the RHR pumps during the Hot Leg Recirculation phase, to the reactor vessel hot legs.

# **JUSTIFICATION:**

The full stroke exercising of check valves 1/2SI8841A/B and 1/2SI8949A/C, associated with the Emergency Core Cooling System (ECCS) and the Residual Heat Removal (RHR) System cannot be accomplished during normal reactor operation because the low head developed by the RHR pumps (less than 250 psi) is not great enough to inject into the RCS (2235 psi). Similarly, the 1/2SI8949A/C check valves cannot be partial stroke tested during normal reactor operation with the Safety Injection (SI) pumps since the RCS pressure cannot be overcome by the SI pump developed head (1500 psi).

Full or partial stroke testing of these valves during cold shutdowns would induce thermal stresses on their respective reactor vessel nozzles as the Reactor Coolant System (maintained at approximately 180° F) is injected with water from the Refueling Water Storage Tank (maintained at approximately 65° F). Additionally, the margin of safety is reduced for brittle fracture prevention and an unacceptable reactivity excursion could be created (high boron concentration and low temperature water).

# REFUEL OUTAGE JUSTIFICATION RJ-6 (continued)

Finally, during cold shutdowns in which the Technical Specification leak rate testing is not to be performed, the partial or full stroking of these valves would necessitate the requirement to perform the leak test on these check valves, causing a delay in returning the plant to power in addition to causing unnecessary radiation exposure to test personnel.

# **TEST FREQUENCY:**

These valves will be full stroke exercised during refueling outages in accordance with ISTC-3522 (c).

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VALVE NUMBER	CATEGORY	CODE <u>( CLASS</u>	DRAWING NUMBER	DRAWING COORDINATE
1/2RH8705A	A/C	2	M-62(M-137)	D1 (D8)
1/2RH8705B	A/C	2	M-62(M-137)	C1 (C8)
1RH8706A	A/C	2	M-62	D1

## **FUNCTION(S):**

These check valves are leak tested in conjunction with pressure isolation valves (PIVs) 1/2RH8701B and 1/2RH8702B and will be leak tested (and backflow tested) at the same frequency as the 1/2RH8702B valves (see CS-13). This refueling outage justification will only include the open functions of the check valves listed above.

These valves are located on the 3/4" branch line between the 1/2RH8701A/B and 1/2RH8702A/B suction isolation valves. Their safety function in the open direction is to relieve excess pressure due to thermal expansion back to the RCS when both suction isolation valves are closed in order to prevent over pressurization of the piping between the two valves.

## **JUSTIFICATION:**

These valves are simple spring-loaded lift check valves and are not equipped with an external operator or disk position indicator. The only way to verify operability in the open direction is by verifying that the piping between the suction isolation valves is able to be depressurized through the applicable valve via a field test. It would be impractical to perform this testing during Unit operation due to the necessity to enter containment, hookup a pressurized water source to the piping via a test/vent valve, and slowly increase the pressure until the check valve opens to relieve the pressure. Additionally, the RCS must be depressurized in order to perform this test.

It would be impractical to perform this test during cold shutdowns as it requires placing the standby train of Residual Heat Removal (RHR) in an inoperable condition and the RCS must be depressurized (requires all reactor coolant pumps to be stopped). Then, due to the extensive field work involved, there is a potential for delaying reactor start up and return to power. Additionally, taking away the backup/redundant train of RHR reduces both the plant decay removal capability and the available safety margin regarding shutdown risk assessment.

Testing these valves each refueling, in Mode 6, is adequate to maintain this portion of RHR in a state of operational readiness, while not sacrificing the safety of the plant.

# REFUEL OUTAGE JUSTIFICATION RJ-7 (continued)

# **TEST FREQUENCY:**

These valves will be full stroke exercised during refueling outages in accordance with ISTC-3522(c).

VALVE NUMBER	CATEG	CODE DRY <u>CLASS</u>	DRAWING NUMBER	DRAWING COORDINATE
1/2FW510A	В	None	M-36-1C(M-121-1B)	C2 (C2)
1/2FW520A	В	None	M-36-1A(M-121-1D)	C2 (C2)
1/2FW530A	В	None	M-36-1D(M-121-1A)	C2 (C2)
1/2FW540A	В	None	M-36-1B(M-121-1C)	C2 (C2)
1/2FW510	В	None	M-36-1C(M-121-1B)	D2 (D2)
1/2FW520	В	None	M-36-1A(M-121-1D)	D2 (D2)
1/2FW530	В	None	M-36-1D(M-121-1A)	D2 (D2)
1/2FW540	В	None	M-36-1B(M-121-1C)	D2 (D2)
1/2FW034A	В	None	M-36-1C(M-121-1B)	E2 (E2)
1/2FW034B	В	None	M-36-1A(M-121-1D)	E2 (E2)
1/2FW034C	В	None	M-36-1D(M-121-1A)	
1/2FW034D	В	None	M-36-1B(M-121-1C)	E2 (E2)

## **FUNCTION(S):**

The Feedwater Regulating Bypass Valves (1FW510A. 1FW520A, 1FW530A, and 1FW540A), the Feedwater Regulating Valves (1FW510, 1FW520, 1FW530, and 1FW540) and the Feedwater Tempering Flow Control Valves (1FW034A-D) are non-safety related valves which perform a backup function to isolate Feedwater. These valves are not considered to be Containment Isolation Valves per the Braidwood Station Technical Specifications, and are considered only Feedwater Control Valves that, additionally, serve as backup Feedwater Isolation Valves. <u>They are not considered to be in the scope of the IST Program</u> (per ISTA-1100). This has always been Braidwood's position on these valves. However, since they do receive a Feedwater Isolation signal, an augmented test to verify the fail-safe test will be tracked within the IST Program.

## **JUSTIFICATION:**

The augmented Fail-Safe test will be performed. These valves are all part of the surveillance executed to satisfy Technical Specifications, which manually simulates an SI signal, causing these valves to fail closed. These valves will be fail-safe tested to satisfy the requirements of this Technical Specification (Refueling Outage Frequency).

Additionally, the closure of the Main Feedwater Regulating Bypass Valves (1/2FW510A, 1/2FW520A, 1/2FW530A, and 1/2FW540A) during Unit operation would require the Main Feedwater Regulating Valves to correct for bypassed flow and could result in a plant transient with

# REFUEL OUTAGE JUSTIFICATION RJ-8 (continued)

a possible reactor trip as a result. The closure of the Main Feedwater Regulating Valves (1/2FW510, 1/2FW520, 1/2FW530, 1/2FW540) during Unit operation would cause a loss of feedwater to the steam generators, resulting in a plant transient with a possible reactor trip as a result. Finally, it would be impractical to fail-safe test any of these augmented valves on a more frequent basis than required by the Technical Specifications.

# **TEST FREQUENCY:**

These valves will be fail-safe tested closed as an augmented IST test during refueling outages in accordance with Braidwood Station Technical Specifications.

RESERVED

VALVE NUMBER	<b>CATEGORY</b>	CODE <u>CLASS</u>	DRAWING <u>NUMBER</u>	DRAWING <u>COORDINATE</u>
1/2RF026-I/A-CHK	С	N/A	M-48-6B	E-2 (D-2)

#### **FUNCTION(S):**

These valves are the instrument air supply check valves to the RF pump discharge containment isolation valves. These valves must close to isolate the 1/2RF026 valve actuator air supply from the non-safety related instrument air system. This function assures that sufficient air is available in the accumulator to close the containment isolation valve on demand. This valve prevents discharging the accumulator in the event of a failed instrument air supply which is non-safety related.

The valve opens to provide air supply from the instrument air system to the containment isolation valve accumulator. The accumulator provides operating gas to the containment isolation valve. This is a safety function since the instrument air system is not considered safety related and not relied upon for safe shutdown or accident mitigation.

## JUSTIFICATION:

Check valves 1/2RF026-I/A-CHK have been investigated for possible closure testing. The open function is verified during the quarterly stroke test of the 1/2RF026 valves.

The closure testing performed on these valves requires isolating the air supply and accumulator to perform a back-seat test. Performing this test involves opening an air fitting to bleed the air off locally. This would require a containment entry each quarter which would result in increased dose which is not consistent with ALARA principles. Additionally, should 1/2RF026 fail to re-open, there would be an impact inside missile barrier as the RF sump would have no path to pump down which could result in it overflowing. This would result in emergent work inside containment while on line.

The 1/2RF026 and 1/2RF027 valves serve as containment isolation valves, and are in series on penetration 47, with the 1/2RF026 valves inside containment and the 1/2RF027 valves in the aux building. Only one of these valves is required to function to maintain containment integrity. The 1/2RF027-I/A-CHK check valves will be tested quarterly, as there are no accessibility or dose issues associated with those.

# **TEST FREQUENCY:**

Check valves 1/2RF026-I/A-CHK will be exercised open and closed during refueling outages in accordance with ISTC-3522(c).

# **ATTACHMENT 12**

# TECHNICAL POSITION INDEX (Page 1 of 1)

<b>Designator</b>	<b>Description</b>	<b>Revision Date</b>
TP-PA-1 TP-PA-2	Categorization of IST Pumps as Group A or Group B (0/1/2AB03P) Gives basis for the exclusion of the Boric Acid Transfer Pumps from the IST Program. However they will continue to be tested outside of the IST Program	July 29, 2018 July 29, 2018
TP-PA-3	Instrument Accuracy Requirements for Pump Testing	July 29, 2018
TP-PA-4	(1/2CS01PA/B 1/2RH01PA/B) Categorization of Containment Spray and Residual Heat Removal pumps as centrifugal pumps	July 29, 2018
TP-PA-5	Classification of Skid Mounted Components	July 29, 2018
TP-VA-1	(All Power-Operated Valves) Method of Stroke Timing Valves	July 29, 2018
TP-VA-2	(Valves with Fail-Safe Actuators) Method of Fail-Safe Testing Valves	July 29, 2018
TP-VA-3	Method of Remote Position Indication Testing	July 29, 2018
TP-VA-4	(Valves with Remote Position Indicators) Method of Position Indication Testing	July 29, 2018
TP-VA-5	Check Valve Disassembly and Examination to Verify Open and Closed Functions	July 29, 2018
TP-VA-6	(Valves with both Active and Passive Safety functions) Position for testing passive/active valves	July 29, 2018
TP-VA-7	Skid Mounted Valve Testing	July 29, 2018
TP-VA-8	Non-Safety function, Check Valve Exercise Testing by Normal Operations	July 29, 2018
TP-VA-12	1RH8705A, 1RH8706A Bases for Testing Series Check Valves	July 29, 2018
TP-NC-1	Deferral Justification Test Window	July 29, 2018
TP-NC-2	On-Line Maintenance	July 29, 2018

# **ATTACHMENT 13**

# **TECHNICAL POSITIONS**

## PUMP TECHNICAL POSITION TP-PA-1

# TITLE:

Categorization of IST Pumps as Group A or Group B

## **CODE REQUIREMENTS/DISCUSSION:**

Pumps required to be included in the Inservice Testing Program as either Group A or B in accordance with the requirements of Subsection ISTB-1400(b).

Group A pumps are pumps that are operated continuously or routinely during normal operation, cold shutdown, or refueling operations. The following pumps are categorized as Group A:

Pump No.	Group	Туре	Function
0CC01P	A	Centrifugal	Component Cooling Pump
1CC01PA	A	Centrifugal	Component Cooling Pump 1A
1CC01PB	A	Centrifugal	Component Cooling Pump 1B
2CC01PA	A	Centrifugal	Component Cooling Pump 2A
2CC01PB	Α	Centrifugal	Component Cooling Pump 2B
1CV01PA	A	Centrifugal	Centrifugal Charging Pump 1A
1CV01PB	A	Centrifugal	Centrifugal Charging Pump 1B
2CV01PA	A	Centrifugal	Centrifugal Charging Pump 2A
2CV01PB	A	Centrifugal	Centrifugal Charging Pump 2B
1DO01PA	A	PDN	Diesel Fuel Oil Transfer Pump 1A
1DO01PB	A	PDN	Diesel Fuel Oil Transfer Pump 1B
1DO01PC	A	PDN	Diesel Fuel Oil Transfer Pump 1C
1DO01PD	A	PDN	Diesel Fuel Oil Transfer Pump 1D
2DO01PA	A	PDN	Diesel Fuel Oil Transfer Pump 2A
2DO01PB	A	PDN	Diesel Fuel Oil Transfer Pump 2B
2D001PC	A	PDN	Diesel Fuel Oil Transfer Pump 2C
2DO01PD	A	PDN	Diesel Fuel Oil Transfer Pump 2D
1RH01PA	A	Centrifugal	Residual Heat Removal Pump 1A
1RH01PB	A	Centrifugal	Residual Heat Removal Pump 1B
2RH01PA	A	Centrifugal	Residual Heat Removal Pump 2A
2RH01PB	A	Centrifugal	Residual Heat Removal Pump 2B
1SI01PA	A	Centrifugal	Safety Injection Pump 1A
1SI01PB	A	Centrifugal	Safety Injection Pump 1A
2SI01PA	A	Centrifugal	Safety Injection Pump 2A
2SI01PB	A	Centrifugal	Safety Injection Pump 2B
1SX01PA	A	Centrifugal	Essential Service Water Pump 1A
1SX01PB	A	Centrifugal	Essential Service Water Pump 1B
2SX01PA	A	Centrifugal	Essential Service Water Pump 2A
2SX01PB	A	Centrifugal	Essential Service Water Pump 2B
0WO01PA	A	Centrifugal	Control Room Chilled Water Pump A
0WO01PB	A	Centrifugal	Control Room Chilled Water Pump B

# PUMP TECHNICAL POSITION (Contd.) TP-PA-1

Group B pumps are those pumps in standby systems that are not operated routinely except for testing. The following pumps are categorized as Group B:

Pump No.	Group	Туре	Function
1AF01PA	В	Centrifugal	Auxiliary Feedwater Pump 1A
1AF01PB	В	Centrifugal	Auxiliary Feedwater Pump 1B
2AF01PA	В	Centrifugal	Auxiliary Feedwater Pump 2A
2AF01PB	В	Centrifugal	Auxiliary Feedwater Pump 2B
1CS01PA	В	Centrifugal	Containment Spray Pump 1A
1CS01PB	В	Centrifugal	Containment Spray Pump 1B
2CS01PA	В	Centrifugal	Containment Spray Pump 2A
2CS01PB	В	Centrifugal	Containment Spray Pump 2B

The following summarizes the Group A, B, and Comprehensive Pump Test requirements as specified by the ASME OM Code Subsection ISTB and Pump Periodic Verification Test requirements as specified in ASME OM Code 2012 Edition, Division 1, Mandatory Appendix V.

Group A Pump Tests – Group A tests are performed quarterly for each pump categorized as A. The following inservice test parameters are measured for each Group A pump test:

- Speed (if pump is variable speed)
- Differential Pressure
- Discharge Pressure, (for positive displacement pumps)
- Flow Rate
- Vibration

Group B Pump Tests – Group B tests are performed quarterly for each pump categorized as B. The following inservice test parameters are measured for each Group B pump test.

- Speed (if pump is variable speed)
- Differential Pressure<sup>(1)</sup>
- Flow Rate<sup>(1)</sup>
- (1) For positive displacement pumps, flow rate shall be measured or determined, for all other pumps, differential pressure or flow rate shall be measured or determined.

ASME OM Code 2012 Edition, Subsection ISTB-5000(a) states; "When a Group B test is required, a Group A, comprehensive, or preservice test may be substituted."

# PUMP TECHNICAL POSITION (Contd.) TP-PA-1

Therefore, for the Braidwood Unit 1 and Unit 2 Group B Auxiliary Feedwater Pumps, a Group A pump test will be performed in lieu of a Group B pump test. For the Unit 1 and Unit 2 Group B Containment Spray Pumps, a Comprehensive pump test will be performed in lieu of a Group B pump test.

Comprehensive Pump Tests – Comprehensive pump tests are performed biennially for all pumps in the Inservice Testing Program. Comprehensive pump test flow rates have been established which effectively detect mechanical and hydraulic degradation during subsequent testing. The best efficiency point, system flow rates, and any other plant-specific flow rates are considered (ISTB-2000). Accident condition flow rates for a single pump will be used as the pump design flow rates. The following Inservice Test parameters are measured for each Comprehensive pump test:

- Speed (if pump is variable speed)
- Differential Pressure, (for centrifugal pumps)
- Discharge Pressure, (for positive displacement pumps)
- Flow Rate
- Vibration

Pump Periodic Verification Tests – Pump Periodic Verification Tests (PPVT's) are performed biennially to verify that certain applicable pumps can meet the required (differential or discharge) pressure as applicable, at its highest design basis accident flow rate. A PPVT is <u>not required</u> if the design basis accident flow rate in the credited safety analysis (e.g., technical specifications, technical requirements program, or updated safety analysis report) is bounded by the Comprehensive Pump Test or Group A Test. The following Inservice test parameters are measured for each Pump Periodic Verification Test:

- Differential Pressure, (for centrifugal pumps)
- Discharge Pressure, (for positive displacement pumps)
- Flow Rate
- Speed, (if pump is variable speed)

## PUMP TECHNICAL POSITION TP-PA-2

# PUMP NUMBER: 0AB03P, 1AB03P, 2AB03P

#### ASME CODE CLASS: 3

#### **POSITION:**

The Boric Acid Transfer Pumps fall outside the scope of the IST Pump Program statement of ISTB-1200(b) because they are not provided with an emergency power source (non-ESF buses supply/feed these pumps). Braidwood Station is analyzed as a "hot shutdown" plant, and these pumps are not required to maintain hot shutdown conditions. Also, the RWST (Refueling Water Storage Tank) is a Seismic Category I Structure as described in the UFSAR, Table 3.2-1. Paragraph 3.2.1.1 states that Seismic Category I Structures are designed to withstand design basis accidents including tornadoes; therefore, the Boric Acid Transfer Pumps are not required to be included in the IST Program to satisfy any Design Basis Accident. Engineering correspondence CHRON #161733 dated January 17, 1991 supports these conclusions. However, because of the operating significance of these pumps, Braidwood Station has developed a testing program for these pumps outside the IST Program.

# PUMP TECHNICAL POSITION TP-PA-3

# TITLE:

Instrument Accuracy Requirements for Inservice Pump Testing

# **CODE REQUIREMENTS/DISCUSSION:**

This position is only applicable to ASME OM Code Inservice Testing of pumps.

# **Position**

- The accuracy requirements of ASME OM Code 2012 Edition, ISTB-3510 and Table ISTB-3500-1 apply to the accuracy to which installed instruments are calibrated.
- For instrument loops, the accuracy requirements apply to the accuracy to which the instrument loop is calibrated. If the instrument loop is not calibrated as a loop, then a loop accuracy calculation is performed.
- To calculate loop accuracy, either the greater of reference accuracies for individual components or the calibration tolerance for the individual components should be summed using square root of the sum of squares.

# **Justification**

This position is based on a review of code interpretations and definitions in recent versions of the Code. Discussions with ASME Subgroup on Pumps members indicate that this position is consistent with industry practice and code intent. The purpose of the accuracy requirements in the code is to ensure that measurements can be used to trend pump performance and identify degradation. Calibration of instruments to the criteria in Table ISTB-3500-1 of ISTB provides the level of quality and assurance to fulfill this purpose.

Interpretation 91-3 states that Table 1 of Part 6 applies only to the calibration of the instrument. (This was in response to a question on whether the final indication of flow rate on an analog instrument must be within 2% of full scale of actual process flow rate, taking into account attributes such as orifice plate tolerances, tap locations, and process temperatures.)

Question 1 of Interpretation 95-07 states that it is the intent of Part 6 "to consider only the instrument's reference accuracy, such as supplied by the instrument manufacturer, in determination of instrument loop accuracy." An instrument loop is defined in the code as "two or more instruments or components working together to provide a single output." It was this interpretation that led to the assumption during the AE inspection that the only permissible way to determine loop accuracy was to combine reference accuracies of the individual loop components using square root of the sum of squares. However, discussions with OM-6 working group members indicate that the intent of this interpretation was to clarify that loop accuracy calculations did not need to consider

# PUMP TECHNICAL POSITION TP-PA-3 (continued)

environmental effects, process effects, and vibration effects on loop accuracy (see Question 2 of Interpretation 95-07).

Section 5.5.4 of NUREG 1482, Revision 2, discusses the accuracy of flow rate instrument loops. It states that the accuracy for analog instruments specified in Subsection ISTB-3500 applies only to the calibration of the instruments.

Starting with the OM-1994 addendum of the code, the definition of instrument accuracy is clarified to read, "...the allowable inaccuracy of an instrument loop based on the square root of the sum of the square of the inaccuracies of each instrument or component in the loop when considered separately. Alternatively, the allowable inaccuracy of the instrument loop may be based on the output for a known input into the instrument loop." From this definition, it is clear that calibration of an instrument or instrument loop to the OM Code accuracy criteria meets the Code requirements.

# PUMP TECHNICAL POSITION TP-PA- 4

# TITLE:

Categorization of RHR and CS pumps as centrifugal pumps

## **<u>PUMPS AFFECTED:</u>**

1RH01PA, 1RH01PB, 2RH01PB, 2RH01PB, 1CS01PA, 1CS01PB, 2CS01PA, 2CS01PB

# **CODE REQUIREMENTS/DISCUSSION:**

Pumps are tested in accordance with ASME OM Code 2012 Edition, Subsection ISTB, "Inservice Testing of Pumps in Light-Water Reactor Power Plants". Within this document, requirements for acceptance criteria and required action ranges are established in accordance with Table ISTB-5221-1, for Vertical Line Shaft and Centrifugal Pumps Test Acceptance Criteria. Subsection ISTB-2000 defines vertical line shaft pumps as, a vertically suspended pump where the pump driver and pump element are connected by a line shaft within an enclosed column.

The ASME OM Code directs vibration measurements for centrifugal pumps to be taken in a plane approximately perpendicular to the rotating shaft in two orthogonal directions on each accessible pump bearing housing. Measurements are also to be taken in the axial direction on each accessible pump thrust bearing housing. For vertical line shaft pumps vibration measurements are required to be taken on the upper motor bearing housing in three orthogonal directions, one of which is the axial direction.

Braidwood Station's RH and CS pumps do not meet the definitions of vertical line shaft pumps as provided in Subsection ISTB-2000. While the pumps are in a vertical configuration, the entire pump/motor is accessible and vibrations are being taken where needed. These pumps are single-stage centrifugal pumps with no bearings, and the pump impeller is mounted directly to the motor shaft. Braidwood meets the ISTB requirements for centrifugal pumps by recording vibrations on the lower motor bearing in three directions and upper motor bearing in two directions.

# POSITION:

Braidwood Station categorized the RH and CS pumps as centrifugal pumps for testing in accordance with ASME OM Code 2012 Edition, Subsection ISTB, Inservice Testing of Pumps in Light-Water Nuclear Reactor Power Plants. This is in accordance with Table ISTB-5121-1, for Centrifugal Pumps Test Acceptance Criteria.

# PUMP TECHNICAL POSITION TP-PA-5

# TITLE:

Classification of Skid Mounted Components

# **PURPOSE:**

The purpose of this technical position is to clarify requirements for classification of various skid mounted components, and to clarify the testing requirements of these components.

# **BACKGROUND:**

The ASME Code allows classification of some components as skid mounted when their satisfactory operation is demonstrated by the satisfactory performance of the associated major components. Testing of the major component is sufficient to satisfy Inservice Testing requirements for skid mounted components. In section 3.4 of NUREG 1482 Revision 2, the NRC supports the designation of components as skid mounted:

"The staff has determined that the testing of the major component is an acceptable means to verify the operational readiness of the skid-mounted components and component subassemblies if the licensee documents this approach in the IST Program Document. Licensees should consider and document the specific measurements and attributes of major component testing which relate to the assessment of skid-mounted component condition. In addition, various continuous and periodic observations of the major components (such as System Monitoring Walkdowns or Operator Logs) may also support assurance of skid-mounted components readiness. This is acceptable for both Code class components and non-Code class components that are tested and tracked by the IST Program."

In the 1996a addenda to the ASME OM Code (endorsed by 10CFR50.55(a) in October 2000), the term skid-mounted was clarified by the addition of ISTA paragraph 1.7:

ISTA 1.7 Definitions

*Skid mounted components and component subassemblies* – components integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these components are supplied by the manufacturer of the major component. Examples include: diesel skid-mounted fuel oil pumps and valves, steam admission and trip throttle valves for high-pressure coolant injection or Auxiliary Feedwater turbine-driven pumps, and solenoid-operated valve provided to control the air-operated valve.

This definition was further clarified in the 1998 and later Editions of the ASME Code:

**ISTA-2000 DEFINITIONS** 

Revision Date: November 25, 2020

*Skid mounted pumps and valves* – pumps and valves integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these pumps and valves are supplied by the manufacturer of the major component.

Examples include:

- (a) diesel fuel oil pumps and valves;
- (b) steam admission and trip throttle valves for high-pressure coolant injection pumps;
- (c) steam admission and trip throttle valves for Auxiliary Feedwater turbine driven pumps;
- (d) solenoid-operated valves provided to control an air-operated valve.

Additionally the Subsections pertaining to pumps (ISTB) and valves (ISTC) includes exclusions/exemptions for skid mounted components;

ISTB-1200(c) Exclusions

Skid-mounted pumps that are tested as part of the major component and are justified by the Owner to be adequately tested.

ISTC-1200 Exemptions

Skid-mounted valves are excluded from this Subsection provided they are tested as part of the major component and are justified by the Owner to be adequately tested.

## **POSITION:**

The ASME OM Code definition of skid mounted will be used for classification of components in the Braidwood Station Inservice Testing Program. In addition, for a component to be considered skid mounted:

- The major component associated with the skid mounted component must be surveillance tested at a frequency sufficient to meet ASME Code test frequency for the skid mounted component.
- Satisfactory operation of the skid mounted component must be demonstrated by satisfactory operation of the major component.
- The IST Bases Document should describe the bases for classifying a component as skid mounted, and the IST Program Plan should reference this technical position for the component.

Recognition and classification of components as skid mounted eliminates the need for the redundant testing of the sub component(s) as the testing of major (parent) component satisfactorily demonstrates operation of the "skid mounted" component(s).

# VALVE TECHNICAL POSITION TP-VA-1

# TITLE:

Method of Stroke Timing Valves

## VALVES AFFECTED:

Power Operated Valves Requiring Stroke Time Testing

# CODE REQUIREMENT(S)/DISCUSSION:

The use of the control board open and closed lights to determine the stroke time of power-operated valves is the issue discussed in this Technical Position. ASME OM Code, Subsection ISTC-2000, defines "full-stroke time" as "the time interval from initiation of the actuating signal to the indication of the end of the operating stroke." It is common industry practice to measure stroke time as the time interval between placing the operator switch on the control board in the "close" or "open" position and indication that the valve is open or closed on the control board (switch to light).

# **POSITION:**

The way in which the limit switches that operate the remote position indicator lights are set may result in "closed" or "open" indication before the valve obturator has actually completed its travel. This is not considered to be a problem, as the purpose of the test is to determine if degradation of the valve operator system is occurring, which is determined by observing changes in stroke time relative to the reference stroke time. Stroke time measurements may be rounded to the nearest tenth (0.1) of a second. Standard rounding techniques are to be used when rounding stop watch readings during valve stroke time testing (e.g., 10.45 rounds to 10.5 and 10.44 rounds to 10.4). Reference values will be established to the nearest tenth of a second although stroke times may be recorded to the hundredths place (0.01). This technique satisfies ISTC-5000 Specific Testing Requirements, in that all power operated valves will be measured to at least the nearest second.

For those specific cases in which a valve must be stroke timed locally, the stroke timing will begin with the initiation of the actuating signal and end with the completion of valve movement in the field.

# VALVE TECHNICAL POSITION TP-VA-2

# TITLE:

Method of Fail Safe Testing Valves.

# VALVES AFFECTED:

See IST Valve Tables (FC = Fail Safe Test closed; FO = Fail Safe Test open)

# CODE REQUIREMENT(S)/ DISCUSSION:

Subsection ISTC-3560 states that "Valves with fail-safe actuators shall be tested by observing the operation of the actuator upon loss of valve actuator power in accordance with the exercising frequency of ISTC-3510.

# **POSITION:**

Most valves with fail-safe positions have actuators that use the fail-safe mechanism to stroke the valve to the fail-safe position during normal operation. For example, an air-operated valve that fails closed may use air to open the valve against spring pressure. When the actuator is placed in the closed position, air is vented from the diaphragm and the spring moves the obturator to the closed position.

In the cases where normal valve operator action moves the valve to the closed position by deenergizing the operator electrically, by venting air or both (e.g., an electric solenoid in the air system of a valve operator moves to the vent position on loss of power), no additional fail-safe testing is required. Valves with fail-safe actuators that do not operate as part of normal actuator operation must be tested by other means.

Using a valve remote position indicator as verification of proper fail-safe operation is acceptable, provided the indicator is periodically verified to be operating properly as required by ISTC-3700.

The fail-safe test is generally performed at the same frequency as the stroke time exercise test. Where the exercise test is performed less frequent than every 3 months, a cold shutdown justification, refueling outage justification, or relief request has been written. The same justifications for the stroke timing would also apply to the fail-safe tests.

# VALVE TECHNICAL POSITION TP-VA-3

# TITLE:

Method of Remote Position Indication Testing

# VALVES AFFECTED:

All Motor-Operated Valves tested per Mandatory Appendix III

# CODE REQUIREMENT(S) / DISCUSSION:

Subsection III-3300, states that "remote position indication shall be verified locally during inservice testing or maintenance activities."

# **POSITION:**

Remote Position Indication (RPI) for Motor-Operated Valves (MOV) is "sensed" by limit switches (LS) located inside the closed MOV LS compartment. There are small sealed LS gearboxes gearconnected to the actuator wormshaft. Each LS gearbox drives an output rotor that makes/breaks the electrical contacts on the fingerboards. The III-3300 RPI test means to accomplish two things; that the RPI functions (i.e., no bad bulbs) AND that the RPI accurately reflects valve position.

Inservice Testing, also called Diagnostic Testing (DIAG), is performed on MOV's in accordance with III-6000. A MOV DIAG is required to be performed at intervals not to exceed 10 years.

Remote Position Indication (RPI) verification will be performed as part of all MOV Diagnostic Testing (DIAG). In addition, RPI verification will be performed as needed following applicable maintenance activities.

#### VALVE TECHNICAL POSITION TP-VA-4

#### TITLE:

Method of Position Indication Testing

#### VALVES AFFECTED:

All valves with Remote Position Indicators

#### **CODE REQUIREMENT(S) / DISCUSSION:**

Subsection ISTC-3700, states that "valves with remote position indicators shall be observed locally at least once every 2 years to verify that valve operation is accurately indicated."

#### **POSITION:**

In reference to Steven Weinman (Boiler and Pressure Vessel Committee) reply letter to Russell J. Tamminga (ComEd), dated November 14, 1988, concerning Inquiry number IN88-015, the following question was answered:

Question: Is it the intent of Section XI, IWV-3300 that for valves having remote position indicators at multiple locations (such as in the control room and also on a remote shutdown panel and/or sampling panel) that only the remote position indicator at the location utilized in exercising the valve (IWV-3412) and timing the stroke of the valve (IWV-3413) be verified that the valve operation is accurately indicated?

Reply: Yes

This Inquiry also applies to the applicable sections in ASME OM Code ISTC:

- 1. ISTC-3520, Exercising Requirements
- 2. ISTC-3700, Position Verification Testing
- 3. ISTC-5000, Specific Testing Requirements

In summary, the remote position indicator utilized during valve exercising (ISTC-3520) and stroke timing (ISTC-5000) is the indicator which is used to verify that valve operation is accurately indicated (ISTC-3700).

#### VALVE TECHNICAL POSITION TP-VA-4 (continued)

The remote position indication test is to be performed as follows:

An individual is dispatched to the valve to locally observe the valve movement and he/she establishes communication with an individual at the remote position indicator. As the valve is exercised in both directions, the individual at the remote position indicator verifies that the indicator shows the proper position by communicating with the local observer, who is observing the valve stem movement. When the valve stem movement cannot be directly observed, indirect means may be employed to verify the change in valve position. These may include observations such as changes in system pressure or establishment/cessation of flow.

#### VALVE TECHNICAL POSITION TP-VA-5

### TITLE:

Disassembly and Examination of check valves to verify the open and closed exercise capability.

#### CODE REQUIREMENT(S)/DISCUSSION:

ASME OM Code 2012 Edition, "Code for Operation and Maintenance of Nuclear Power Plants," governs this issue. Subsection ISTC-5221(c), states the following:

"If the test methods in ISTC-5221(a) and ISTC-5221(b) are impractical for certain check valves, or if sufficient flow cannot be achieved or verified, a sample disassembly examination program shall be used to verify valve obturator movement".

Subsection ISTC-5221(c)(2) further states that:

"During the disassembly process, the full-stroke motion of the obturator shall be verified. Full-stroke motion of the obturator shall be reverified prior to completing reassembly".

In addition, ISTC-5221(c)(4) requires the following:

"Before return to service, valves that were disassembled for examination or that received maintenance that could affect their performance, shall be exercised full- or part-stroke, if practicable, with flow..."

#### **Background:**

Generic Letter 89-04, Position 2, Alternative to Full-flow Testing of Check Valves was issued by the NRC to allow disassembly and examination of check valves as an alternative to the traditional Code requirements for exercising check valves. The NRC staff position in the GL is that valve disassembly and inspection can be used as a positive means of determining that a valve's disk will full-stoke exercise open or of verifying closure.

The 1995 and later editions of the ASME OM Code have incorporated an alternative to the traditional requirements for check valve testing by allowing Owners to establish a Check Valve Condition Monitoring Program. Once a check valve or group of check valves is placed in to the Condition Monitoring Program, the rules of ISTC-5221, Valve Obturator Movement, no longer apply. Activities and intervals are established within the Check Valve Condition Monitoring Program outside of the frequency requirements of ISTC. As a note, activities such as disassembly/examination may be used within this program for check valves which may be difficult or impossible to test. If a check valve or group of valves is removed from the Condition Monitoring Program for any reason, the valves shall be required to be tested in accordance with the ISTC requirements.

#### VALVE TECHNICAL POSITION (Contd.) TP-VA-5

Braidwood Station has adopted this alternative for Check Valve Condition Monitoring. Typically, valves which are disassembled and examined for IST purposes are included in this program as well as other check valves which are difficult to test or have had poor performance.

#### **POSITION:**

When using disassembly and examination to determine the necessary check valve obturator movement in accordance with ISTB-5221, Braidwood station will determine the full stroke exercise open and closure capability of each check valve.

Braidwood station will verify the Open and Closed functions of each check valve which is disassembled and examined for IST purposes within the Check Valve Condition Monitoring Program or in accordance with ISTC-5221 if the valve is not included in the Condition Monitoring Program. The open and closed function satisfies the bi-directional test requirements for check valves whether they are in Condition Monitoring or not.

If an IST check valve is disassembled or if maintenance is performed outside of the Condition Monitoring program, the valve will be exercised with flow, if practicable prior to returning the valve to service. In this case, a justification for not performing a full or part-stroke of the valve following disassembly or maintenance is required to be documented in the appropriate IST Bases Document.

#### VALVE TECHNICAL POSITION TP-VA-6

### TITLE:

Testing of Valves with both active and passive safety functions

#### VALVES AFFECTED

Power operated valves requiring stroke time testing

#### **CODE REQUIREMENT(S)/DISCUSSION:**

The IST Program requires valves to be exercised to the position(s) required to fulfill their safety function(s). In addition, valves with remote position indication shall have their position indication verified. The Code does not restrict position indication verification to active valves only.

#### **POSITION:**

Several valves included in the plant are designed to perform passive safety functions during accident conditions and then based on plant accident response are designed to change positions to perform another (active) function. Once in their final position, there exists no conditions in which they would be required to be placed in their original passive position.

These valves are typically emergency core cooling system valves which require changing position during different phases of the accident. After the original source of injection water is depleted (RWST), the valves are positioned to allow injection from another source (containment sump). The valves are never returned to their original position.

Based on ASME Inquiry OMI 98-07, these valves with passive functions in one direction and active in the other, will be exercised to only their active position. If these valves have position indication, the position indication verification will include verification of both positions.

#### VALVE TECHNICAL POSITION TP-VA-7

#### **TITLE:** Classification of Skid Mounted Components

#### **PURPOSE:**

The purpose of this technical position is to clarify requirements for classification of various skid mounted components, and to clarify the testing requirements of these components.

#### **BACKGROUND**:

The ASME Code allows classification of some components as skid mounted when their satisfactory operation is demonstrated by the satisfactory performance of the associated major components. Testing of the major component is sufficient to satisfy Inservice Testing requirements for skid mounted components. In section 3.4 of NUREG 1482 Revision 2, the NRC supports the designation of components as skid mounted:

"The staff has determined that the testing of the major component is an acceptable means to verify the operational readiness of the skid-mounted components and component subassemblies if the licensee documents this approach in the IST Program Document. This is acceptable for both Code class components and non-Code class components that are tested and tracked by the IST Program."

In the 1996a addenda to the ASME OM Code (endorsed by 10CFR50.55 (a) in October 2000), the term skid-mounted was clarified by the addition of ISTA paragraph 1.7:

### ISTA 1.7 Definitions

*Skid mounted components and component subassemblies* – components integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these components are supplied by the manufacturer of the major component. Examples include: diesel skid-mounted fuel oil pumps and valves, steam admission and trip throttle valves for high-pressure coolant injection or Auxiliary Feedwater turbine-driven pumps, and solenoid-operated valve provided to control the air-operated valve.

This definition was further clarified in the 1998 and 2001 Editions of the ASME Code:

### **ISTA-2000 DEFINITIONS**

*Skid mounted pumps and valves* – pumps and valves integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these pumps and valves are supplied by the manufacturer of the major component.

#### VALVE TECHNICAL POSITION (Contd.) TP-VA-7

Examples include:

- (e) diesel fuel oil pumps and valves;
- (f) steam admission and trip throttle valves for high-pressure coolant injection pumps;
- (g) steam admission and trip throttle valves for Auxiliary Feedwater turbine driven pumps;
- (h) solenoid-operated valves provided to control an air-operated valve.

Additionally the Subsections pertaining to pumps (ISTB) and valves (ISTC) includes exclusions/exemptions for skid mounted components;

ISTB-1200(c) Exclusions

Skid-mounted pumps that are tested as part of the major component and are justified by the Owner to be adequately tested.

ISTC-1200 Exemptions

Skid-mounted valves are excluded from this Subsection provided they are tested as part of the major component and are justified by the Owner to be adequately tested.

#### **POSITION:**

The ASME OM Code definition of skid mounted will be used for classification of components in the Braidwood Station Inservice Testing Program. In addition, for a component to be considered skid mounted:

- The major component associated with the skid mounted component must be surveillance tested at a frequency sufficient to meet ASME Code test frequency for the skid mounted component.
- Satisfactory operation of the skid mounted component must be demonstrated by satisfactory operation of the major component.
- The IST Bases Document should describe the bases for classifying a component as skid mounted, and the IST Program Plan should reference this technical position for the component.

Recognition and classification of components as skid mounted eliminates the need for the redundant testing of the sub component(s) as the testing of major (parent) component satisfactorily demonstrates operation of the "skid mounted" component(s).

#### VALVE TECHNICAL POSITION TP-VA-8

### TITLE:

Non-Safety Function, Check Valve Exercise Testing By Normal Operations

#### **PURPOSE:**

The purpose of this Technical Position is to establish the position for the verification of the nonsafety exercise testing of check valves by normal plant operations. This position is applicable to check valves in the Inservice Testing (IST) Program as related to the ASME OM Code 2012 Edition.

#### **Applicability**

This Technical Position is NOT applicable to testing the safety function (position) of IST Check Valves. Safety function here means the function of the valve that meets a scoping requirement to be in the IST Program. This Technical Position is applicable to testing the **non-safety function** (position) of IST check valves. This Technical Position is applicable to check valves tested under Subsection ISTC, and to Appendix II (Condition Monitoring), of the ASME OM Code 2012 Edition.

#### **BACKGROUND:**

The ASME OM Code 2012 Edition, Subsection ISTC, ISTC-3550, "Valves in Regular Use," states the following:

"Valves that operate in the course of plant operation at a frequency that would satisfy the exercising requirements of this Subsection need not be additionally exercised, provided that the observations otherwise required for testing are made and analyzed during such operation and recorded in the plant record at intervals no greater than specified in ISTC-3510."

ISTC-3510 indicates that check valves shall be exercised nominally every 3 months with exceptions (for extended exercise periods) referenced.

ISTC-5221(a)(2) states that,

"Check valves that have a safety function in only the open direction shall be exercised by initiating flow and observing that the obturator has traveled to either the full open position or to the position required to perform its intended function(s) (see ISTA-1100), and verify closure."

#### VALVE TECHNICAL POSITION (Contd.) TP-VA-8

ISTC-5221(a)(3) states that,

"Check valves that have a safety function in only the close direction shall be exercised by initiating flow and observing that the obturator has traveled to at least the partially open position<sup>3</sup>, and verify that on cessation or reversal of flow, the obturator has traveled to the seat"

Footnote 3 to this section indicates that the partially open position should correspond to the normal or expected system flow. NOTE: "Normal or expected," system flow rate may vary with plant conditions and configurations. The open <u>safety function</u> of a check valve usually requires meeting a specified, required limiting accident flow rate. As Operators are trained in recognizing normal plant conditions, Operator judgment is acceptable in ascertaining whether the <u>non-safety</u> open check valve position is providing normal or expected flow rates or plant conditions.

As stated in these two sections the non-safety function is satisfactorily demonstrated by verifying closure, or passing normal or expected flow to verify opening, as applicable.

#### **POSITION:**

Verification of the non-safety position of IST check valves may be performed through the execution of a dedicated surveillance. Alternately this verification may be satisfied as follows:

- An appropriate means shall be determined which establishes how the open/closed nonsafety function of the specified check valve is demonstrated during normal operations. The position determination may be by direct indicator, or by other positive means such as changes in system pressure, flow rate, level, temperature, seat leakage, etc. This determination shall be documented in the respective Condition Monitoring Plan in the "Bases for Testing and Inspection Strategy," for valves in the Condition Monitoring Program. For check valves governed by Subsection ISTC and not in Condition Monitoring this determination shall be documented in the respective IST Bases Document valve group in the "Bases Statement," section.
- Automated processes may be used to provide for the "observation and analysis," that a check valve is appropriately satisfying its non-safety position function. An example of this would be a check valve that has a safety function in only the close direction and normally has flow through it to maintain normal plant operations. If the check valve is not opening to pass flow, alarms or indications would identify the problem to the Operator who is trained to respond to such situations and take appropriate actions. Issue Reports are normally written for abnormal plant conditions attributable to material condition concerns such as check valve failures.

#### VALVE TECHNICAL POSITION (Contd.) TP-VA-8

- The "observation and analysis," of logs and other such records is satisfied by Operator reviews. Operating personnel are trained to look for off-normal data and adverse trends and take actions as appropriate. This would effectively determine if a check valve were satisfactorily fulfilling its' non-safety function.
- The open/closed non-safety function shall be recorded at a periodicity required by ISTC-3510, with exceptions as provided, in plant records such as Operator logs, Electronic Rounds, chart recorders, automated data loggers, etc. NOTE: The safety function testing of these valves constitutes requiring a Quality Record. Records as indicated above are appropriate for the non-safety testing. Should any concerns arise regarding the material condition/operation of these check valves an Issue Report is written which is a Quality Record. The method in which the check valve position is recorded shall be included in the Condition Monitoring Plan or Bases Document sections as indicated above.

#### **Justification**

This Technical Position requires that the method of determining the non-safety position be established. The plant systems and Operator actions provide for the observations and analysis that the valve is satisfying its non-safety function. Finally, the recording and analyzing of parameters demonstrating valve position is satisfied at a frequency specified in ISTC-3510. These actions collectively satisfy demonstrating the non-safety position of IST check valves in regular use as required by ISTC-3550.

#### VALVE TECHNICAL POSITION TP-VA-12

#### TITLE:

Bases for testing series check valves 1RH8705A and 1RH8706A as a unit.

#### VALVES AFFECTED:

1RH8705A 1RH8706A

#### **CODE REQUIREMENT(S)/DISCUSSION:**

ASME OM Code 2012 Edition, "Code for Operation and Maintenance of Nuclear Power Plants," governs this issue. Subsection ISTC- 5223, Series Valve Pairs, states the following:

"If two check valves are in a series configuration without provisions to verify individual reverse flow closure (e.g., keepfill pressurization valves) and the plant safety analysis assumes closure of either valve (but not both), the valve pair may be operationally tested closed as a unit.

If the plant safety analysis assumes that a specific valve or both valves of the pair close to perform the safety function(s), the required valve(s) shall be tested to demonstrate individual valve closure."

Subsection ISTC-9200, Test Plans, states the following:

"The Owner shall maintain a record of test plans that shall include the following," (Subsection ISTC-9200 (d)), "bases for testing series check valve pairs as a unit in accordance with ISTC-5223."

#### **Bases for series pair testing:**

Valves 1RH8705A and 1RH8706A are tested as a series pair because they have no intermediate test taps. These valves were installed in Unit 1 under Engineering Change no. 359951. Valve 1RH8706A was added to the unit, upstream of 1RH8705A in lieu of repairing 1RH8705A in the A1R12 outage. The 1RH8706A provides assurance that backflow through the line will be prevented. In the Modification they were tested as a series pair in the closure test. There is no mention anywhere in the Modification indicating a design requirement to test the valves individually. If there were such a requirement it would need to have been prescribed in the

#### VALVE TECHNICAL POSITION (Contd.) TP-VA-12

Modification and the test executed prior to accepting the Modification. As such, the design allows for the closure of either valve to perform the function of maintaining pressure integrity.

#### **POSITION:**

These check valves are in a series configuration without provisions to verify individual reverse flow closure. The Modification that installed the 1RH8706A valve allowed for the closure of either valve to perform the function of preventing backflow. The Modification acceptance test was a closure/leakage test, which tested these valves as a series pair. As such it is appropriate to test these valves as a series pair.

# NON COMPONENT SPECIFIC TECHNICAL POSITION TP-NC-1

### TITLE:

Deferral Justification Test Window

#### CODE REQUIREMENT(S)/DISCUSSION:

Inservice Test (IST) Program components which are required to be tested during a refueling outage (RFO) may be tested in conjunction with plant "coast-down" (i.e. a period where a conscious deviation from normal operating temperature and power occurs in conjunction with reactor fuel depletion) as qualified below, or a planned load reduction (e.g. reduction in turbine load via a selected downward ramp rate) intended to take the plant from Mode 1, power operation, to an offline condition, and ultimately to Mode 6, refueling.

The period where the load reduction is accomplished via plant coast-down potentially can encompass a period of weeks before the actual start of an RFO. The existing regulatory guidance for allowing deferral of testing to an RFO is based on the impracticality of being able to perform the test on a quarterly basis. Performing tests which have been deferred to an RFO weeks in advance of the RFO is not in keeping with the spirit of the deferral latitude.

As such, testing being performed to satisfy various IST program deferrals, while in plant coastdown, should only take place when the projected end of the coast down window is 120 hours or less. Five working days affords adequate time to accomplish the anticipated limited test scope and is not considered excessive when compared to the intent of the Code deferral allowance.

All IST components required to be tested during a RFO shall have their prescribed test satisfactorily completed and demonstrated operable prior to resumption of power operation and before exceeding the associated Technical Specification Mode of applicability, unless specifically stated otherwise in the Technical Specifications.

# NON COMPONENT SPECIFIC TECHNICAL POSITION TP-NC-2

#### TITLE:

**On-Line Maintenance** 

#### CODE REQUIREMENT(S)/DISCUSSION:

The advent of on-line plant maintenance to perform work on safety related components and systems outside of the traditional refueling outage (RFO) time frame, is designed to maximize component/system availability while favorably impacting RFO duration and the associated corporate financial impact. The practice of doing on-line maintenance represents a departure from the norm where the bulk of the maintenance was performed while engaged in an RFO. As such, the Inservice Test Program, which is directed by the ASME Code which does not take into account on-line maintenance practices, can experience implementation issues when on-line preventative maintenance or corrective maintenance is performed.

Typically, a number of Inservice Test Program components can't meet Code based quarterly test frequency due to the practicality of performing the testing. System alignments, operating conditions (pressure, flow, temperature, etc.) and other such restrictions often render the testing impracticable. The Code allows the affected testing to be deferred to a lower plant MODE, from MODE 5, cold shutdown to MODE 6, Refueling. The understanding between the Licensee and the NRC is that such testing will take place in the highest MODE deemed practicable by the Licensee with the assumption that sufficient basis to justify the deferred MODE exists. Contrary to what occurred in the past, the NRC is no longer required to approve such deferrals. As such, along with the deferred MODE unless extenuating circumstances exist. Performance of on-line maintenance and the need to demonstrate post-maintenance operability for the component/system worked on clearly is an example of an extenuating circumstance given its prevalent implementation and widespread acceptance throughout the nuclear industry.

Inservice Test Program components which have had their associated Code required tests deferred from the normal "during operation at power" time frame, whether to cold shutdown (using a Cold Shutdown Justification (CSJ) or Refueling Shutdown (using a Refueling Outage Justification (ROJ)), *may revert back to the at power time frame, on a limited basis*, to accomplish post-maintenance operability testing (PMOT) following performance of on-line maintenance provided that:

#### NON COMPONENT SPECIFIC TECHNICAL POSITION (Contd.) TP-NC-2

A). The testing that will occur during power operation will not expose plant personnel to unsafe working conditions nor place components or systems in alignments adverse to plant safety.

#### <u>AND</u>

B). One or more of the following maintenance scope activities are desired and serves to justify the performance of deferred testing at the normal at power time frame:

1) Corrective on-line maintenance is desired to be performed on the component to restore the component to the operable condition and testing required to demonstrate component/system post-maintenance operability is contained in the surveillance test(s) used to satisfy the associated IST Program Code requirements.

2) Preventative on-line maintenance is desired to be performed on the component to lessen or eliminate RFO time frame system/component unavailability (e.g. performing the maintenance in a plant MODE that poses a lesser or no adverse risk probability to plant safety) and the testing required to demonstrate component/system post-maintenance operability is contained in the surveillance test(s) used to satisfy the associated IST Program Code requirements.

The relaxation of the associated CSJ or ROJ is only to be exercised on a limited basis. Limited is defined as not more than once per 18 months (All Braidwood Station Technical Specification surveillance requirements which tie performance to a *fuel cycle frequency*, utilize an 18 month fuel cycle duration) unless additional documented justification is provided in advance of the proposed maintenance. The IST Program Engineer must review and concur with such justification before the proposed maintenance can proceed.

### **ATTACHMENT 14**

### **INSERVICE TESTING PUMP TABLE**

<u>System</u> Abbreviation	<u>System</u> Description
AF	Auxiliary Feedwater
CC	Component Cooling
CS	Containment Spray
CV	Chemical and Volume Control
DO	Diesel Oil
RH	Residual Heat Removal
SI	Safety Injection
SX	Essential Service Water
WO	Chilled Water

				Auxili	iary Feedwat	ter				
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
1AF01PA	В	3	С	М	GE600	M-37	D-4	dP	Q	TP-PA-1
	В							Q	Q	
	В							dP	Y2	TP-PA-1
	В							Q	Y2	
	В							V	Y2	
	Pum	p Name	AUXILI	ARY FEEDWA	TER 1A PUMP (	MOTOR)				
1AF01PB	В	3	С	D	GE600	M-37	B-4	dP	Q	TP-PA-1
	В							Q	Q	
	В							dP	Y2	TP-PA-1
	В							Q	Y2	
	В							V	Y2	
	Pum	p Name	AUXILI	ARY FEEDWA	TER 1B PUMP (	DIESEL)				
2AF01PA	В	3	С	М	GE600	M-122	E-5	dP	Q	TP-PA-1
	В							Q	Q	
	В							dP	Y2	TP-PA-1
	В							Q	Y2	
	В							V	Y2	
	Pum	p Name	AUXILI		TER 2A PUMP (	MOTOR)				
2AF01PB	В	3	С	D	GE600	M-122	B-5	dP	Q	TP-PA-1
	В							Q	Q	
	В							dP	Y2	TP-PA-1
	В							Q	Y2	
	В							v	Y2	

				Compon	ent Cooling					
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
0CC01P	В	3	С	М	GE600	M-66-3A	<b>E-</b> 5	dP	Q	TP-PA-1
	В							Q	Q	
	В							dP	Y2	TP-PA-1
	В							Q	Y2	
	В							V	Y2	
	Pum	p Name	COMPO	NENT COOL	ING COMMON I	PUMP				
1CC01PA	А	3	С	М	GE600	M-66-3A	E-6	dP	Q	TP-PA-1
	А							Q	Q	
	А							v	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	COMPO	NENT COOL	ING PUMP 1A					
1CC01PB	A	3	С	М	GE600	M-66-3A	E-7	dP	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-:
	А							Q	Y2	
	А							v	Y2	
	Pum	p Name	COMPO		ING PUMP 1B					
2CC01PA	A	3	С	M	GE600	M-66-3A	E-3	dP	Q	TP-PA-1
	А							Q	Q	
	А							v	Q	
	А							dP	Y2	TP-PA-:
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	COMPO	DNENT COOL	ING PUMP 2A					
2CC01PB	A	3	С	M	GE600	M-66-3A	E-2	dP	Q	TP-PA-:
	А							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-
	А							Q	Y2	
	А							v	Y2	
	Dum	p Name	COMP		ING PUMP 2B					
	rull	שוומו אי	COMPO							

				Conta	ainment Spr	ay				
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
1CS01PA	В	2	С	М	GE600	M-46-1A	E-5	dP	Q	TP-PA-1; TP-PA-4
	В							Q	Q	TP-PA-4
	В							dP	Y2	TP-PA-1; TP-PA-4
	В							Q	Y2	TP-PA-4
	В							V	Y2	TP-PA-4
	Pum	p Name	CONTA	INMENT SPR/	ay pump					
1CS01PB	В	2	С	М	GE600	M-46-1A	B-5	dP	Q	TP-PA-1; TP-PA-4
	В							Q	Q	TP-PA-4
	В							dP	Y2	TP-PA-1; TP-PA-4
	В							Q	Y2	TP-PA-4
	В							V	Y2	TP-PA-4
	Pum	p Name	CONTA	INMENT SPR	ay pump					
2CS01PA	В	2	С	М	GE600	M-129	E-5	dP	Q	TP-PA-1; TP-PA-4
	В							Q	Q	TP-PA-4
	В							dP	Y2	TP-PA-1; TP-PA-4
	В							Q	Y2	TP-PA-4
	В							V	Y2	TP-PA-4
	Pum	p Name	CONTA	INMENT SPR	AY PUMP					
2CS01PB	В	2	С	М	GE600	M-129	B-5	dP	Q	TP-PA-1; TP-PA-4
	В							Q	Q	TP-PA-4
	В							dP	Y2	TP-PA-1; TP-PA-4
	В							Q	Y2	TP-PA-4
	В							V	Y2	TP-PA-4
		p Name	CONTA							

					and Volume					
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
1CV01PA	Α	2	С	М	GE600	M-64-3A	D-5	dP	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	CENTR	IFUGAL CHAF	RGING PUMP					
1CV01PB	A	2	С	М	GE600	M-64-3A	C-5	dP	Q	TP-PA-1
	Α							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	CENTR	IFUGAL CHAI	RGING PUMP					
2CV01PA	A	2	С	М	GE600	M-138	D-5	dP	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	CENTR	IFUGAL CHAI	RGING PUMP					
2CV01PB	A	2	С	М	GE600	M-138	C-5	dP	Q	TP-PA-:
	А							Q	Q	
	А							v	Q	
	А							dP	Y2	TP-PA-
	А							Q	Y2	
	А							v	Y2	
				IFUGAL CHAI						

				Die	sel Fuel Oil					
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
1DO01PA	Α	3	PDN	М	GE600	M-50-1B	E-4	DISP-P	Q	TP-PA-
	Α							Q	Q	
	A							V	Q	
	Α							DISP-P	Y2	TP-PA-
	Α							Q	Y2	
	А							V	Y2	
		p Name			ANSFER PUMP					
1DO01PB	А	3	PDN	М	GE600	M-50-1A	E-4	DISP-P	Q	TP-PA-
	А							Q	Q	
	А							V	Q	
	А							DISP-P	Y2	TP-PA-
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	DIESEL	FUEL OIL TR	ANSFER PUMP	0				
1DO01PC	A	3	PDN	M	GE600	M-50-1B	E-4	DISP-P	Q	TP-PA-
	А							Q	Q	
	А							V	Q	
	А							DISP-P	Y2	TP-PA-
	А							Q	Y2	
	А							v	Y2	
		p Name	DIESEL		ANSFER PUM	<b>b</b>				
1DO01PD	A	3	PDN	M	GE600	M-50-1A	E-4	DISP-P	Q	TP-PA-
	А							Q	Q	
	A							v	Q	
	A							DISP-P	Y2	TP-PA-
	A							Q	Y2	11 15
	A							v v	Y2	
			DIFCE					v	12	
22.22.42.4		p Name					<u> </u>		~	
2DO01PA	A	3	PDN	М	GE600	M-130-1A	C-5	DISP-P	Q	TP-PA-
	Α							Q	Q	
	А							V	Q	
	А							DISP-P	Y2	TP-PA
	A							Q	Y2	
	А							V	Y2	
	Pum	ip Name	DIESEI	FUEL OIL TR	RANSFER PUM	D C				
2DO01PB	A	3	PDN	М	GE600	M-130-1B	C-5	DISP-P	Q	TP-PA-
	А							Q	Q	
	А							V	Q	
	А							DISP-P	Y2	TP-PA
	А							Q	Y2	
	А							V	Y2	

				Die	esel Fuel Oil					
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Type	Freq.	Pos.
2DO01PC	А	3	PDN	М	GE600	M-130-1A	C-5	DISP-P	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	Α							DISP-P	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	DIESEL	FUEL OIL TH	RANSFER PUMP	0				
2DO01PD	A	3	PDN	М	GE600	M-130-1B	C-5	DISP-P	Q	TP-PA-1
	А							Q	Q	
	Α							V	Q	
	А							DISP-P	Y2	TP-PA-1
	А							Q	Y2	
	А							v	Y2	
	Pum	p Name	DIESEL	. FUEL OIL TI	RANSFER PUM	þ				

				Residu	al Heat Rem	oval				
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
1RH01PA	A	2	С	М	GE600	M-62	E-3	dP	Q	TP-PA-1 TP-PA-4
	А							Q	Q	TP-PA-4
	А							V	Q	TP-PA-4
	A							dP	Y2	TP-PA-1 TP-PA-4
	А							Q	Y2	TP-PA-4
	А							V	Y2	TP-PA-
	Pum	p Name	RESIDU	JAL HEAT REI	MOVAL PUMP					
1RH01PB	A	2	С	М	GE600	M-62	B-3	dP	Q	TP-PA-: TP-PA-
	Α							Q	Q	TP-PA-
	Α							V	Q	TP-PA-
	A							dP	Y2	TP-PA- TP-PA-
	Α							Q	Y2	TP-PA-
	А							V	Y2	TP-PA-
	Pum	p Name	RESIDU	JAL HEAT REI	MOVAL PUMP					
2RH01PA	A	2	С	М	GE600	M-137	E-3	dP	Q	TP-PA- TP-PA-
	А							Q	Q	TP-PA-
	А							V	Q	TP-PA-
	А							dP	Y2	TP-PA- TP-PA-
	А							Q	Y2	TP-PA-
	А							V	Y2	TP-PA-
	Pum	p Name	RESIDU	JAL HEAT REI	MOVAL PUMP					
2RH01PB	A	2	С	М	GE600	M-137	B-3	dP	Q	TP-PA- TP-PA-
	А							Q	Q	TP-PA
	А							V	Q	TP-PA-
	A							dP	Y2	TP-PA- TP-PA-
	А							Q	Y2	TP-PA
	А							V	Y2	TP-PA
		p Name		JAL HEAT RE						

			_		ety Injection					
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
1SI01PA	А	2	С	Μ	GE600	M-61	E-5	dP	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	Α							dP	Y2	TP-PA-1
	Α							Q	Y2	
	А							V	Y2	
	Pum	p Name	SAFETY	' INJECTION	PUMP					
1SI01PB	A	2	С	М	GE600	M-61	C-5	dP	Q	TP-PA-1
	Α							Q	Q	
	Α							V	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	SAFET	INJECTION	PUMP					
2SI01PA	A	2	С	М	GE600	M-136	D-4	dP	Q	TP-PA-1
	А							Q	Q	
	А							v	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	SAFET	INJECTION	PUMP					
2SI01PB	A	2	С	M	GE600	M-136	B-4	dP	Q	TP-PA-:
	А							Q	Q	
	A							v	Q	
	A							dP	Y2	TP-PA-:
	A							Q	Y2	
	A							v	Y2	
					DUMD			•		
	Pum	p Name	SAFET	Y INJECTION	POMP					

Pump EPN	Test	Safety						······································	· · · · · ·	
	-	*	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed	M 42 10	Coor.	Туре	Freq.	Pos.
1SX01PA	A	3	С	М	GE600	M-42-1B	E-6	dP	Q	TP-PA-1
	A							Q	Q	
	A							V	Q	
	A							dP	Y2	TP-PA-1
	A							Q	Y2	
	A							V	Y2	
	Pum	p Name	ESSEN	TIAL SERVICE	E WATER PUMP					
1SX01PB	A	3	С	М	GE600	M-42-1A	E-6	dP	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	ESSEN	TIAL SERVICE	E WATER PUMP					
2SX01PA	A	3	С	М	GE600	M-42-1B	B-6	dP	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							V	Y2	
	Pum	p Name	ESSEN <sup>®</sup>	TIAL SERVIC	E WATER PUMP	)				
2SX01PB	A	3	С	М	GE600	M-42-1A	B-6	dP	Q	TP-PA-1
	А							Q	Q	
	А							V	Q	
	А							dP	Y2	TP-PA-1
	А							Q	Y2	
	А							v	Y2	
	Drem	p Name	ESSEN	TTAL SERVIC	E WATER PUMP	)				

				Ch	illed Water					
Pump EPN	Test	Safety	Pump	Pump	Nominal	P&ID	P&ID	Test	Test	Tech
	Group	Class	Туре	Driver	Speed		Coor.	Туре	Freq.	Pos.
0WO01PA	В	3	С	М	GE600	M-118-1	D-7	dP	Q	TP-PA-1
	В							Q	Q	
	В							dP	Y2	TP-PA-1
	В							Q	Y2	
	В							v	Y2	
	Pum	p Name	CONTR	OL ROOM CH	IILLED WATER	PUMP				
0WO01PB	В	3	С	M	GE600	M-118-1	B-7	dP	Q	TP-PA-1
	В							Q	Q	
	В							dP	Y2	TP-PA-1
	В							Q	Y2	
	В							V	Y2	
	Pum	p Name	CONTR		IILLED WATER	DIMD				

### **ATTACHMENT 15**

#### **INSERVICE TESTING VALVE TABLE**

<u>System</u> Abbreviation	<u>System</u> <u>Description</u>
AF	Auxiliary Feedwater
CC	Component Cooling
CS	Containment Spray
CV	Chemical and Volume Control
DG	Diesel Generator Starting Air (includes select Service Air valves)
DO	Diesel Oil
FC	Fuel Pool Cooling
FP	Fire Protection
FW	Feedwater
GW	Radioactive Waste Gas
IA	Instrument Air
MS	Main Steam
OG	Off Gas
PR	Process Radiation Monitoring
PS	Process Sampling
RC	Reactor Coolant (includes select Pressurizer (RY) valves)
RE	Reactor Building and Containment Equipment Drains
RF	Reactor Building and Containment Floor Drains

#### **ATTACHMENT 15**

### **INSERVICE TESTING VALVE TABLE**

<u>System</u> Abbreviation	<u>System</u> Description
RH	Residual Heat Removal
SA	Service Air
SD	Steam Generator Blowdown
SI	Safety Injection
SX	Essential Service Water
VQ	Primary Containment Purge
WM	Make-up Demineralizer
WO	Chilled Water

IST-BRW-PLAN

IST-BRW-PLAN

							Auxilia	iry Feed	lwater					
Valve EPN	Safety	Cat	Size	Vlv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Type	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1AF001A	3	С	6	CK	SA	Active	SYS	С	M-37	D-2	CCA	CM		
											COA	CM		
			Valve I	Name		CST TO A	UX FEE	OWATER I	PUMP 1A SUCTI	ON CHECK VA	ALVE			
1AF001B	3	С	6	CK	SA	Active	SYS	С	M-37	B-2	CCA	СМ		
											COA	CM		
			Valve I	Name		CST TO A	UX FEEI	OWATER I	PUMP 1B SUCTI	ON CHECK VA	ALVE			
1AF003A	3	С	6	СК	SA	Active	SYS	0	M-37	D-4	CCA	CM		
											COA	CM		
			Valve I	Name		AUX FEED	WATER	PUMP 1A	DISCHARGE C	HECK VALVE				
1AF003B	3	С	6	CK	SA	Active	SYS	0	M-37	B-4	CCA	CM		
											COA	CM		
			Valve I	Name			WATER	PLIMP 1F	B DISCHARGE C	HECK VALVE				
1AF004A	3	В	6	GL	AO	Passive	0	0	M-37	D-5	PI	Y2		TP-VA-4
IN UUTA	J	D					-					12		II VA 1
			Valve			****			A DISCHARGE IS				~	
1AF004B	3	В	6	GL	AO	Passive	0	0	M-37	B-5	PI	Y2		TP-VA-4
			Valve I	Name		AUX FEED	OWATER	PUMP 18	B DISCHARGE I	SOLATION VA	LVE			
1AF005A	3	В	3	GL	AO	Active	0	O/C	M-37	D-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		AUX FEEI	OWATER	AIR OPE	RATED FLOW C	ONTROL VAL	VE			
1AF005B	3	В	3	GL	AO	Active	0	O/C	M-37	A-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		AUX FEEI	OWATER	AIR OPE	RATED FLOW C		VE			
1AF005C	3	В	3	GL	AO	Active	0	0/C	M-37	E-6	FO	Q		TP-VA-2
111 0050	5	D	5	0.	110	neuve	U	0,0	11.07	20	STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	*I								1-		
1 4 500 5 5									RATED FLOW C	~~~~~~~~~				
1AF005D	3	В	3	GL	AO	Active	0	O/C	M-37	B-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
*****			Valve				DWATER		RATED FLOW C	ONTROL VAL				
1AF005E	3	В	3	GL	AO	Active	0	O/C	M-37	D-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4

			ي.				Auxilia	ary Fee	dwater					
Valve EPN	Safety	Cat	Size	Viv	Act.			Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1AF005F	3	В	3	GL	AO	Active	0	O/C	M-37	B-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		aux feei	OWATER	AIR OPE	RATED FLOW CC	NTROL VALV	/E			
1AF005G	3	В	3	GL	AO	Active	0	0/C	M-37	E-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		aux feei	DWATER	AIR OPE	RATED FLOW CO		/E			
1AF005H	3	В	3	GL	AO	Active	0	O/C	M-37	C-6	FO	Q		TP-VA-2
											STC	Q		
											STO	Q		
											PI	Y2		TP-VA-4
			Valve	Name		AUX FEE	DWATER	AIR OPE	erated flow co		/E			
1AF006A	3	В	6	GA	МО	Active	С	0	M-37	E-3	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		AUX FEE	DWATER	PUMP 1	A SX SUCT DWST	ISOL VLV				
1AF006B	3	В	6	GA	MO	Active	C	0	M-37	B-3	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		AUX FEE	DWATER	PUMP 1	B SX SUCT DWST	r Isol Vlv				
1AF013A	2	В	4	GL	MO	Active	0	0/C	M-37	D-7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		AUX FEE	DWATER	R PUMP D	SCH HDR TO S/O	G 1A ISOL VL	v			
1AF013B	2	В	4	GL	MO	Active	0	O/C	M-37	A-7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name			DW/ATER		SCH HDR TO S/G					
1AF013C	2	В	4	GL	MO			0/C	M-37	E-7	SC	M18		
IA DISC	2	5	'	ŰL.	110	Active	0	0,0	11.57	L /	SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Namo					SCH HDR TO S/C					
	2	В	<u>vaive</u> 4	GL	МО	AUX FEE Active		0/C	M-37	B-7	SC	M18		
1AF013D	2	D	4	GL	MO	ACTIVE	U	υ/C	לכ-ויין	D-/	SC SO	M18 M18		
												MOV		
											DIAG			
											PI	MOV		
			Valve	Name		AUX FEE	DWATEF	R PUMP D	SCH HDR TO S/C	G 1D ISOL VL	.V			

							Auxilia	iry Feed	water					
Valve EPN	Safety	Cat	Size				Norm	-	P&ID	P&ID			Deferred	Tech.
	Class				Туре	the second s	0	Pos	NA 27	Coor. D-7	Туре	Freq.	Just.	Pos.
LAF013E	2	В	4	GL	MO	Active	0	O/C	M-37	D-7	SC SO	M18 M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Vama					CH HDR TO S/G			1101		
1AF013F	2	В	4	GL	MO	Active	0	0/C	M-37	B-7	SC	M18		
171 0131	2	U	•	UL.	110	Active	Ũ	0,0	11.57	υ,	SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		AUX FEEI	OWATER	PUMP DS	CH HDR TO S/G	B ISOL VL	v			
1AF013G	2	В	4	GL	МО	Active	0	O/C	M-37	E-7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		AUX FEEI	DWATER	PUMP DS	CH HDR TO S/G	1C ISOL VL	v			
1AF013H	2	В	4	GL	MO	Active	0	O/C	M-37	C-7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		AUX FEEI	DWATER	PUMP DS	ich HDR to s/0	5 1D ISOL VL	V			
1AF014A	2	С	4	СК	SA	Active	С	O/C	M-37	D-2	CCD	CM		
											COD	CM		
			Valve i	Name		AUX FEEI	DWATER	TO S/G 1	A CHECK VALVE	Ξ				
1AF014B	2	С	4	CK	SA	Active	С	O/C	M-37	A-2	CCD	CM		
											COD	CM		
			Valve	Name		AUX FEE	DWATER	. TO S/G 1	.B CHECK VALVE	E				
1AF014C	2	С	4	СК	SA	Active	С	O/C	M-37	E-2	CCD	CM		
											COD	CM		
			Valve	Name		AUX FEE	DWATER	TO S/G 1	C CHECK VALVE	E				
1AF014D	2	С	4	СК	SA	Active	С	O/C	M-37	C-2	CCD	CM		
											COD	CM		
			Valve	Name		AUX FEE	DWATER	TO S/G 1	D CHECK VALVI	=				
1AF014E	2	С	4	СК	SA	Active	С	0/C	M-37	E-2	CCD	CM		
											COD	СМ		
			Valve	Name		AUX FEE	DWATER	TO S/G 1	A CHECK VALVE	Ξ				
1AF014F	2	С	4	СК	SA	Active	C	0/C	M-37	B-2	CCD	CM		
								-, -			COD	CM		
			Valve	Name		AUX FFF	DWATER	TO 5/G 1		-				
1AF014G	2	C	4	CK	SA	Active		0/C	M-37	- F-2	CCD	CM	·····	
	2	C	т	CN	54	ACUVE	C	0,0	11.57	1 2	COD	CM		
			Valve	Name					LC CHECK VALVI	-	200	2.,		
1 1 1 1 1 1 1												<u></u>		
1AF014H	2	С	4	CK	SA	Active	С	O/C	M-37	C-2	CCD	CM		
											COD	СМ		
			Valve	Name		AUX FEE	DWATER	TO S/G	LD CHECK VALV	Ξ				

							Auxilia	iry Fee	dwater					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1AF017A	3	В	6	GA	MO	Active	С	0	M-37	F-3	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		AUX FEED	WATER	PUMP 1	A SX SUCT UPST :	ISOL VLV				
1AF017B	3	В	6	GA	MO	Active	С	0	M-37	C-3	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		AUX FEED	WATER	PUMP 1	B SX SUCT UPST	ISOL VLV				
1AF029A	3	С	6	СК	SA	Active	SYS	0	M-37	E-5	CCA	CM		
											COA	CM		
			Valve I	Name		AUX FEED	WATER	PUMP 1	A TO S/G CHECK	VALVE				
1AF029B	3	С	6	СК	SA	Active		0	M-37	B-4	CCA	CM		
1.1.0290	5	Ŭ	Ū	Cit	5/1	/ leave	0.0	0	11.57		COA	CM		
			X								00/1	0.1		
			Valve						B TO S/G CHECK					
1AF049A	2	С	4	CK	SA	Passive	С	С	M-37	D8	CCD	CM		
											COD	CM		
			Valve I	Name		FX TO AF	TO S/G	1A - CN	TMT ISOL VLV					
1AF049B	2	С	4	CK	SA	Passive	С	С	M-37	B8	CCD	CM		
											COD	CM		
			Valve	Name		FX TO AF	TO S/G	1B - CN	TMT ISOL VLV					
1AF049C	2	C	4	CK	SA	Passive	C	C	M-37	F8	CCD	CM		
											COD	CM		
			Valve	Name		ΕΧ ΤΟ ΔΕ		1C - CN	TMT ISOL VLV					
1AF049D	2	С	4	СК	SA	Passive	C	<u> </u>	M-37	C8	CCD	CM		
1AI 0490	2	C	т	CK	JA	rassive	C	C	11.21	Co	COD	CM		
											COD	Cri		
			Valve						TMT ISOL VLV					
1AF053A	3	С	1.5x2.	RV 5	SA	Active	С	0/C	M-55-8	F1	RT	Y10		
							CLINA 1 A							
	~		Valve			AF005 AC								
1AF053B	3	С	1.5x2.	5 RV	SA	Active	С	0/C	M-55-8	E1	RT	Y10		
			Valve	Name		AF005 AC	CUM 1A	F050B F	RLF VLV					
1AF058A	3	A/C	1	CK	SA	Active	SYS	С	M-55-8	F-6	CCF	CM		
											COF	СМ		
			Valve	Name		AF005 AC	CUM 1A	F050A I	A INLET LINE 1ST	CHECK VLV	,			
1AF058B	3	A/C		СК	SA	Active		C	M-55-8	F6	CCF	CM		
	5	.,.	-		Un		5,5	~	.1000	10	COF	CM		
			Mahar									0.1		
			Valve						A INLET LINE 1ST					
1AF059A	3	A/C	1	CK	SA	Active	SYS	С	M-55-8	F6	CCF	CM		
											COF	CM		
			Valve	Name	:	AF005 AC	CUM 1A	F050A I	A INLET LINE 2NI	o check vl	V			

Valve EPN		-			_			<i>W</i> .	lwater					
	Safety	Cat	Sîze			Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
1AF059B	Class 3	A/C	1	CK	Type SA	Pass Active	Pos SYS	Pos C	M-55-8	<u> </u>	CCF	Freq. CM	Just.	Pos.
TALOJAD	J	A/C	T	CK	эн	Active	515	C	M-22-0	го	COF	CM		
			na.en bi an									CM		
			Valve I						INLET LINE 2N					
2AF001A	3	С	6	CK	SA	Active	SYS	С	M-122	E-7	CCA	CM		
								v			COA	CM		
			Valve I	Name		CST TO A	UX FEEI	DWATER	PUMP 2A SUCTI	ON CHECK VA	LVE			
2AF001B	3	С	6	CK	SA	Active	SYS	С	M-122	B-7	CCA	CM		
											COA	CM		
			Valve I	Name		CST TO A	UX FEEI	DWATER	PUMP 2B SUCTI	ON CHECK VA	LVE			
2AF003A	3	С	6	CK	SA	Active	SYS	0	M-122	E-5	CCA	CM		
											COA	СМ		
			Valve I	Name		AUX FEED	OWATER		DISCHARGE C	HECK VALVE				
2AF003B	3	С	6	СК	SA	Active	SYS	0	M-122	B-5	CCA	CM		
											COA	CM		
			Valve I	Vama					B DISCHARGE C					
2AF004A	3	В	6	GL		Passive		0	M-122	E-5	PI	Y2		TP-VA-4
241 0074	5	-	-					-				12		IF-VA-4
			Valve I						DISCHARGE IS					
2AF004B	3	В	6	GL	AO	Passive	0	0	M-122	B-5	PI	Y2		TP-VA-4
			Valve I	Name		AUX FEE	OWATER	PUMP 2E	B DISCHARGE IS	SOLATION VA	VE			
2AF005A	3	В	3	GL	AO	Active	0	O/C	M-122	D-3	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		AUX FEEI	OWATER	AIR OPE	RATED FLOW C			Y2		TP-VA-4
2AF005B	3	В	Valve I	Name GL	AO	AUX FEEI	OWATER	AIR OPE	RATED FLOW C	ONTROL VALV		Υ2 Q		TP-VA-4 TP-VA-2
2AF005B	3								·····		/E			
2AF005B	3								·····		/E FO	Q		TP-VA-2
2AF005B	3								·····		FO FO STC	Q Q		TP-VA-2 TP-VA-1
2AF005B	3	В		GL	AO	Active	0	O/C	·····	A-3	FO STC STO PI	Q Q Q		TP-VA-2 TP-VA-1 TP-VA-1
	3	В	3	GL	AO	Active	0	O/C	M-122	A-3	FO STC STO PI	Q Q Q		TP-VA-2 TP-VA-1 TP-VA-1
		В	3 Valve	GL	AO	Active AUX FEEI	O DWATER	O/C R AIR OPE	M-122 RATED FLOW C	A-3	/E FO STC STO PI /E	Q Q Q Y2		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4
		В	3 Valve	GL	AO	Active AUX FEEI	O DWATER	O/C R AIR OPE	M-122 RATED FLOW C	A-3	/E FO STC STO PI /E FO	Q Q Q Y2 Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2
		В	3 Valve	GL	AO	Active AUX FEEI	O DWATER	O/C R AIR OPE	M-122 RATED FLOW C	A-3	/E FO STC STO PI /E FO STC	Q Q Q Y2 Q Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1
		В	3 Valve	GL Name GL	AO	Active AUX FEEI Active	O DWATER O	O/C R AIR OPE O/C	M-122 RATED FLOW C	A-3 CONTROL VALV E-3	/E FO STC STO PI /E FO STC STO PI	Q Q Q Y2 Q Q Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
2AF005C	3	В	3 Valve   3 Valve	GL Name GL Name	AO	Active AUX FEEI Active AUX FEEI	O DWATER O	O/C R AIR OPE O/C	M-122 RATED FLOW C M-122 RATED FLOW C	A-3 CONTROL VALV E-3 CONTROL VALV	/E FO STC PI /E FO STC STC PI /E	Q Q Y2 Q Q Q Y2		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4
2AF005C		В	3 Valve I 3	GL Name GL	AO	Active AUX FEEI Active	O DWATER O DWATER	O/C R AIR OPE O/C	M-122 RATED FLOW C M-122	A-3 CONTROL VALV E-3	/E FO STC PI /E FO STC STO PI /E FO	Q Q Q Y2 Q Q Q Y2 Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-2
2AF005C	3	В	3 Valve   3 Valve	GL Name GL Name	AO	Active AUX FEEI Active AUX FEEI	O DWATER O DWATER	O/C R AIR OPE O/C	M-122 RATED FLOW C M-122 RATED FLOW C	A-3 CONTROL VALV E-3 CONTROL VALV	/E FO STC FO FO STC STO PI /E FO STC	Q Q Q Y2 Q Q Q Y2 Q Q Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-2 TP-VA-2
2AF005C	3	В	3 Valve   3 Valve	GL Name GL Name	AO	Active AUX FEEI Active AUX FEEI	O DWATER O DWATER	O/C R AIR OPE O/C	M-122 RATED FLOW C M-122 RATED FLOW C	A-3 CONTROL VALV E-3 CONTROL VALV	/E FO STC PI /E FO STC STO PI /E FO	Q Q Q Y2 Q Q Q Y2 Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-2
2AF005C	3	B	3 Valve 3 Valve	GL Name GL GL	AO	Active AUX FEEI Active AUX FEEI Active	O DWATER O DWATER O	O/C R AIR OPE O/C R AIR OPE O/C	M-122 RATED FLOW C M-122 RATED FLOW C M-122	A-3 CONTROL VALV E-3 CONTROL VALV C-3	/E FO STC STO PI /E FO STC STO PI /E FO STC STO PI	Q Q Q Y2 Q Q Q Q Y2 Q Q Q Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-2 TP-VA-1 TP-VA-1
2AF005C 2AF005D	3	В	3 Valve   3 Valve	GL Name GL GL Name	AO	Active AUX FEEI Active AUX FEEI ACTIVE	O DWATER O DWATER	O/C AIR OPE O/C AIR OPE	M-122 RATED FLOW C M-122 RATED FLOW C RATED FLOW C	A-3 CONTROL VALV E-3 CONTROL VALV C-3	/E FO STC STO PI /E FO STC STO PI /E /E	Q Q Q Y2 Q Q Q Y2 Q Q Q Y2		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-4 TP-VA-1 TP-VA-1 TP-VA-1 TP-VA-1 TP-VA-4
2AF005C	3	B	3 Valve 3 Valve	GL Name GL GL	AO	Active AUX FEEI Active AUX FEEI Active	O DWATER O DWATER O	O/C R AIR OPE O/C R AIR OPE O/C	M-122 RATED FLOW C M-122 RATED FLOW C M-122	A-3 CONTROL VALV E-3 CONTROL VALV C-3	/E FO STC STO PI /E FO STC STO PI /E FO STC STO PI /E FO	Q Q Q Y2 Q Q Q Y2 Q Q Q Q Y2		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-2
2AF005C 2AF005D	3	В	3 Valve   3 Valve	GL Name GL GL Name	AO	Active AUX FEEI Active AUX FEEI ACTIVE	O DWATER O DWATER	O/C AIR OPE O/C AIR OPE	M-122 RATED FLOW C M-122 RATED FLOW C RATED FLOW C	A-3 CONTROL VALV E-3 CONTROL VALV C-3	/E FO STC STO PI /E FO STC STO PI /E FO STC STO PI /E FO STC	Q Q Q Y2 Q Q Q Q Q Q Y2 Q Q Q Q Q Q Q		TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-2 TP-VA-2
2AF005C 2AF005D	3	В	3 Valve   3 Valve	GL Name GL GL Name	AO	Active AUX FEEI Active AUX FEEI ACTIVE	O DWATER O DWATER	O/C AIR OPE O/C AIR OPE	M-122 RATED FLOW C M-122 RATED FLOW C RATED FLOW C	A-3 CONTROL VALV E-3 CONTROL VALV C-3	/E FO STC STO PI /E FO STC STO PI /E FO STC STO PI /E FO	Q Q Q Y2 Q Q Q Y2 Q Q Q Q Q Q Q		TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-2 TP-VA-2

Valve EPN							**********		water					
	Safety	Cat	Sîze	Vîv		Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
2AF005F	Class 3	В	3	GL GL	Type AO	Pass Active	Pos 0	<b>Pos</b> 0/C	M-122	<u>Coor.</u> B-3	Type FO	Freq. Q	Just.	Pos. TP-VA-2
	J	D	J	GL	AU	Active	0	0/0	11-122	D-2	STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		ALIX FEFI			RATED FLOW C	ONTROL VALV		12		
2AF005G	3	В	3	GL	AO	Active	0	0/C	M-122	C-3	FO	Q		TP-VA-2
	-	-	-				-	-, -			STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		AUX FEEI	DWATER	AIR OPE	RATED FLOW C	ONTROL VALV	E			
2AF005H	3	В	3	GL	AO	Active	0	O/C	M-122	F-3	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											ΡI	Y2		TP-VA-4
			Valve	Name		AUX FEE	DWATER	AIR OPE	RATED FLOW O	ONTROL VALV	E			
2AF006A	3	В	6	GA	МО	Active	С	0	M-122	E-6	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		AUX FEE	DWATER	PUMP 2A	SX SUCT DWS	T ISOL VLV				
2AF006B	3	В	6	GA	MO	Active	С	0	M-122	C-6	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		AUX FEE	DWATER	R PUMP 2E	SX SUCT DWS	T ISOL VLV	PI	MOV		
2AF013A	2	B	Valve	Name GL	MO	AUX FEE		PUMP 2E	SX SUCT DWS	T ISOL VLV D-2	PI SC	MOV M18		
2AF013A	2													
2AF013A	2										SC	M18		
2AF013A	2										SC SO	M18 M18		
2AF013A	2	В		GL	MO	Active	0	O/C		D-2	SC SO DIAG PI	M18 M18 MOV		
	2	В	4	GL	MO	Active	0	O/C	M-122	D-2	SC SO DIAG PI	M18 M18 MOV		
		В	4 Valve	GL	MO	Active AUX FEE	O DWATER		M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV	SC SO DIAG PI	M18 M18 MOV MOV		
		В	4 Valve	GL	MO	Active AUX FEE	O DWATER		M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV	SC SO DIAG PI Y SC	M18 M18 MOV MOV M18		
		В	4 Valve	GL	MO	Active AUX FEE	O DWATER		M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV	SC SO DIAG PI SC SO	M18 M18 MOV MOV M18 M18		
2AF013A 2AF013B		В	4 Valve	GL Name GL	MO	Active AUX FEE Active	O DWATER O	O/C R PUMP DS O/C	M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2	SC SO DIAG PI SC SO DIAG PI	M18 M18 MOV MOV M18 M18 M0V		
		В	4 Valve 4	GL Name GL	MO	Active AUX FEE Active	O DWATER O DWATER	O/C R PUMP DS O/C	M-122 SCH HDR TO S/ M-122	D-2 G 2A ISOL VLV A-2	SC SO DIAG PI SC SO DIAG PI	M18 M18 MOV MOV M18 M18 M0V		
2AF013B	2	B	4 Valve 4 Valve	GL Name GL Name	MO	Active AUX FEE Active AUX FEE	O DWATER O DWATER		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV	SC SO DIAG PI SC SO DIAG PI	M18 M0V MOV M18 M18 M0V MOV		
2AF013B	2	В	4 Valve 4 Valve	GL Name GL Name	MO	Active AUX FEE Active AUX FEE	O DWATER O DWATER		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV	SC SO DIAG PI SC SO DIAG PI Y SC	M18 M0V M0V M18 M18 M0V M0V M0V		
2AF013B	2	В	4 Valve 4 Valve	GL Name GL Name	MO	Active AUX FEE Active AUX FEE	O DWATER O DWATER		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV	SC SO DIAG PI SC SO DIAG PI V SC SO	M18 M0V M0V M18 M18 M0V M0V M0V M18 M18		
2AF013B	2	B	4 Valve 4 Valve	GL Name GL GL	MO	Active AUX FEE Active AUX FEE Active	O DWATER O DWATER O		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV E-2	SC SO DIAG PI SC SO DIAG PI SC SO DIAG PI	M18 MOV MOV M18 M18 MOV MOV M18 M18 M0V		
2AF013B	2	B	4 Valve 4 Valve 4	GL Name GL GL	MO	Active AUX FEE Active AUX FEE Active	O DWATER O DWATER O		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/ M-122	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV E-2	SC SO DIAG PI SC SO DIAG PI SC SO DIAG PI	M18 MOV MOV M18 M18 MOV MOV M18 M18 M0V		
2AF013B 2AF013C	2	В	4 Valve 4 Valve 4 Valve	GL Name GL GL Name	MO	Active AUX FEE Active AUX FEE AUX FEE	O DWATER O DWATER		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/ M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV E-2 G 2C ISOL VLV	SC SO DIAG PI SC SO DIAG PI SC SO DIAG PI	M18 MOV MOV M18 M18 MOV MOV M18 M18 MOV MOV		
2AF013B 2AF013C	2	В	4 Valve 4 Valve 4 Valve	GL Name GL GL Name	MO	Active AUX FEE Active AUX FEE AUX FEE	O DWATER O DWATER		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/ M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV E-2 G 2C ISOL VLV	SC SO DIAG PI SC SO DIAG PI SC SO DIAG PI , SC	M18 MOV MOV M18 M18 MOV MOV M18 M0V MOV		
2AF013B 2AF013C	2	В	4 Valve 4 Valve 4 Valve	GL Name GL GL Name	MO	Active AUX FEE Active AUX FEE AUX FEE	O DWATER O DWATER		M-122 SCH HDR TO S/ M-122 SCH HDR TO S/ M-122 SCH HDR TO S/	D-2 G 2A ISOL VLV A-2 G 2B ISOL VLV E-2 G 2C ISOL VLV	SC SO DIAG PI SC SO DIAG PI SC SO DIAG PI Y SC SO	M18 M0V M0V M18 M0V M0V M0V M18 M0V M0V M18 M18 M18		

							Auxilia	ary Feed	lwater					
Valve EPN	Safety	Cat	Size	Viv				Safety	P&ID	P&ID			Deferred	Tech.
2450125	Class				Туре		Pos	Pos	M 100	Coor.	Туре	Freq.	Just.	Pos.
2AF013E	2	В	4	GL	MO	Active	0	0/C	M-122	E-2	SC SO	M18		
											DIAG	M18 MOV		
											PI	MOV		
			Malina I									1101		
2450425			Valve I						SCH HDR TO S/G	·····				
2AF013F	2	В	4	GL	MO	Active	0	O/C	M-122	B-2	SC	M18		
											SO DIAG	M18 MOV		
											PI	MOV		
												1104		
			Valve I						SCH HDR TO S/G					
2AF013G	2	В	4	GL	МО	Active	0	O/C	M-122	F-2	SC	M18		
											SO	M18		
											DIAG PI	MOV		
							_					MOV		
			Valve I						SCH HDR TO S/G					
2AF013H	2	В	4	GL	MO	Active	0	0/C	M-122	C-2	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve						SCH HDR TO S/G		.V			
2AF014A	2	С	4	CK	SA	Active	С	O/C	M-122	D-2	CCD	CM		
											COD	CM		
			Valve	Name		AUX FEE	DWATER	R TO S/G	2A CHECK VALVE					
2AF014B	2	С	4	CK	SA	Active	С	0/C	M-122	A-2	CCD	CM	*****	
											COD	СМ		
			Valve	Name		AUX FEE	DWATER	R TO S/G	2B CHECK VALVE					
2AF014C	2	С	4	CK	SA	Active	С	0/C	M-122	E-2	CCD	CM	·····	
								·			COD	CM		
			Valve	Name		AUX FFF			2C CHECK VALVE					
2AF014D	2	С	4	CK	SA	Active		0/C	M-122	C-2	CCD	CM		
	2	C	•	CIX	54	Active	C	0/0	11 122	C 2	COD	CM		
			Malua	**							000	0.1		
			Valve					•	2D CHECK VALVE	·····				
2AF014E	2	С	4	СК	SA	Active	С	O/C	M-122	E-2	CCD	CM		
											COD	СМ		
			Valve			AUX FEE	DWATER	-10	2A CHECK VALVE					
2AF014F	2	С	4	CK	SA	Active	С	0/C	M-122	B-2	CCD	CM		
											COD	CM		
			Valve	Name		AUX FEE	DWATEF	R TO S/G	2B CHECK VALVE					
2AF014G	2	С	4	СК	SA	Active	С	0/C	M-122	F-2	CCD	CM		
											COD	СМ		
			Valve	Name		AUX FFF	DWATER	R TO S/G	2C CHECK VALVE					
2AF014H	2	С	4	CK	SA	Active	C	0/C	M-122	C-2	CCD	CM	·····	
	2	C	T	CN	ы	ACUVE	L	0/0	11-122	<u></u> -2	COD	CM CM		
				••							COD	CM		
			Valve	Name		AUX FEE	DWATEF	R TO S/G	2D CHECK VALVE					

							Auxilia	ary Feed	lwater					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/		Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре			Pos	Pos	M 100	Coor.	Туре	Freq.	Just.	Pos.
2AF017A	3	В	6	GA	МО	Active	С	0	M-122	F-6	SC	M18		
											SO DIAG	M18 MOV		
											PI	MOV		
											F1	1404		
			Valve I						SX SUCT UPST					
2AF017B	3	В	б	GA	MO	Active	С	0	M-122	<b>C</b> -6	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		AUX FEED	OWATER	PUMP 2E	SX SUCT UPST	ISOL VLV				
2AF029A	3	С	6	CK	SA	Active	SYS	0	M-122	E-5	CCA	CM		
											COA	CM		
			Valve I	Name		AUX FEE	OWATER	PUMP 24	TO S/G CHECK	VALVE				
2AF029B	3	С	6	CK	SA	Active	SYS	0	M-122	B-4	CCA	CM		
											COA	СМ		
			Valve I	Name		AUX FEE	WATER		3 TO S/G CHECK	VALVE				
2AF049A	2	c	4	СК	SA			C	M-122	E1	CCD	CM		
ZAI UTJA	2	C	т	CK	Ъ	1 035170	C	C	11 122	L1	COD	CM		
											COD	CH		
			Valve I						TMT ISOL VLV					
2AF049B	2	С	4	CK	SA	Passive	С	С	M-122	B1	CCD	CM		
											COD	СМ		
			Valve I	Name		FX TO AF	TO S/G	2B - CN1	IMT ISOL VLV					
2AF049C	2	С	4	CK	SA	Passive	С	С	M-122	F1	CCD	СМ	······	
											COD	CM		
			Valve	Name		FX TO AF	TO S/G	2C - CN	INT ISOL VLV					
2AF049D	2	С	4	CK	SA	Passive	С	С	M-122	 D1	CCD	CM		
											COD	СМ		
			Valve	Name		<b>ΕΧ ΤΟ Α</b> Ε	TO S/G	2D - CN	TMT ISOL VLV					
2AF053A	3	С		RV	SA			0/C	M-55-8	A3	RT	Y10		
ZAFUJJA	J	C	1.5x2.		34	Active	C	0/0	11-22-0	AJ		110		
			Valve			AF005 AG	CUM 24	4F050A R						
2AF053B	3		1.5x2.			Active	C	O/C	M-55-8	D8	RT	Y10		
211 0000	5	C						-		20		110		
			Valve			AF005 AG								
2AF058A	3	A/C	1	CK	SA	Active	SYS	С	M-55-8	B5	CCF	CM		
											COF	CM		
			Valve	Name		AF005 AG	CUM 2/	AF050A IA	INLET LINE 1S	T CHECK VL	/			
2AF058B	3	A/C	1	CK	SA	Active	SYS	С	M-55-8	B5	CCF	CM		
											COF	CM		
			Valve	Name		AF005 AG	CUM 24	4F050B 14	INLET LINE 1S		/			
2AF059A	3	A/C	***	СК			SYS	<u>C</u>	M-55-8	B5	CCF	CM		
	5	Ay C	. <u>т</u>	CN	JA	ACUVE	515	C	11 55 0	65	COF	CM		
			Valve	Name		AF005 A0	CCUM 2/	4F050A I/	A INLET LINE 2N	D CHECK VL	V			·

							Auxili	ary Feed	water					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2AF059B	3	A/C	1	CK	SA	Active	SYS	С	M-55-8	B5	CCF	CM		
											COF	CM		
		۲	Valve I	Name	1	AF005 AC	CUM 24	F050B IA	INLET LINE 2N	ID CHECK VLV				

							-	ent Cooli	ng Water					
Valve EPN	Safety	Cat	Size	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
CC9432	3	С	0.75	RV	SA	Active	С	0	M-66-3A	C-2	RT	Y10		
			Valve I	Name		CC RETU	RN HEA	DER FROM	I RH HX RELIEF	VALVE				
DCC9464	3	С	12	СК	SA	Active	SYS	0/C	M-66-3B	B-4	CC	Q		
											CO	Q		
			Valve I	Name		CC PUMF	DISCH	ARGE CHE	CK VALVE					
1CC070A	3	С	3	СК	SA	Active	SYS	С	M-66-4A	C-7	CCD	CM		
											COD	CM		
			Valve I	Name		WM MAK	EUP SUI	PPLY TO C	C SYSTEM CHEC	CK VLV				
1CC070B	3	С	3	СК	SA	Active	SYS	С	M-66-4A	C-5	CCD	CM		
1000/00	5	C	5	CR	54	Active	515	C	M GO IA	CJ	COD	CM		
											COD	CH		
			Valve I						SYSTEM CHEC					
ICC201A	3	В	2.5	GL	MO	Active	С	O/C	M-66-3A	A-8	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV 1A	SX TO C	C MAKEUF	UPSTREAM IS	OL VLV				
1CC201B	3	В	2.5	GL	MO	Active	С	O/C	M-66-3A	F-8	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Nomo		MOV 1B	SX TO C		PUPSTREAM IS					
1CC202A	3	В	2.5	GL				0/C	M-66-3A		SC	M18		
ICC202A	J	D	2.5	GL	MO	Active	C	0/0	M-00-3A	A-8				
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		MOV 1A	SX TO C	C MAKEU	P DOWNSTREAM	4 ISOL VLV				
1CC202B	3	В	2.5	GL	MO	Active	С	O/C	M-66-3A	E-8	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		MOV 1B	SX TO C	C MAKEU	DOWNSTREAM	4 ISOL VLV				
1CC685	2	A	3	GA	МО	Active	0	С	M-66-1A	B-4	LTJ	٦J		
	-		2	2			-	-		- •	SC	CS	CS-15	
											SO	CS	CS-15	
											STC	CS	CS-15	TP-VA-1
											DIAG	MOV	CJ 15	AV-T
											PI	MOV		
								NOC			11	101		
			Valve						MAL BARRIER I					
1CC9412A	3	В	12	GA	MO	Active	0	С	M-66-2	D-2	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
				Name					NGER 1A OUTLI					

						Co	mpone	nt Cool	ing Water					
Valve EPN	Safety	Cat	Size	Vlv		Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
1CC9412B	Class 3	В	12	Type GA	MO MO	Pass Active	<u>Pos</u>	Pos C	M-66-2	F-3	Type SC	Freq. M18	Just.	Pos.
10034120	J	D	12	GA	110	Active	0	C	11-00 2	1-5	SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name	I	CC FROM	RH HEA	AT EXCHA	NGER 1B OUTLE	T ISOL VALV	E			
1CC9413A	2	A	6	GA	MO	Active	0	С	M-66-1A	E-3	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I						ISOLATION VALV					
1CC9413B	2	В	6	GA	MO	Active	0	С	M-66-1A	E-3	SC	M18		
											SO	M18		
											DIAG	MOV		
								0.011100			PI	MOV		
1000414			Valve						ISOLATION VALV					
1CC9414	2	A	6	GA	МО	Active	0	С	M-66-1A	A-4	LTJ SC	AJ M18		
											SO STC	M18 M18		TP-VA-1
											DIAG	MOV		11-A4-1
											PI	MOV		
			Valve	Name		CC RETU	RN FRO	M RC PUI	MPS ISOLATION V	/AI VE		1101		
1CC9415	3	В	16	GA	MO		0	C	M-66-4D	C-6	SC	M18		
	-	-					-	_			SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CC U-1 S	ERVICE	LOOP IS	OLATION VALVE					
1CC9416	2	A	6	GA	MO	Active	0	С	M-66-1A	A-6	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CC RETU	RN FRO	M RC PUI	MPS ISOLATION	VALVE				
1CC9422A	3	С	1	RV	SA	Active	С	0	M-66-2	C-3	RT	Y10		
			Valve	Name		RHR HEA	T EXCH	ANGER 1	A OUTLET RELIE	F VALVE				
1CC9422B	3	С	1	RV	SA	Active	С	0	M-66-2	E-3	RT	Y10		
			Valve	Name		RHR HEA	T EXCH	ANGER 1	B OUTLET RELIE	F VALVE				
1CC9426A	3	С	0.75	RV	SA	Active	С	0/C	M-66-1B	E-3	RT	Y10		
			Valve	Name		RCP 1A T	THERMA	L BARRR	ER OUTLET REL	IEF VALVE				
										monownarozonatwo-				
1CC9426B	3	С	0.75	RV	SA	Active	С	O/C	M-66-1B	D-3	RT	Y10		

					_				ng Water	_	_	_	_ ~	
Valve EPN	Safety	Cat				Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
LCC9426C	3	С	0.75	RV	SA	Active	С	0/C	M-66-1B	C-3	RT	Y10		
			Valve M	{ame		RCP 1C T	HERMAL	. BARRRIE	R OUTLET RELI	EF VALVE				
LCC9426D	3	С	0.75	RV	SA	Active	С	0/C	M-66-1B	B-3	RT	Y10		
			Valve N	lame		RCP 1D T	HERMA	BARRRIE	ER OUTLET RELI	EF VALVE				
LCC9437A	2	В	3	GL	AO	Active	С	С	M-66-1A	E-2	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve (	Vame		CC TO EX	CESS LE	TDOWN I	HX ISOL VLV					
LCC9437B	2	В	3	GL	AO	Active		C	M-66-1A	C-4	FC	Q		TP-VA-2
10094376	2	U	J	GL	AU	Active	C	C	14-00-1A	C-4	STC	Q		TP-VA-2
											PI	Y2		TP-VA-4
							-				11	12		11 1/1
		-	Valve I						IN HX CC ISOL	······································				
1CC9438	2	А	4	GA	МО	Active	0	С	M-66-1A	B-6	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CC FROM	I RC PMF	S THERM	AL BARRIER ISC	ol vlv				
LCC9458	3	В	16	GA	М	Active	0	O/C	M-66-3B	C-6	SC	Y2		
											SO	Y2		
			Valve I	Name		CC PUMP	9 1A & 11	B DISCHA	RGE HEADER CF	ROSSTIE VLV	,			
LCC9459A	3	В	16	GA	М	Active	0	O/C	M-66-3A	D-6	SC	Y2		
											SO	Y2		
			Valve I	Name			ν S 1 Δ & <sup>-</sup>		on Header Cro	SSTIE VIV				
1CC9459B	3	В	16	GA	M	Active	0/C	0/C	M-66-3A	D-5	SC	Y2		
10094390	3	D	10	GA	141	Active	0/0	0/0	M-00-3A	D-5	SO	12 Y2		
											30	12		
	****	******	Valve I	Name		CC PUMP			HEADER CROSS	STIE VLV				
1CC9463A	3	C	12	CK	SA	Active	SYS	O/C	M-66-3B	B-5	CC	Q		
											CO	Q		
			Valve I	Name		CC PUMP	1A DIS	CHARGE C	HECK VALVE					
1CC9463B	3	С	12	CK	SA	Active	SYS	O/C	M-66-3B	B-7	CC	Q	*****	
											CO	Q		
			Valve I	Name		CC PUMF	9 1B DIS	CHARGE (	CHECK VALVE					
1CC9467A	3	В	16	GA	M	Active		0/C	M-66-4D	C-6	SC	Y2		
100510770	5	U	10	O/(		100110	Ŭ	0/0	11 00 10	CO	SO	Y2		
			Malaca								50	14		
			Valve I					ITLET ISC						
1CC9467B	3	В	16	GA	М	Active	0/C	O/C	M-66-4D	C-5	SC	Y2		
											SO	Y2		
											SO	Y2		
			Valve I	Name		CC HX 0	TO 1 OL	ITLET ISC	IL VALVE					
1CC9467C	3	В	16	GA	М	Active	0	O/C	M-66-3B	D-6	SC	Y2	****	
											SO	Y2		
											00	• –		

						Co	mpone	int Cooli	ng Water					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
CC9473A	3	В	16	GA	MO	Active	O/C	O/C	M-66-3B	D-4	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CC PUMP	DISCH	ARGE HEA	DER CROSSTIE	ISOL VLV				
LCC9473B	3	В	16	GA	MO	Active	O/C	O/C	M-66-3B	C-5	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Vama					DER CROSSTIE					
CC9486	2	A/C	6	CK	SA	Active	SYS	 C	M-66-1A	E-6	LTJ	AJ		
1009400	2	A/C	0	CK	SA	Active	515	C	M-00-14	E-0	CCL	CM		
											COF	CM		
			Valve I						COOLING INLE		LVE			
LCC9495A	3	С	2	CK	SA	Active	SYS	С	M-66-1B	E-2	CCD	CM		
											COD	CM		
			Valve I	Name		RCP 1A T	HERMA	L BARRIE	R INLET CHECK	VLV				
LCC9495B	3	С	2	СК	SA	Active	SYS	C	M-66-1B	D-2	CCD	CM		
											COD	CM		
			Valve I						R INLET CHECK	VII VI				
														*****
1CC9495C	3	С	2	СК	SA	Active	SYS	С	M-66-1B	C-2	CCD	CM		
											COD	CM		
			Valve	Name		RCP 1C 7	THERMA	L BARRIE	R INLET CHECK	VLV				
LCC9495D	3	С	2	CK	SA	Active	SYS	С	M-66-1B	B-2	CCD	CM		
											COD	CM		
			Valve	Name		RCP 1D	THERMA	L BARRIE	R INLET CHECK	VLV				
LCC9507A	3	В	12	BTF	M	Active	Т	Т	M-66-2	D-2	SC	Y2		
ICC)50/A	5	D	12		1.1	FICEIVE			11 00 2	02	SO	Y2		
												12		
			Valve	·····			·····		CC OUTLET FLO					
1CC9507B	3	В	12	BTF	М	Active	Т	Т	M-66-2	F-2	SC	Y2		
											SO	Y2		
			Valve	Name		RH HEAT	EXCHA	NGER 1B	CC OUTLET FLO	W CONTROL	VALVE			
1CC9518	2	A/C	0.75	СК	SA	Active	SYS	0/C	M-66-1A	B-6	LTJ	AJ		
											CCL	CM		
											со	CM		
			Valve	Name			יד מ־ס 1		ARRIER ISOL B	/מאככ השבהי				
0000000									****					
1CC9520A	3	С	3	CK	SA	Active	SYS	С	M-66-4A	B-7	CCD	CM		
											COD	CM		
			Valve	Name		WM M/U	TO U-1	CC SURG	E TK INLET UPS	trm chk vl	v			
1CC9520B	3	С	3	СК	SA	Active	SYS	С	M-66-4A	C-5	CCD	CM		
											COD	CM		
											-	-		

#### IST-BRW-PLAN

						Co	mpone	nt Cool	ing Water					
Valve EPN	Safety	Cat	Size	Viv		Act/		Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
1000524	Class		0.75	Туре			Pos	Pos	NA 66 14	Coor.	Туре	Freq.	Just.	Pos.
1CC9534	2	A/C	0.75	CK	SA	Active	SYS	O/C	M-66-1A	B-6		AJ CM		
											CCL	CM		
											CO	СМ		
			Valve 1						ARING ISOL BYP					
2CC070A	3	С	3	CK	SA	Active	SYS	С	M-66-4B	C-6	CCD	CM		
											COD	СМ		
			Valve I			WM MAK	EUP SUF	PLY TO C	CC SYSTEM CHEC					
2CC070B	3	С	3	CK	SA	Active	SYS	С	M-66-4B	C-4	CCD	CM		
											COD	CM		
			Valve I	Name		PW Make	EUP SUP	PLY TO C	C SYSTEM CHEC	K VLV				
2CC201A	3	В	2.5	GL	МО	Active	С	O/C	M-66-3A	A-5	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV 2A	5X ТО С	C MAKEU	P UPSTREAM ISC	OL VLV				
2CC201B	3	В	2.5	GL	МО	Active	С	O/C	M-66-3A	F-1	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV 2B	SX TO C	C MAKEU	P UPSTREAM IS	OL VLV				
2CC202A	3	В	2.5	GL	МО	Active	С	0/C	M-66-3A	A-4	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV 2A	sx то с	C MAKEU	IP DOWNSTREAM	4 ISOL VLV				
2CC202B	3	В	2.5	GL	мо	Active	C	0/C	M-66-3A	E-1	SC	M18		
								-, -			SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Namo			SX TO C		IP DOWNSTREAM					
2CC685	2	A	3	GA	МО	Active			M-139-1	B-6	LTJ	AJ		
20000	Z	A	J	GA	110	Active	0	C	11-139-1	D-0	SC	CS	CS-15	
											SO	CS	CS-15	
											STC	CS	CS-15	TP-VA-1
											DIAG	MOV	C3-13	11-A4-T
											PI	MOV		
											F1	MOV		
			Valve						RMAL BARRIER I					
	<b>_</b>	В	12	GA	MO	Active	0	С	M-139-2	D-6	SC	M18		
2CC9412A	3	-												
2CC9412A	3	D									SO	M18		
2CC9412A	3	D									DIAG	MOV		
2CC9412A	3	D												

							mpone	ης τορμ	ng Water					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2CC9412B	3	В	12	GA	МО	Active	0	С	M-139-2	F-6	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CC FROM	RH HEA	AT EXCHA	NGER 2B OUTLE	T ISOL VALV	Έ			
2CC9413A	2	Α	6	GA	MO	Active	0	С	M-139-1	E-7	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CC SUPP	LY TO R	C PUMPS I	ISOLATION VAL	/E				
2CC9413B	2	В	6	GA	MO	Active	0	С	M-139-1	E-7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CC SUPP	LY TO R	C PUMPS	ISOLATION VAL	/E				
2CC9414	2	Α	6	GA	MO	Active	0	С	M-139-1	B-7	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CC RETU	RN FRO	M RC PUM	IPS ISOLATION	VALVE				
2CC9415	3	В	16	GA	MO	Active	0	С	M-66-4D	C-3	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CC U-2 S	ERVICE	LOOP ISC	DLATION VALVE					
2CC9416	2	A	6	GA	MO	Active	0	С	M-139-1	B-6	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CC RETU	RN FRO	M RC PUM	1PS ISOLATION	VALVE				
2CC9422A	3	С	1	RV	SA	Active	С	0	M-139-2	C-6	RT	Y10		
			Valve	Name		RHR HEA	T EXCH	ANGER 2A	OUTLET RELIE	F VALVE				
2CC9422B	3	С	1	RV	SA	Active	С	0	M-139-2	E-6	RT	Y10		
			Valve	Name		RHR HEA	T EXCH	ANGER 2E	OUTLET RELIE	F VALVE				
2CC9426A	3	С	0.75	RV	SA	Active	С	O/C	M-139-1	E-4	RT	Y10	••••••••••••••••••••••••••••••••••••••	
			Valve	Name		RCP 2A 1	HERMA	L BARRRI	ER OUTLET RELI	IEF VALVE				
2CC9426B	3	С	0.75	RV	SA	Active	С	0/C	M-139-1	D-4	RT	Y10		

Valve EPN									ng Water					
Vdive Crm	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Type		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2CC9426C	3	С	0.75	RV	SA	Active	С	O/C	M-139-1	C-4	RT	Y10		
			Valve I	lame		RCP 2C T	HERMAI	L BARRRI	R OUTLET RELI	ef valve				
2CC9426D	3	С	0.75	RV	SA	Active	С	O/C	M-139-1	B-4	RT	Y10		
			Valve I	lame		RCP 2D T	HERMA	L BARRRI	ER OUTLET RELI	EF VALVE				
2CC9437A	2	В	3	GL	AO	Active	С	С	M-139-1	E-8	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Vame		СС ТО ЕХ	CESS LI	ETDOWN	HX ISOL VLV					
2CC9437B	2	В	3	GL	AO	Active	С	С	M-139-1	C-6	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		CC FROM	EXCES	S LETDOV	N HX CC ISOL	VALVE				
2CC9438	2	Α	4	GA	MO	Active	0	С	M-139-1	B-6	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CC FROM	RC PM	PS THERM	AL BARRIER ISC	DL VLV				
2CC9458	3	В	16	GA	M	Active	0	0/C	M-66-3B	C-3	SC	Y2		
											SO	Y2		
			Valve	Name		CC PUMP	2A & 2	B DISCHA	RGE HEADER CF					
2CC9459A	3	В	16	GA	M	Active	0	O/C			SC	Y2		
200510571	5								M-66-3A	D-3				
						, letter	-	0/0	M-66-3A	D-3	SO			
			Valva	Namo								Y2		
20004508		D	Valve			CC PUMP	S 2A &	2B SUCTI	ON HEADER CRO	OSSTIE VLV	SO	Y2		una y Third Main Statistics (1993).
2CC9459B	3	В	Valve 16	Name GA							SO SC	Y2 		
2CC9459B	3	В				CC PUMP	S 2A &	2B SUCTI	ON HEADER CRO	OSSTIE VLV	SO SC SC	Y2 Y2 Y2 Y2		
2CC9459B	3	В	16	GA	М	CC PUMP Active	S 2A & O/C	2B SUCTI	ON HEADER CRO M-66-3A	DSSTIE VLV D-4	SO SC	Y2 		
			16 Valve	GA Name	М	CC PUMP Active CC PUMP	S 2A & O/C	2B SUCTI O/C SUCTION	DN HEADER CRO M-66-3A HEADER CROSS	DSSTIE VLV D-4	SO SC SC SO	Y2 Y2 Y2 Y2		
2CC9459B 2CC9463A	3	B	16	GA	М	CC PUMP Active	S 2A & O/C	2B SUCTI	ON HEADER CRO M-66-3A	DSSTIE VLV D-4	SO SC SO CC	Y2 Y2 Y2 Y2 Q		
			16 Valve	GA Name	M	CC PUMP Active CC PUMP Active	S 2A & O/C 2A & 0 SYS	2B SUCTI O/C SUCTION O/C	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B	DSSTIE VLV D-4	SO SC SC SO	Y2 Y2 Y2 Y2		
	3		16 Valve 12 Valve	GA Name CK Name	M	CC PUMP Active CC PUMP Active	S 2A & O/C 2A & 0 SYS	2B SUCTI O/C SUCTION O/C	DN HEADER CRO M-66-3A HEADER CROSS	DSSTIE VLV D-4	SO SC SO CC	Y2 Y2 Y2 Y2 Q		
			16 <b>Valve</b> 12	GA Name CK	M	CC PUMP Active CC PUMP Active	S 2A & O/C 2A & 0 SYS 2A DIS	2B SUCTI O/C SUCTION O/C	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B	DSSTIE VLV D-4	SO SC SO CC CO CC	Y2 Y2 Y2 Y2 Q Q		
2CC9463A	3	C	16 Valve 12 Valve	GA Name CK Name	M	CC PUMP Active CC PUMP Active CC PUMP	S 2A & O/C 2A & 0 SYS 2A DIS	2B SUCTI O/C SUCTION O/C SCHARGE (	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE	DSSTIE VLV D-4 GTIE VLV B-3	SO SC SC SO CC CO	Y2 Y2 Y2 Y2 Q Q		
2CC9463A	3	C	16 Valve 12 Valve	GA Name CK Name CK	M SA SA	CC PUMP Active CC PUMP Active CC PUMP Active	S 2A & O/C 2A & 0 SYS 2A DIS SYS	2B SUCTION O/C SUCTION O/C SCHARGE O/C	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE	DSSTIE VLV D-4 GTIE VLV B-3	SO SC SO CC CO CC	Y2 Y2 Y2 Y2 Q Q		
2CC9463A	3	C	16 Valve 12 Valve 12	GA Name CK Name CK	M SA SA	CC PUMP Active CC PUMP Active CC PUMP Active	S 2A & O/C 2A & 0 SYS 2A DIS SYS	2B SUCTION O/C SUCTION O/C SCHARGE O/C	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE M-66-3B	DSSTIE VLV D-4 GTIE VLV B-3	SO SC SO CC CO CC	Y2 Y2 Y2 Y2 Q Q		
2CC9463A 2CC9463B	3	C	16 Valve 12 Valve 12 Valve	GA Name CK Name CK	M SA SA	CC PUMP Active CC PUMP Active CC PUMP Active CC PUMP	S 2A & O/C 2A & 0 SYS 2A DIS SYS 2B DIS	2B SUCTION O/C SUCTION O/C SCHARGE ( SCHARGE (	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE M-66-3B CHECK VALVE	DSSTIE VLV D-4 STIE VLV B-3 B-2	SO SC SO CC CO CC CO	Y2 Y2 Y2 Y2 Q Q Q Q		
2CC9463A 2CC9463B	3	C	16 Valve 12 Valve 12 Valve	GA Name CK Name GA	M SA SA	CC PUMP Active CC PUMP Active CC PUMP Active CC PUMP Active	S 2A & O/C 2A & 0 SYS 2A DIS SYS 2B DIS O	2B SUCTION O/C SUCTION O/C SCHARGE ( SCHARGE (	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE M-66-3B CHECK VALVE M-66-4D	DSSTIE VLV D-4 STIE VLV B-3 B-2	SO SC SO CC CO CC CO SC	Y2 Y2 Y2 Y2 Q Q Q Q Y2		
2CC9463A 2CC9463B 2CC9467A	3 3 3	C	16 Valve 12 Valve 12 Valve 16	GA Name CK Name GA	M SA SA	CC PUMP Active CC PUMP Active CC PUMP Active CC PUMP Active CC PUMP	S 2A & O/C 2A & 0 SYS 2A DIS SYS 2B DIS 0 TO 0 OU	2B SUCTION O/C SUCTION O/C SCHARGE O/C SCHARGE O/C UTLET ISC	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE M-66-3B CHECK VALVE M-66-4D	DSSTIE VLV D-4 STIE VLV B-3 B-2	SO SC SO CC CO CC CO SC	Y2 Y2 Y2 Y2 Q Q Q Q Y2		
2CC9463A 2CC9463B	3	C C B	16 Valve 12 Valve 12 Valve 16 Valve	GA Name CK Name GA	M SA SA	CC PUMP Active CC PUMP Active CC PUMP Active CC PUMP Active	S 2A & O/C 2A & 0 SYS 2A DIS SYS 2B DIS O	2B SUCTION O/C SUCTION O/C SCHARGE ( O/C SCHARGE ( O/C	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE M-66-3B CHECK VALVE M-66-4D OL VALVE	DSSTIE VLV D-4 GTIE VLV B-3 B-2 C-3	SO SC SO CC CO CC CO SC SO SC	Y2 Y2 Y2 Y2 Q Q Q Q Q Y2 Y2 Y2		
2CC9463A 2CC9463B 2CC9467A	3 3 3	C C B	16 Valve 12 Valve 12 Valve 16 Valve	GA Name CK Name GA	M SA SA	CC PUMP Active CC PUMP Active CC PUMP Active CC PUMP Active CC PUMP	S 2A & O/C 2A & 0 SYS 2A DIS SYS 2B DIS 0 TO 0 OU	2B SUCTION O/C SUCTION O/C SCHARGE O/C SCHARGE O/C UTLET ISC	ON HEADER CRO M-66-3A HEADER CROSS M-66-3B CHECK VALVE M-66-3B CHECK VALVE M-66-4D OL VALVE	DSSTIE VLV D-4 GTIE VLV B-3 B-2 C-3	SO SC SO CC CO CC CO SC SO	Y2 Y2 Y2 Q Q Q Q Y2 Y2		

						mpone	nt Cooli	ng Water					
Safety	Cat	Size	Vîv	Act.	Act/	Norm	-	P&ID	P&ID	Test	Test	Deferred	Tech.
Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
3	В	16	GA	М	Active	0	0/C	M-66-3B	D-2	SC	Y2		
										SO	Y2		
		Valve I	lame		2 & 0 CC	HX INL	ET CROSS	TIE ISOL VLV					
3	B	16	GA	MO	Active	0/0	0/0	M-66-3B	D-4	SC	M18		
0	5		0.1		. Iddire	0,0	0,0	110000					
										Γ1	1101		
		Valve I	Vame		CC PUMP	DISCH	ARGE HEA	DER CROSSTIE	ISOL VLV				
3	В	16	GA	MO	Active	O/C	0/C	M-66-3B	C-3	SC	M18		
										SO	M18		
										DIAG	MOV		
										PI	MOV		
		Valve I	Name	1	CC PUMP	DISCH	ARGE HEA	DER CROSSTIE	ISOL VLV				
2										11	A1		
2	ry C	U	CIX	34	Active	515	C	1133 1	LU				
											CM		
		Valve I	Name		CC TO RI	EACTOR	SUPPORT	COOLING INLE	T CHECK VA	LVE			
3	С	2	CK	SA	Active	SYS	С	M-139-1	E-5	CCD	CM		
										COD	CM		
		Valve I	Name		RCP 2A T	HERMA	L BARRIEF	R INLET CHECK	VLV				
2			СК								CM		
5	C	2	CR	57	Active	212	C	141551	0-5				
										COD	CH		
		Valve I	Name		RCP 2B 1	HERMA	L BARRIEF	R INLET CHECK	VLV				
3	С	2	CK	SA	Active	SYS	С	M-139-1	D-5	CCD	CM		
										COD	CM		
		Valve I	Name		RCP 2C 1	HERMA	L BARRIE	R INLET CHECK	VLV				
3		2	СК	SA	Active	SYS		M-139-1	C-5	CCD	СМ		
5	C	2	CR	JA	710070	515	C	111351	65				
										COD	CIT		
					RCP 2D	THERMA	L BARRIE	R INLET CHECK	VLV				
3	В	12	BTF	М	Active	Т	Т	M-139-2	D-7	SC	Y2		
0													
0										SO	Y2		
5		Valve I	Name		RH HEAT	EXCHA	NGER 2A (	C OUTLET FLO	W CONTROL		Y2		
										VALVE			
3		Valve I	Name BTF	М	RH HEAT Active	EXCHA	NGER 2A ( T	CC OUTLET FLOY M-139-2	W CONTROL F-7	VALVE	Y2		
		12	BTF	М	Active	Т	Т	M-139-2	F-7	VALVE SC SO			
		12 Valve I	BTF Name	М	Active	Т	Т		F-7	VALVE SC SO	Y2		
		12 Valve I	BTF	М	Active	T EXCHA	Т	M-139-2	F-7	VALVE SC SO	Y2		
3	В	12 Valve I	BTF Name	М	Active RH HEAT	T EXCHA	T NGER 2B (	M-139-2 CC OUTLET FLO	F-7 W CONTROL	VALVE SC SO VALVE	Y2 Y2		
3	В	12 Valve I	BTF Name	М	Active RH HEAT	T EXCHA	T NGER 2B (	M-139-2 CC OUTLET FLO	F-7 W CONTROL	VALVE SC SO VALVE LTJ	Y2 Y2 AJ		
3	В	12 <b>Valve</b> I 0.75	BTF Name CK	M	Active RH HEAT Active	T EXCHA SYS	T NGER 2B ( O/C	M-139-2 CC OUTLET FLO M-139-1	F-7 W CONTROL B-6	VALVE SC SO VALVE LTJ CCL CO	Y2 Y2 AJ CM		
3	B A/C	12 Valve I 0.75 Valve I	BTF Name CK Name	M	Active RH HEAT Active CC FROM	T EXCHA SYS 1 RCP TH	T NGER 2B ( O/C HERMAL B	M-139-2 CC OUTLET FLO M-139-1 ARRIER ISOL BY	F-7 W CONTROL B-6 'PASS CHEC	VALVE SC SO VALVE LTJ CCL CO < VLV	Y2 Y2 AJ CM CM		
3	В	12 <b>Valve</b> I 0.75	BTF Name CK	M	Active RH HEAT Active	T EXCHA SYS 1 RCP TH	T NGER 2B ( O/C	M-139-2 CC OUTLET FLO M-139-1	F-7 W CONTROL B-6	VALVE SC SO VALVE LTJ CCL CO	Y2 Y2 AJ CM		
	Class 3 3 3 2 3 3 3 3 3	Class         3       B         3       B         3       B         3       B         3       B         3       C         3       C         3       C         3       C         3       C         3       C         3       C         3       C	Class         I           3         B         16           3         C         2           Valve I         3         C           3         C         2           Valve I         3         C           3         C         2           Valve I         3         C           3         C         2           Valve I         3         C	ClassType3B16GAVaive Name3B16GA3B16GA3B16GA2A/C6CKVaive Name3C2CKVaive Name3C2CK	ClassType Type3B16GAMValve Name3B16GAMOValve Name3B16GAMO3B16GAMOValve Name2A/C6CKSAValve Name3C2CKSAValve Name3C2CKSAValve Name3C2CKSAValve Name3C2CKSAValve Name3C2CKSAValve Name3C2CKSAValve Name3C2CKSAValve Name3C2CKSAValve Name3C2CKSA	Safety ClassCatSize TypeValve TypeAct.Act/ Pass3B16GAMActiveValve Valve ManaB16GAMOActive3B16GAMOActive3B16GAMOActive3B16GAMOActive3B16GAMOActive3CCSAActive2A/C6CKSAActive2A/C6CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive3C2CKSAActive	SafetyCatSizeVivAct.Act/NormClassTypeTypePassPos3B16GAMActiveOValve Name $2 & 0 CC HX INLI3B16GAMOActiveO/CValve NameCC PUMP DISCH/3B16GAMOActiveO/CValve NameCC PUMP DISCH/3B16GAMOActiveO/CValve NameCC PUMP DISCH/2A/C6CKSAActiveSYSValve NameCC TO REACTOR3C2CKSAActiveSYSValve NameRCP 2A THERMA3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiveSYS3C2CKSAActiv$	Safety ClassCatSizeVivAct.Act/NormSafety PassPos3B16GAMActiveOO/CValve Name2 & 0 CC HX INLET CROSS3B16GAMOActiveO/CO/C3B16GAMOActiveO/CO/C3B16GAMOActiveO/CO/CValve NameCC PUMP DISCHARGE HEA3B16GAMOActiveO/CValve NameCC PUMP DISCHARGE HEA2A/CGCKSAActiveSYSC2A/CGCKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3C2CKSAActiveSYSC3	Safety         Cat         Size         Viv         Act.         Act/         Norm         Safety         P&ID           3         B         16         GA         M         Active         O         O/C         M-66-3B           3         B         16         GA         M         Active         O         O/C         M-66-3B           Valve Name         2 & 0 CC HX INLET CROSSTIE ISOL VLV           3         B         16         GA         MO         Active         O/C         O/C         M-66-3B           Valve Name         CC PUMP DISCHARGE HEADER CROSSTIE           3         B         16         GA         MO         Active         O/C         O/C         M-66-3B           Valve Name         CC PUMP DISCHARGE HEADER CROSSTIE           2         A/C         6         CK         SA         Active         SYS         C         M-139-1           Valve Name         CC TO REACTOR SUPPORT COOLING INLE           3         C         2         CK         SA         Active         SYS         C         M-139-1           Valve Name         RCP 2A THERMAL BARRIER INLET CHECK 'I <td< td=""><td>Safety     Cat     Size     Viv     Act.     Act./     Norm     Safety     P&amp;ID     P&amp;ID       Class     Type     Type     Type     Pass     Pos     Pos     Coor.       3     B     16     GA     M     Active     O     O/C     M-66-3B     D-2       Valve Name     2 &amp; 0 CC HX INLET CROSSTIE ISOL VLV       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     D-4       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     D-4       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     D-4       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     C-3       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     C-3       4     Valve Name     CC PUMP DISCHARGE HEADER CROSSTIE ISOL VLV     VLV     A/C     A/C</td><td>SafetyCatSizeVivAct.Act./NormSafetyP&amp;IDP&amp;IDP&amp;IDP&amp;IDTestClassTypeTypePassPosCoor.TypeTypeTypeType3B16GAMActive00/CM-66-3BD-2SCSO3B16GAMOActive0/C0/CM-66-3BD-4SCSO3B16GAMOActive0/C0/CM-66-3BD-4SCSO10/GValve NameCC PUMP DISCHARGE HEADER CROSSTIE ISOL VLVVIVVIVSODIAG3B16GAMOActive0/C0/CM-66-3BC-3SC3B16GAMOActive0/C0/CM-66-3BC-3SC3B16GAMOActive0/C0/CM-66-3BC-3SC3B16GAMOActiveSO0/CM-139-1E-6LTJ2A/C6CKSAActiveSYSCM-139-1E-6LTJCO2A/C6CKSAActiveSYSCM-139-1E-5CCDCO3C2CKSAActiveSYSCM-139-1D-5CCDCO3C2CKSAActiveSYSCM-139-1</td><td>SafetyCatSizeVivAct.Act./NormSafetyP&amp;IDP&amp;IDPAIDTestTestClassTypeTypePosPosPosCoor.TypeFreq.3B16GAMActive00/CM-66-3BD-2SCY23B16GAMOActive0/CO/CM-66-3BD-4SCM183B16GAMOActive0/CO/CM-66-3BD-4SCM180KKKKKKKMOVPIMOVPI3B16GAMOActive0/CO/CM-66-3BC-3SCM180MOVKKKKVVKMOVPI3B16GAMOActive0/CO/CM-66-3BC-3SCM180MOVKKKKKKKKKKK3B16GAMOActiveSYSCM-139-1E-6LT1AJ2A/C6CKSAActiveSYSCM-139-1E-6CCCM2A/C6CKSAActiveSYSCM-139-1E-5CCDCM3C2CKSAActiveSYSCM-139-1E-5<td< td=""><td>Safety         Cat         Size         Viv         Act         Norm         Safety         P&amp;ID         P&amp;ID         Test         Test         Test         Just.           3         B         16         GA         M         Active         0         O/C         M-66-3B         D-2         SC         Y2         Just.           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-2         SC         Y2         Just.           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-4         SC         MIB           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-4         SC         MIB           MOV         H         H         K         K         V</td></td<></td></td<>	Safety     Cat     Size     Viv     Act.     Act./     Norm     Safety     P&ID     P&ID       Class     Type     Type     Type     Pass     Pos     Pos     Coor.       3     B     16     GA     M     Active     O     O/C     M-66-3B     D-2       Valve Name     2 & 0 CC HX INLET CROSSTIE ISOL VLV       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     D-4       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     D-4       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     D-4       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     C-3       3     B     16     GA     MO     Active     O/C     O/C     M-66-3B     C-3       4     Valve Name     CC PUMP DISCHARGE HEADER CROSSTIE ISOL VLV     VLV     A/C     A/C	SafetyCatSizeVivAct.Act./NormSafetyP&IDP&IDP&IDP&IDTestClassTypeTypePassPosCoor.TypeTypeTypeType3B16GAMActive00/CM-66-3BD-2SCSO3B16GAMOActive0/C0/CM-66-3BD-4SCSO3B16GAMOActive0/C0/CM-66-3BD-4SCSO10/GValve NameCC PUMP DISCHARGE HEADER CROSSTIE ISOL VLVVIVVIVSODIAG3B16GAMOActive0/C0/CM-66-3BC-3SC3B16GAMOActive0/C0/CM-66-3BC-3SC3B16GAMOActive0/C0/CM-66-3BC-3SC3B16GAMOActiveSO0/CM-139-1E-6LTJ2A/C6CKSAActiveSYSCM-139-1E-6LTJCO2A/C6CKSAActiveSYSCM-139-1E-5CCDCO3C2CKSAActiveSYSCM-139-1D-5CCDCO3C2CKSAActiveSYSCM-139-1	SafetyCatSizeVivAct.Act./NormSafetyP&IDP&IDPAIDTestTestClassTypeTypePosPosPosCoor.TypeFreq.3B16GAMActive00/CM-66-3BD-2SCY23B16GAMOActive0/CO/CM-66-3BD-4SCM183B16GAMOActive0/CO/CM-66-3BD-4SCM180KKKKKKKMOVPIMOVPI3B16GAMOActive0/CO/CM-66-3BC-3SCM180MOVKKKKVVKMOVPI3B16GAMOActive0/CO/CM-66-3BC-3SCM180MOVKKKKKKKKKKK3B16GAMOActiveSYSCM-139-1E-6LT1AJ2A/C6CKSAActiveSYSCM-139-1E-6CCCM2A/C6CKSAActiveSYSCM-139-1E-5CCDCM3C2CKSAActiveSYSCM-139-1E-5 <td< td=""><td>Safety         Cat         Size         Viv         Act         Norm         Safety         P&amp;ID         P&amp;ID         Test         Test         Test         Just.           3         B         16         GA         M         Active         0         O/C         M-66-3B         D-2         SC         Y2         Just.           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-2         SC         Y2         Just.           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-4         SC         MIB           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-4         SC         MIB           MOV         H         H         K         K         V</td></td<>	Safety         Cat         Size         Viv         Act         Norm         Safety         P&ID         P&ID         Test         Test         Test         Just.           3         B         16         GA         M         Active         0         O/C         M-66-3B         D-2         SC         Y2         Just.           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-2         SC         Y2         Just.           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-4         SC         MIB           3         B         16         GA         MO         Active         0/C         O/C         M-66-3B         D-4         SC         MIB           MOV         H         H         K         K         V

						Co	тропе	ent Cooli	ng Water					
Valve EPN	Safety	Cat	Size	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2CC9520B	3	С	3	CK	SA	Active	SYS	С	M-66-4B	C-4	CCD	CM		
											COD	CM		
		,	Valve I	lame	F	PW M/U .	TO U-2	CC SURGE	TK INLET DWN	ISTRM CHK V	'LV			
2CC9534	2	A/C	0.75	СК	SA	Active	SYS	O/C	M-139-1	A-6	LTJ	AJ		
											CCL	CM		
											CO	CM		
		,	Valve I	Name	(	CC FROM	I RCP M	OTOR BEA	RING ISOL BYP	ASS CHECK V	/LV			

							Conta	i figi e ficca pq.	Spray					
Valve EPN	Safety	Cat	Size	Viv		-	Norm	-	P&ID	P&ID	Test		Deferred	Tech.
1CS001A	Class 2	В	14	GA	Type MO	Active	Pos O	 0/C	M-61-4	Coor.	Type SC	Freq. M18	Just.	Pos.
10000111	-	Ľ		0.1	110	, lettre	U	0,0		C1	SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	lame		CS PUMP	1A RWS		ON VALVE					
1CS001B	2	В	14	GA	МО	Active	0	O/C	M-61-4	A4	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CS PUMP	1B RWS	T SUCTION	ON VALVE					
1CS003A	2	С	10	СК	SA	Active	SYS	0	M-46-1A	E6	CCD	СМ		
											COD	СМ		
			Valve I	Name		CONTAIN	IMENT S	PRAY PU	MP 2A DISCHARC	ge check v/	LVE			
1CS003B	2	С	10	СК	SA	Active	SYS	0	M-46-1A	C6	CCD	CM		
											COD	CM		
			Valve I	Name		CONTAIN	IMENT S	PRAY PUI	MP 2B DISCHARC	GE CHECK VA	LVE			
1CS007A	2	A	10	GA	МО	Active	С	O/C	M-46-1C	D4	LTJ	AJ	Winter da	
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CS PUMP	1A DISC	CHARGE I	HEADER ISOLATI	ON VALVE				
1CS007B	2	Α	10	GA	MO	Active	С	O/C	M-46-1C	B4	LTJ	AJ		
											SC	M18		
											SO	M18		
														TP-VA-1
											STC	M18		
											STC STO	M18 M18		TP-VA-1
												M18 MOV		
											STO	M18		
			Valve	Name		CS PUMP	1B DISC	CHARGE I	HEADER ISOLATI	ON VALVE	STO DIAG	M18 MOV		
1CS008A	2	A/C		Name CK	SA	CS PUMP Active	1B DISC	Charge I O/C	HEADER ISOLATI M-46-1C	ON VALVE	STO DIAG	M18 MOV		
1CS008A	2	A/C									STO DIAG PI	M18 MOV MOV		
1CS008A	2	A/C									STO DIAG PI LTJ	M18 MOV MOV AJ		
1CS008A	2	A/C		СК	SA	Active	SYS	O/C		D5	STO DIAG PI LTJ CCD COD	M18 MOV MOV AJ CM		
1CS008A 1CS008B	2	A/C	10	СК	SA	Active	SYS	O/C	M-46-1C	D5	STO DIAG PI LTJ CCD COD	M18 MOV MOV AJ CM		
		-	10 Vaive	CK Name	SA	Active CS PUMP	SYS 2A DISC	O/C CHARGE I	M-46-1C NOZZLE HEADER	D5 . Check Val	STO DIAG PI LTJ CCD COD VE	M18 MOV MOV AJ CM CM		
		-	10 Vaive	CK Name	SA	Active CS PUMP	SYS 2A DISC	O/C CHARGE I	M-46-1C NOZZLE HEADER	D5 . Check Val	STO DIAG PI LTJ CCD COD VE	M18 MOV MOV AJ CM CM AJ		
		-	10 Vaive	CK Name CK	SA SA	Active CS PUMP Active	SYS 2A DISC SYS	O/C CHARGE I O/C	M-46-1C NOZZLE HEADER	D5 CHECK VAL	STO DIAG PI LTJ CCD COD VE LTJ CCD COD	M18 MOV MOV AJ CM CM AJ CM		
		-	10 Valve 10	CK Name CK	SA SA	Active CS PUMP Active CS PUMP	SYS 2A DISC SYS	O/C CHARGE I O/C	M-46-1C NOZZLE HEADER M-46-1C	D5 CHECK VAL	STO DIAG PI LTJ CCD COD VE LTJ CCD COD	M18 MOV MOV AJ CM CM AJ CM		
1CS008B	2	A/C	10 Valve 10 Valve	CK Name CK Name	SA SA	Active CS PUMP Active CS PUMP	SYS 2A DISC SYS 2B DISC	O/C CHARGE I O/C CHARGE I	M-46-1C NOZZLE HEADER M-46-1C NOZZLE HEADER	D5 CHECK VAL B5 CHECK VAL	STO DIAG PI LTJ CCD COD VE LTJ CCD COD VE	M18 MOV MOV AJ CM CM AJ CM CM		
1CS008B	2	A/C	10 Valve 10 Valve	CK Name CK Name	SA SA	Active CS PUMP Active CS PUMP	SYS 2A DISC SYS 2B DISC	O/C CHARGE I O/C CHARGE I	M-46-1C NOZZLE HEADER M-46-1C NOZZLE HEADER	D5 CHECK VAL B5 CHECK VAL	STO DIAG PI LTJ CCD COD VE LTJ CCD COD VE SC	M18 MOV MOV AJ CM CM CM CM M18		
1CS008B	2	A/C	10 Valve 10 Valve	CK Name CK Name	SA SA	Active CS PUMP Active CS PUMP	SYS 2A DISC SYS 2B DISC	O/C CHARGE I O/C CHARGE I	M-46-1C NOZZLE HEADER M-46-1C NOZZLE HEADER	D5 CHECK VAL B5 CHECK VAL	STO DIAG PI LTJ CCD COD VE LTJ CCD COD VE SC SO	M18 MOV MOV AJ CM CM CM CM M18 M18		

							Conta	inment	Spray					
Valve EPN	Safety	Cat	Size	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1CS009B	2	В	16	GA	MO	Active	С	O/C	M-61-4	A3	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CS PUMP	1B CON	TAINME	NT RECIRC SUMP	SUCTION V	ALVE			
1CS010A	2	В	3	GL	AO	Passive	0	0	M-46-1A	D7	PI	Y2		TP-VA-4
			Valve i	Name		CS EDUC	TOR 1A	INLET IS	OLATION VALVE					
1CS010B	2	В	3	GL	AO	Passive	0	0	M-46-1A	A7	PI	Y2		TP-VA-4
			Valve	Name		CS EDUC	TOR 1B	INLET IS	OLATION VALVE					
1CS011A	2	С	6	СК	SA	Active	SYS	0	M-46-1A	D2	CCD	CM		
											COD	CM		
			Valve	Name		CS EDUC	TOR 2A	OUTLET	CHECK VALVE					
1CS011B	2	C	6	СК	SA	Active	SYS	0	M-46-1A	B2	CCD	CM		
											COD	CM		
			Valve	Name			TOR 2B		CHECK VALVE					
1CS019A	2	В	3	GA	МО	Active	C	0/C	M-46-1B	B3	SC	M18		
1030177	2	0	5	GA	110	Active	C	0,0	AT IO ID	60	so	M18		
											DIAG	MOV		
											PI	MOV		
												1101		
			Valve						DDITIVE TANK IS			······		
1CS019B	2	В	3	GA	MO	Active	С	0/C	M-46-1B	B6	SC	CM		
											SO	CM		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CS EDUC	TOR 1B	SPRAY A	DDITIVE TANK IS	OLATION V	ALVE			
1CS020A	2	С	3	CK	SA	Active	С	0/C	M-46-1B	D2	CCD	CM		
											COD	CM		
			Valve	Name		CS EDUC	UCTOR	1A INLE	CHECK VALVE					
1CS020B	2	С	3	СК	SA	Active	С	O/C	M-46-1B	B5	CCD	CM		
											COD	CM		
			Valve	Name		CS EDUC	UCTOR	1B INLE	CHECK VALVE					
1CS08MA	2	С	1	RV	SA	Active	С	0	M-46-1B	F5	RT	Y10		
			Valve	Name		SPRAY AI	DDITIVE	E TANK V	ACUUM RELIEF VA	LVE				
1CS08MB	2	С	1	RV		Active	C	0	M-46-1B	 F4	RT	Y10		
10000110	-	Ũ									•••	120		
	~	-	Valve						ACUUM RELIEF VA			N4-0		
2CS001A	2	В	14	GA	MO	Active	0	O/C	M-136-4	B7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CS PUMP	2A RWS	ST SUCT	ION VALVE					

			¢				_	inment						
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/		Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2CS001B	2	В	14	GA	MO	Active	0	O/C	M-136-4	A7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name	(	CS PUMP	2B RWS		ON VALVE					
2CS003A	2	C	10	СК	SA	Active	SYS	0	M-129-1A	E6	CCD	CM		
											COD	СМ		
			Valve I	Name		CONTAIN	IMENT S	PRAY PUI	MP 1A DISCHARG	E CHECK V	ALVE			
2CS003B	2	С	10	СК	SA	Active	SYS	0	M-129-1A	C6	CCD	CM		
											COD	CM		
			Valve	Name		CONTAIN	IMENT S	PRAY PU	MP 1B DISCHARG	GE CHECK V	ALVE			
2CS007A	2	Α	10	GA	MO	Active	C	O/C	M-129-1C	D5	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CS PUMP	2A DIS	CHARGE	HEADER ISOLATI	ON VALVE				
2CS007B	2	Α	10	GA	MO	Active	С	O/C	M-129-1C	B5	LTJ	AJ		
	-							-, -			SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name				HARGE	HEADER ISOLATI	ON VALVE				
2CS008A	2	A/C		СК	SA	Active		0/C	M-129-1C	D6	נדו	AJ		
2000011	-	7,40	10	- City	0.1	1.00170	010	0,0	11 120 10	20	CCD	CM		
											COD	CM		
			Value									-		
200000	~ ~	A/C	Valve						NOZZLE HEADER					
2CS008B	2	A/C	10	CK	SA	Active	SYS	O/C	M-129-1C	B6	LTJ	AJ CM		
											CCD	CM		
											COD	СМ		
			Valve	******					NOZZLE HEADER					
2CS009A	2	В	16	GA	MO	Active	С	O/C	M-136-4	C7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	*****		CS PUMP	2A CON	ITAINME	NT RECIRC SUMP	SUCTION V	/ALVE			
2CS009B	2	В	16	GA	MO	Active	С	O/C	M-136-4	A7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CS PUM	2B CON	ITAINME	NT RECIRC SUMP	SUCTION V	/ALVE			

							Conta	inment	Spray					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2CS010A	2	В	3	GL	AO	Passive	0	0	M-129-1A	D3	PI	Y2		TP-VA-4
			Valve I	Name		cs educ	FOR 2A	INLET IS	OLATION VALVE					
2CS010B	2	В	3	GL	AO	Passive	0	0	M-129-1A	A3	PI	Y2		TP-VA-4
			Valve I	Name		cs educ	TOR 2B	INLET IS	OLATION VALVE					
2CS011A	2	С	6	СК	SA	Active	SYS	0	M-129-1A	D2	CCD	CM		
											COD	CM		
			Valve I	Name		CS EDUC	TOR 1A	OUTLET	CHECK VALVE					
2CS011B	2	С	6	CK	SA	Active	SYS	0	M-129-1A	B2	CCD	CM		
											COD	CM		
			Valve I	Name		cs educ	TOR 1B	OUTLET	CHECK VALVE					
2CS019A	2	В	3	GA	MO	Active	С	O/C	M-129-1B	B6	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CS EDUC	TOR 2A	SPRAY A	DDITIVE TANK IS	OLATION V	ALVE			
2CS019B	2	В	3	GA	MO	Active	С	O/C	M-129-1B	B3	SC	M18	******	
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		CS EDUC	TOR 2B	SPRAY A	DDITIVE TANK IS	OLATION V	ALVE			
2CS020A	2	С	3	СК	SA	Active	С	O/C	M-129-1A	B2	CCD	CM		
											COD	CM		
			Valve	Name		CS EDUC	UCTOR	2A INLET	CHECK VALVE					
2CS020B	2	С	3	СК	SA	Active	С	O/C	M-129-1A	B4	CCD	CM		
											COD	CM		
			Valve	Name		CS EDUC	UCTOR	2B INLET	CHECK VALVE					
2CS08MA	2	С	1	RV	SA	Active	С	0	M-129-1B	F6	RT	Y10		
			Valve	Name		SPRAY AI	DITIVE	E TANK VA	CUUM RELIEF V	ALVE				
2CS08MB	2	С	1	RV	SA	Active	С	0	M-129-1B	F5	RT	Y10		

SO       M18         STC       M18         STC       M18         STO       M18         DIAG       MOV         PI       MOV         ICV112E       2       B       8.000       GA       MO Active       C       O/C       M-64-4B       A-5       SC       M18         STO       M18       STC       M18       TP-VA-1         STO       M18       TP-VA-1       STO       M18       TP-VA-1         STO       M18       TP-VA-1       STO       M18       TP-VA-1         DIAG       MOV       MOV       M18       TP-VA-1         DIAG       MOV       MOV       PI       MOV         PI       MOV       MOV       MOV       PI							Cher	nical a	nd Volu	ime Control					
LCV112B         2         B         4.000         GA         MO         Active         O         C         M-64-4A         B-4         SC         M18           SO         M18         SO         M18         SO         M18         SO         M18           Valve Name         MOV VCT OUTLET UPST ISOL VLV         V         PI         MOV         PI         MOV           LCV112C         2         B         4.000         GA         MO         Active         C         M-64-4A         B-3         SC         M18         TP-VA-1           LCV112C         2         B         4.000         GA         MOV         Active         C         M-64-4A         B-3         SC         M18         TP-VA-1           LCV112D         2         B         8.000         GA         MOV         Active         C         O/C         M-64-4B         B-5         SC         M18         TP-VA-1           LCV112D         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           LCV112E         2         B         8.000         GA         MO	Valve EPN	-	Cat				-		-	P&ID	P&ID				
SO         M18 STC         TP-VA-1 MOV           LCV112C         2         B         4.000         GA         MOV         OC         M-64-4A         B-3         SC         M18         TP-VA-1           LCV112C         2         B         4.000         GA         MO         Active         O         C         M-64-4A         B-3         SC         M18         TP-VA-1           LCV112C         2         B         4.000         GA         MO         Active         O         C         M-64-4A         B-3         SC         M18         TP-VA-1           LDG4         MOV         MOV         VCT OUTLET DWST ISOL VLV         V         MOV         PI         MOV           LCV112D         2         8         8.000         GA         MO         Active         C         O/C         M-64-4B         B-5         SC         M18         TP-VA-1           LCV112D         2         8         8.000         GA         MOV RWST TO         CHG PPS SUCT ISOL VLV         V         MOV         PI         MI8 <th>1011120</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>NA CA AA</th> <th></th> <th></th> <th></th> <th>Just.</th> <th>Pos.</th>	1011120									NA CA AA				Just.	Pos.
Valve Name         MOV VCT OUTLET UPST ISOL VLV         STC         M18 MOV         TP-VA-1 DIAG           ICV112C         2         8         4.000         GA         M0         Active         0         C         M-64-4A         B-3         SC         M18 STC         TP-VA-1 DIAG           ICV112C         2         8         4.000         GA         MO         Active         C         M-64-4B         B-3         SC         M18 STC         TP-VA-1 DIAG         MOV           ICV112D         2         8         8.000         GA         MO         Active         C         O/C         M-64-4B         B-5         SC         M18 	ICVII2B	2	В	4.000	GA	MO	Active	0	C	M-04-4A	B-4				
DIAG         MOV         MOV         PI         MOV															
Valve Name         MOV VCT OUTLET UPST ISOL VLV         PI         MOV           1CV112C         2         8         4.000         GA         MO         Active         0         C         M-64-4A         B-3         SC         M18         STC         M18         M17/41															18-VA-1
Valve Name         MOV VCT OUTLET UPST ISOL VLV           ICV112C         2         B         4.000         GA         MO         Active         0         C         M-64-4A         B-3         SC         M18         STC         M18         STC         M18         STC         M18         STC         M18         MOV         PI         MOV															
LEV112C         2         B         4.000         GA         MO         Active         0         C         M-64-4A         B-3         SC         M18         TP-VA-1           DIAG         MOV         Walve Name         MOV VCT OUTLET DWST ISOL VLV         TP-VA-1         DIAG         MOV         PI					-			-				PI	MOV		
SO         M18 STC         TP-VA-1           DAG         MOV         VERVE Name         MOV VCT OUTLET DWST ISOL VLV         PI         MOV           1CV112D         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         B-5         SO         M18         TP-VA-1           STC         M18         STC         M18         TP-VA-1         STO         M18         TP-VA-1           STC         M18         STC         M18         TP-VA-1         STO         M18         TP-VA-1           DIAG         MOV         PI         MOV         PI         MOV         PI         MOV           1CV12E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           1CV12E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           1CV12E         2         B         8.000         GL         AO         Active         O         C         M-64-5         E-7				90000 <sup>-007/000000000000000000000000000000</sup>			++++++++++++++++++++++++++++++++++++++								
Valve Name         MOV         VCT OUTLET DWST ISOL VLV         STC         M18         TP-VA-1           1CV112D         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         B-5         SC         M18         STC	1CV112C	2	В	4.000	GA	MO	Active	0	С	M-64-4A	B-3				
Valve Name         MOV VCT OUTLET DWST ISOL VLV         PI         MOV         PI         MOV           1CV112D         2         8         8.000         GA         MO         Active         C         O/C         M-64-48         B-5         SC         M18         TP-VA-1           STC         MI3         STC         M18         TP-VA-1         DLAG         MOV         PI         MO															
Valve Name         MOV         VCT OUTLET DWST ISOL VLV           12(112D)         2         B         8.000         GA         MO         Active         C         0/C         M-64-4B         B-5         SC         M18           STC         M18         STC         M18         STC         M18         TP-VA-1           DIAG         MOV         NOV RWST TO         CHG PPS SUCT ISOL VLV         N18         TP-VA-1           ICV112E         2         B         8.000         GA         MO         Active         C         0/C         M-64-4B         A-5         SC         M18         TP-VA-1           ICV112E         2         B         8.000         GA         MO         Active         C         0/C         M-64-4B         A-5         SC         M18         TP-VA-1           ICV112E         2         B         8.000         GA         MOV RWST TO         CHG PPS SUCT ISOL VLV         N18         TP-VA-1           ICV459         1         B         3.000         GL         AO         Active         0         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           ICV459         1         B															1P-VA-1
Valve Name         MOV VCT OUTLET DWST ISOL VLV           1CV112D         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         B-5         SC         M18           STC         M18         STC         M18         TP-VA-1         STO         M18         TP-VA-1           DIAG         MOV         WIV         WWST TO         CHG PPS SUCT ISOL VLV         HIR         SSO         M18         TP-VA-1           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SSO         M18         TP-VA-1           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SSO         M18         TP-VA-1           1CV112E         2         B         8.000         GA         Active         C         O/C         M-64-4B         A-5         SSO         M18         TP-VA-1           1DAG         MOV         RWST TO         CHG PPS SUCT ISOL VLV         FC         CS         CS-10         TP-VA-2           1CV459         1         B															
ICV112D         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         B-5         SC         M18           SO         M18         STC         M18         STC         M18         STC         M18         STC         M18         TP-VA-1           DIAG         MOV         Walve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         V <td></td> <td>PI</td> <td>MOV</td> <td></td> <td></td>												PI	MOV		
SO         M18 STC         M18 M0V         TP-VA-1           STC         M18         TP-VA-1           DIAG         MOV         PI         MOV           PI         MOV         PI         MOV           TCV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           TCV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           STC         M18         TP-VA-1         STO         M18         TP-VA-1         MOV           Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         H         MOV         PI         MOV           10/4G         MOV         REW         MOV RWST TO         CHG PPS SUCT ISOL VLV         FT         FC         CS         CS-10         TP-VA-1           DIAG         MOV         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           TCV460         1         B         3.000 <td></td> <td></td> <td></td> <td>Valve N</td> <td>lame</td> <td>1</td> <td>MOV VC</td> <td>T OUTLE</td> <td>T DWST</td> <td>ISOL VLV</td> <td></td> <td></td> <td></td> <td></td> <td></td>				Valve N	lame	1	MOV VC	T OUTLE	T DWST	ISOL VLV					
Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         STO         M18         TP-VA-1           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           104G         MOV         RWST TO         CHG PPS SUCT ISOL VLV         TP-VA-1         TP-VA-1         MOV         TP-VA-1           104G         MOV         RWST TO         CHG PPS SUCT ISOL VLV         TP-VA-1         TP-VA-1         TP-VA-1         TP-VA-1           10405         T         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-1           10406         1         B         3.000         GL	1CV112D	2	В	8.000	GA	MO	Active	С	O/C	M-64-4B	B-5	SC	M18		
STO         M18 DIAG         TP-VA-1 MOV           Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         NOV         PI         MOV           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           STO         M18         TP-VA-1         STO         M18         TP-VA-1         DIAG         MOV           Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         MOV         PI         MOV           1CV459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-1           PI         Y2         TP-VA-1         FI         Y2         TP-VA-1         PI         Y2         TP-VA-2           1CV459         1         B         3.000         GL         AO         Active         O         C												SO	M18		
Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         MOV         MOV           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           1CV12E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           10AG         MOV         PI         MOV         PI         MOV         PI         MOV         PI         MOV           1CV459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           1CV459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2												STC	M18		TP-VA-1
Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18           SO         M18         SO         M10         MOV         MI0         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO												STO	M18		TP-VA-1
Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV           1CV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18           SO         M18         STC         M18         STC         M18         TP-VA-1           DIAG         MOV         N         MOV RWST TO         CHG PPS SUCT ISOL VLV         PI         MOV           104759         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-1           104759         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           107459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           107460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC </td <td></td> <td>DIAG</td> <td>MOV</td> <td></td> <td></td>												DIAG	MOV		
ICV112E         2         B         8.000         GA         MO         Active         C         O/C         M-64-4B         A-5         SC         M18         TP-VA-1           STC         M18         STC         M18         TP-VA-1         STO         M18         TP-VA-1           STO         M18         STC         M18         TP-VA-1         STO         M18         TP-VA-1           DIAG         MOV         PI         MOV         PI         MOV         PI         MOV           1CV459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-1           1CV459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         MO <td></td> <td>PI</td> <td>MOV</td> <td></td> <td></td>												PI	MOV		
S0       M18       TP-VA-1         STC       M18       TP-VA-1         STO       M18       TP-VA-1         STO       M18       TP-VA-1         DIAG       MOV       MOV         PI       MOV       MOV         1       B       3.000       GL       A0       Active       O       C       M-64-5       F-7       FC       CS       CS-10       TP-VA-1         10/459       1       B       3.000       GL       A0       Active       O       C       M-64-5       F-7       FC       CS       CS-10       TP-VA-2         10/450       1       B       3.000       GL       A0       Active       O       C       M-64-5       F-8       FC       CS       CS-10       TP-VA-2         10/460       1       B       3.000       GL       A0       Active       O       C       M-64-5       F-8       FC       CS       CS-10       TP-VA-2         10/460       1       B       3.000       GL       A0       Active       O       C       M-64-5       F-8       FC       CS       CS-10       TP-VA-1         10/4       2				Valve N	lame	I	MOV RW:	st то с	HG PPS	SUCT ISOL VLV					
STC         M18 STO         TP-VA-1 M18 MOV           Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         V         V         TP-VA-1 MOV         DIAG MOV PI         MOV         TP-VA-1 MOV           1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-1 MOV           10/1459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-1 TP-VA-1           10/1450         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           10/1460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           10/1460         1         B         3.000         GL         AO         Active         O         C         M-64-2         F-1         LTD         AJ         SC         M18         SO	1CV112E	2	В	8.000	GA	MO	Active	С	O/C	M-64-4B	A-5	SC	M18		
STO         M18         TP-VA-1           DIAG         MOV         PI												SO	M18		
Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         PI         MOV           1CV459         1         B         3.000         GL         A0         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           1CV459         1         B         3.000         GL         A0         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           Valve Name         LETDOWN         LINE ISOLATION VALVE - AOV         TP-VA-4         STC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         MO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV8100         2         A         2.000         GL         MO         Active         O         C         M-64-2         F-1         LT         AJ         SC												STC	M18		TP-VA-1
Valve Name         MOV RWST TO         CHG PPS SUCT ISOL VLV         FC         CS         CS-10         TP-VA-2           10V459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           10V459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           10V460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-1           10V460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           10V460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-1           10V8100         2         A         2.000         GL         MO <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>STO</td><td>M18</td><td></td><td>TP-VA-1</td></td<>												STO	M18		TP-VA-1
Vaive Name         MOV RWST TO         CHG PPS SUCT ISOL VLV           1CV459         1         B         3.000         GL         AO         Active         0         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           Vaive Name         LETDOWN LINE ISOLATION VALVE - AOV         PI         Y2         TP-VA-1           1CV460         1         B         3.000         GL         AO         Active         0         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-1           1CV460         1         B         3.000         GL         AO         Active         0         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         0         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         2         A         2.000         GL         MO         Active         0         C         M-64-2         F-1         LTJ         AJ         SC         M18         SO         M18         STC         M18												DIAG	MOV		
ICV459         1         B         3.000         GL         AO         Active         O         C         M-64-5         E-7         FC         CS         CS-10         TP-VA-2           STC         CS         CS-10         TP-VA-1         PI         Y2         TP-VA-4           Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-1           PI         Y2         TP-VA-4         SO         M18         SO         M18         SO         M18         SO         M18         STC         M19         MOV												PI	MOV		
Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         STC         CS         CS-10         TP-VA-1           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-1           PI         Y2         TP-VA-1         PI         Y2         TP-VA-1           Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         TP-VA-1           1CV8100         2         A         2.000         GL         MO         Active         O         C         M-64-2         F-1         LITJ         AJ           SC         M18         SO         M18         SO         M18         SO         M18           JLX8100         Valve Name         MOV         RC PPS SEAL L/O HDR OUTSIDE CNMT ISOL         PI         MOV         TP-VA-1           JLAG         MOV         RC         PS 2.000         GL         MOV<				Valve M	lame		MOV RW	st то с	CHG PPS	SUCT ISOL VLV					
Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         PI         Y2         TP-VA-4           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         MO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-1           PI         Y2         TP-VA-4         Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         SC         M18         SO         M19         MOV         PI         MOV         PI         MOV         PI         MOV         TP-VA-1         DIAG         MOV         PI         MOV	1CV459	1	В	3.000	GL	AO	Active	0	С	M-64-5	E-7	FC	CS	CS-10	TP-VA-2
Valve Name         LETDOWN LINE ISOLATION VALVE - AOV           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-2           1CV460         1         B         3.000         GL         AO         Active         O         C         M-64-5         F-8         FC         CS         CS-10         TP-VA-1           PI         Y2         TP-VA-4         Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         Valve Name         LETDOWN Active         O         C         M-64-2         F-1         LIT         AJ           1CV8100         2         A         2.000         GL         MO         Active         O         C         M-64-2         F-1         LITJ         AJ           SC         M18         STC         M18         STC         M18         STC         M18         MOV         PI         MOV         PI         MOV												STC	CS	CS-10	TP-VA-1
1CV460       1       B       3.000       GL       AO       Active       O       C       M-64-5       F-8       FC       CS       CS-10       TP-VA-2         STC       CS       CS-10       TP-VA-1       PI       Y2       TP-VA-4         Valve Name       LETDOWN LINE ISOLATION VALVE - AOV       MO       Active       O       C       M-64-2       F-1       LTJ       AJ         1CV8100       2       A       2.000       GL       MO       Active       O       C       M-64-2       F-1       LTJ       AJ         SO       M18       SO       M18       SO       M18       SO       M18       TP-VA-1         DIAG       MOV       RC PPS SEAL L/O HDR OUTSIDE CNMT ISOL       PI       MOV       PI       MOV         1CV8104       2       B       2.000       GL       MO       Passive       C       C       M-64-48       C-2       PI       Y2       TP-VA-4												PI	Y2		TP-VA-4
1CV460       1       B       3.000       GL       AO       Active       O       C       M-64-5       F-8       FC       CS       CS-10       TP-VA-2         STC       CS       CS-10       TP-VA-1       PI       Y2       TP-VA-4         Valve Name       LETDOWN LINE ISOLATION VALVE - AOV       MO       Active       O       C       M-64-2       F-1       LTJ       AJ         1CV8100       2       A       2.000       GL       MO       Active       O       C       M-64-2       F-1       LTJ       AJ         SO       M18       SO       M18       SO       M18       SO       M18       TP-VA-1         DIAG       MOV       RC PPS SEAL L/O HDR OUTSIDE CNMT ISOL       PI       MOV       PI       MOV         1CV8104       2       B       2.000       GL       MO       Passive       C       C       M-64-48       C-2       PI       Y2       TP-VA-4				Valve I	lame		LETDOW	N LINE I	SOLATIC	ON VALVE - AOV					
Valve Name         LETDOWN LINE ISOLATION VALVE - AOV         STC         CS         CS-10         TP-VA-1           1CV8100         2         A         2.000         GL         MO         Active         O         C         M-64-2         F-1         LTJ         AJ         SC         M18         SO         M18         SO         M18         STC         STC         M18         STC         STC	1CV460	1	В								F-8	FC	CS	CS-10	TP-VA-2
Valve Name       LETDOWN LINE ISOLATION VALVE - AOV       PI       Y2       TP-VA-4         1CV8100       2       A       2.000       GL       MO       Active       O       C       M-64-2       F-1       LTJ       AJ         SO       M18       SO       M18       SO       M18       STC       M18       TP-VA-1         DIAG       MOV       NOV         1CV8104       2       B       2.000       GL       MO       Passive       C       C       M-64-4B       C-2       PI       Y2       TP-VA-4		_	_					-	-						
Valve Name         LETDOWN LINE ISOLATION VALVE - AOV           1CV8100         2         A         2.000         GL         MO         Active         O         C         M-64-2         F-1         LTJ         AJ           SC         M18         SO         M18         STC         M18         STC         M18         STC         M18         TP-VA-1           DIAG         MOV         PI         MOV         PI         MOV         PI         MOV           1CV8104         2         B         2.000         GL         MO         Passive         C         C         M-64-4B         C-2         PI         Y2         TP-VA-4														00 10	
1CV8100         2         A         2.000         GL         MO         Active         O         C         M-64-2         F-1         LTJ         AJ           SC         M18         SO         M18         SO         M18         STC         M18         TP-VA-1           DIAG         MOV         PI         MOV         PI         MOV         PI         MOV           Valve Name         MOV RC PPS SEAL L/O HDR OUTSIDE CNMT ISOL         TP-VA-4         TP-VA-4				Valua	lamo										
SC       M18         SO       M18         STC       M18         STC       M18         DIAG       MOV         PI       MOV         PI       MOV         1CV8104       2       B       2.000       GL       MO       Passive       C       M-64-4B       C-2       PI       Y2       TP-VA-4	10100										F 1		A 1		
SO       M18         STC       M18         DIAG       MOV         PI       MOV         1CV8104       2       B       2.000       GL       MO       Passive       C       M-64-4B       C-2       PI       Y2       TP-VA-4	1049100	Z	А	2.000	GL	MO	Active	0	C	M-04-2	L-T				
Valve Name         MOV         RC         M-4B         C-2         PI         Y2         TP-VA-1           1CV8104         2         B         2.000         GL         MO         Passive         C         M-64-4B         C-2         PI         Y2         TP-VA-1															
DIAG         MOV           PI         MOV           Valve Name         MOV RC PPS SEAL L/O HDR OUTSIDE CNMT ISOL           1CV8104         2         B         2.000 GL         MO         Passive         C         M-64-4B         C-2         PI         Y2         TP-VA-4															
Valve Name         MOV         RC PPS SEAL L/O HDR OUTSIDE CNMT ISOL           1CV8104         2         B         2.000 GL         MO         Passive         C         M-64-4B         C-2         PI         Y2         TP-VA-4															TP-VA-1
Valve Name         MOV         RC PPS SEAL L/O HDR OUTSIDE CNMT ISOL           1CV8104         2         B         2.000         GL         MOV         Passive         C         M-64-4B         C-2         PI         Y2         TP-VA-4															
1CV8104 2 B 2.000 GL MO Passive C C M-64-4B C-2 PI Y2 TP-VA-4					_							FI	MOV		
								PPS SEA							
Valve Name EMERGENCY BORATION ISOLATION VALVE	1CV8104	2	В	2.000	GL	MO	Passive	С	С	M-64-4B	C-2	PI	Y2		TP-VA-4
				Valve I	Vame	.	EMERGE	NCY BOF	RATION I	SOLATION VALVE					

						Cher	nical a	nd Volu	me Control					
Valve EPN	Safety	Cat				Act/		Safety	P&ID	P&ID			Deferred	Tech.
1010105	Class				Туре		Pos	Pos	M (4 20	Coor.	Туре	Freq.	Just.	Pos.
1CV8105	2	В	3.000	GA	MO	Active	0	С	M-64-3B	E-6	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve M						IDR DWST ISOL				·····	
1CV8106	2	В	3.000	GA	МО	Active	0	С	M-64-3B	E-5	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve M			MOV CV	CHG PP		IDR UPST ISOL	VLV				
1 <b>CV</b> 8110	2	В	2.000	GL	MO	Active	0	O/C	M-64-3A	A-5	SC	M18		
											SC	M18		
											SO	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STC	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	lame		CHARGIN	ng pump	MIN FLO	OW RECIRCULAT	ION MOV				
1CV8111	2	В	2.000	GL	MO	Active	0	0/C	M-64-3A	A-3	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Vame		CHARGIN	ng pump	P MIN FLO	OW RECIRCULAT	ION MOV				
1CV8112	2	A	2.000	GL	MO	Active	0	С	M-64-2	F-2	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Vame		MOV RC	PPS SE	AL L/O H	DR INSIDE CNMT	T ISOL				
1CV8113	2	A/C	0.75	CK	SA	Active	SYS	O/C	M-64-2	F-2	LTJ	LA		
											CCL	СМ		
											со	СМ		
			Valve I	Vame	!	RCP SEA	L RETUR	RN HEADI	ER CHECK VALVE					
1CV8114	2	В	2	GL	SO	Active	0	O/C	M-64-3A	A-3	FO	Q		TP-VA-2
								-			STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4

			-			Chen	nical a	nd Volu	ime Control					
Valve EPN	Safety	Cat	Size	Vlv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
<u></u>	Class		·····	Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1 <b>CV</b> 8116	2	В	2	GL	SO	Active	0	0/C	M-64-3A	B-5	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I						DW RECIRCULATI					
1CV8117	2	С	2.0x3.(	RV ר	SA	Active	С	0	M-64-5	F-6	RT	Y10		
			Valve			LETDOWI	N RELIE	- VALVE						
1CV8121	2	С	2.0x3.0		SA	N/A	C	0	M-64-2	E-3	RT	Y10		
			Valve I	Name			TFR RFT		IEF VALVE					
1CV8124	2	C		RV	SA	Active	C	0	M-64-4B	C-5	RT	Y10		
1010121	-	Ũ	0.75x1		0,1	ricare	Ŭ	Ū		00		110		
			0											
			Valve I			CHARGIN	IG PUMP	SUCTIO	N HEADER RELIE	F VALVE				
1CV8152	2	А	3.000	GL	AO	Active	0	С	M-64-5	E-4	LTJ	AJ		
											FC	CS	CS-4	TP-VA-2
											STC	CS	CS-4	TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		LETDOW	N HEADI	ER CONT	AINMENT ISOLAT	TON VALVE				
1CV8153A	1	В	1.000	) GL	AO	Passive	С	С	M-64-2	D-2	FC	Q		TP-VA-2
											STC	Q		
											PI	Y2		TP-VA-4
			Valve I	Name		AOV - EX	CESS LE	TDOWN	HEAT EXCHANGE	R INLET				
1CV8153B	1	В	1.000	GL	AO	Passive	С	С	M-64-2	C-2	FC	Q		TP-VA-2
											STC	Q		
											PI	Y2		TP-VA-4
			Valve I	Name		AOV - EX	CESS LE	TDOWN	HEAT EXCHANGE	R INLET				
1CV8160	2	A	3.000	) GL	AO	Active	0	С	M-64-5	F-5	LTJ	AJ		
											FC	CS	CS-4	TP-VA-2
											STC	CS	CS-4	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		LETDOW	N HEADI	ER CONT	AINMENT ISOLAT	TON VALVE				
1CV8348	2	C	2.000		SA			C	M-64-3B	F-2	CCD	CM		
1010310	-	ũ	21000	en	0, (	1 455.14	010			. 2	COD	CM		
			Valve	Nomo		CHECK -		ו ודי סר						
1CV8355A	2	В		) GL	MO		0	0/C	M-64-1	C-8	SC	M18		
1C402224	2	D	2.000	) GL	MO	Active	0	0/0	141-0-1-1	C-0	SO	M18		
											DIAG	MOV		
											PI	MOV		
			\$ c 1			DCD C=					<b>L1</b>	1101		
10102555	~	~	Valve										And	
1CV8355B	2	В	2.000	GL	MO	Active	0	0/C	M-64-1	C-4	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		RCP SEA	L INJECT	TON ISC	LATION VALVE					

						Cher	nical a	nd Volu	me Control					
Valve EPN	Safety	Cat				-		Safety	P&ID	P&ID	Test		Deferred	Tech.
1CV8355C	<u>Class</u> 2	В	2.000	Type Cl	MO	Pass Active	0	Pos 0/C	M-64-2	Coor. B-8	Type SC	Freq. M18	Just.	Pos.
10000000	2	D	2.000	GL	110	Active	0	0,0	1.1-0-1-2	D-0	SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve N	lame		RCP SEAL	_ INJECT	TON ISO	LATION VALVE					
1CV8355D	2	В	2.000	GL	MO	Active	0	0/C	M-64-2	B-5	SC	M18	<del></del>	
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve N	lame		RCP SEAI	L INJECT	TON ISO	LATION VALVE					
1CV8367A	1	С	2.000	CK	SA	N/A	SYS	0	M-64-1	C-7	BDC	CM		
											CO	OP		
			Valve N	lame		RCP SEA	L INJECT	TON INL	ET CHECK VALVE					
1CV8367B	1	С	2.000	CK	SA	N/A	SYS	0	M-64-1	C-3	BDC	CM		
											СО	OP		
			Valve N	lame		RCP SEA	l inject	TON INL	ET CHECK VALVE					
1CV8367C	1	С	2.000	CK	SA	N/A	SYS	0	M-64-2	C-3	BDC	CM	·· ··	
						-					со	OP		
			Valve N	lame		RCP SEA	l inject	TON INL	ET CHECK VALVE					
1CV8367D	1	С	2.000	СК	SA	N/A	SYS	0	M-64-2	C-7	BDC	CM		
											со	OP		
			Valve N	lame		RCP SEA	l inject	TON INL	ET CHECK VALVE					
1CV8368A	2	С	2.000	СК	SA	Active	SYS	С	M-64-1	C-5	CCD	CM		
											COD	СМ		
			Valve N	lame		CHECK V	ALVE - S	EAL INJE	CTION INLET					
1CV8368B	2	С	2.000	СК	SA	Active	SYS	С	M-64-1	B-8	CCD	CM		
											COD	CM		
			Valve N	lame		CHECK V	ALVE - S	EAL INJE	CTION INLET					
1CV8368C	2	С	2.000	CK	SA	Active	SYS	С	M-64-2	C-4	CCD	CM		
											COD	CM		
			Valve N	Vame		CHECK V	ALVE - S	EAL INJE	CTION INLET					
1CV8368D	2	С	2.000	CK	SA	Active	SYS	С	M-64-2	B-8	CCD	CM		
											COD	CM		
			Valve N	Vame		CHECK V	ALVE - S	EAL INJE	CTION INLET					
1CV8372A	1	С	2.000	СК	SA	N/A	SYS	0	M-64-1	C-6	BDC	CM		
						.,					CO	OP		
			Valve M	Vame		RCP SFA			ET CHECK VALVE					
1CV8372B	1	С	2.000		SA	N/A	SYS	N/A	M-64-1	C-3	BDC	CM		
10100/20	+	Ľ	2.000		JA	N/A	515	11/71	FI-OT I	C-3	CO	OP		
			Valve N	Jame			ו זאוזבריי		ET CHECK VALVE			UF		
1000000		~								<u> </u>	000	~~~		
1CV8372C	1	С	2.000	CK	SA	N/A	SYS	0	M-64-2	C-7	BDC	CM		
											СО	OP		
44403-4700-00-00-00-00-00-00-00-00-00-00-00-00-			Valve N	Vame		RCP SEA	L INJEC	FION INL	ET CHECK VALVE					

						Cher	nical a	ınd Volui	me Control					
Valve EPN	Safety	Cat				· · ·	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
LCV8372D	1	С	2.000	CK	SA	N/A	SYS	0	M-64-2	C-5	BDC	CM		
											CO	OP		
			Valve M	lame	I	RCP SEAI	. INJEC	TION INLE	T CHECK VALVE	:				
1CV8440	2	С	4.000	СК	SA	Active	SYS	O/C	M-64-4B	F-6	CCU	CM		
											CO	СМ		
			Valve N	iame	,		CONTR		UTLET CHECK	VALVE				
1CV8480A	2	С	2.000		SA	Active		0/C	M-64-3A	D-6	CC	Q		
ICV0400A	2	C	2.000	CK	эн	Active	313	0/0	N-0DA	D-0	co	Q		
											0	Q		
			Valve M					N CHK VLV						
1CV8480B	2	С	2.000	CK	SA	Active	SYS	O/C	M-64-3A	B-6	CC	Q		
											CO	Q		
			Valve I	Vame		CV PP M	INIFLO		/					
1CV8481A	2	С	4.000	СК	SA	Active	SYS	O/C	M-64-3A	D-6	CC	Q		
											со	RR	RJ-5	
			Valve I	lianna		CV PP D	כרוו רוו	KVIV						
1004010	2					Active			M-64-3A	C-7				
1CV8481B	2	С	4.000	CK	SA	Active	SYS	O/C	M-04-3A	C-7	CC	Q	D1 C	
											CO	RR	RJ-5	
			Valve I	Vame	1	CV PP D	SCH CH	K VLV						
1CV8546	2	С	8.000	CK	SA	Active	SYS	O/C	M-64-4B	B-5	CCU	CM		
											COF	CM		
			Valve I	Name		RWST TO	CHAR	GING PUM	P SUCTION CHE	CK VALVE				
1CV8804A	2	В	8.000	GA	MO	Active	C	O/C	M-64-4B	C-7	SC	M18	·····	
											SO	M18		
											STO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Vama			снирст		SUCTION ISOLA					
2CV112B	2	<b></b>	4.000					C				MIC		
201120	2	В	4.000	GA	МО	Active	0	L	M-138-4	D-5	SC	M18		
											SO STC	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV VC	r outle	ET UPST IS	OL VLV					
2CV112C	2	В	4.000	GA GA	МО	Active	0	С	M-138-4	D-5	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
				Name		моу ус								

						Cher	nical a	and Volu	me Control					
Valve EPN	Safety	Cat				Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
2011120	Class				Туре	Pass	Pos	Pos	M 130 4	Coor.	Туре	Freq.	Just.	Pos.
2CV112D	2	В	8.000	GA	MO	Active	С	O/C	M-138-4	B-4	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG PI	MOV MOV		
											P1	MOV		
			Valve N						SUCT ISOL VLV					
2CV112E	2	В	8.000	GA	MO	Active	С	O/C	M-138-4	A-4	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve N	lame	l	MOV RW	ST TO	CHG PPS	SUCT ISOL VLV					
2CV459	1	В	3.000	GL	AO	Active	0	С	M-138-5B	F-5	FC	CS	CS-10	TP-VA-2
											STC	CS	CS-10	TP-VA-1
											PI	Y2		TP-VA-4
			Valve N	Vame		LETDOW	NIINE	ISOLATIO	N VALVE - AOV					
2CV460	1	В	3.000		AO	Active	0	C	M-138-5B	F-7	FC	CS	CS-10	TP-VA-2
201100	-	5	0.000	02	,,,,,	1100110	Ū	Ũ	11 100 00	1 /	STC	CS	CS-10	TP-VA-1
											PI	Y2	00 10	TP-VA-4
			Valve N	18a					N VALVE - AOV					
	2							C		<b>F</b> 1	177	• •		
2CV8100	2	A	2.000	GL	МО	Active	0	L	M-138-2	F-1		AJ		
											SC	M18		
											SO	M18		TD 1/4 4
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve N	lame		MOV RC	PPS SE	AL L/O HI		1T ISOL				
2CV8104	2	В	2.000	GL	MO	Passive	e C	С	M-138-4A	B-2	PI	Y2		TP-VA-4
			Valve N	Name		EMERGE	NCY BO	RATION IS	SOLATION VALVE					
2CV8105	2	В	3.000	GA	MO	Active	0	С	M-138-3B	E-6	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve N	Name		мох су	CHG P	PS DSCH I	HDR DWST ISOL	VIV				
2CV8106	2	В	3.000		МО	Active		<u>C C C C C C C C C C C C C C C C C C C </u>	M-138-3B	E-5	SC	M18		, <b>~~</b> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
2010100	2	U	5.000	37	110	ACUIVE	0	C		L-J	SO	M18		
											STC	M18		TP-VA-1
														17-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve N						HDR UPST ISOL \					

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						Cher	mical a	nd Volu	me Control					
Valve EPN	Safety	Cat	Size	Vlv		Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
2CV8110	2	В	2.000		Type MO	Pass Active	Pos 0	 0/C	M-138-3A	Coor. B-5	Type SC	Freq. M18	Just.	Pos.
2000110	2	D	2.000	GL	MO	ALLIVE	0	0/0	M-130-3A	C-0	SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		II VA'I
											PI	MOV		
			Valve I	Varne		CHARGIN	ig pump	MIN FLC	W RECIRCULATI	ION MOV	• -			
2CV8111	2	В	2.000	GL	MO	Active	0	O/C	M-138-3A	B-3	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CHARGIN	ng pump	MIN FLO	OW RECIRCULATI	ION MOV				
2CV8112	2	Α	2.000	GL	MO	Active	0	С	M-138-2	F-2	LTJ	LA		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV RC	PPS SE	AL L/O HI	OR INSIDE CNMT	- ISOL				
2CV8113	2	A/C	0.75	CK	SA	Active	SYS	O/C	M-138-2	F-2	LTJ	AJ		
											CCL	CM		
											CO	CM		
			Valve I	Name		RCP SEA	L WATEF		N HEADER CHECK	K VALVE				
2CV8114	2	В	2	GL	SO	Active	0	O/C	M-138-3A	A-3	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		SOV A C	V PP ESF	MINIFLO	DW ISOL VLV					
2CV8116	2	В	2	GL	SO	Active	0	O/C	M-138-3A	B-5	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		CHARGIN	ng pump	P MIN FLO	OW RECIRCULAT	ION SOV				
2CV8117	2	С	2.0x3.0	O RV	SA	Active	С	0	M-138-5B	D-1	RT	Y10		
			Valve I			LETDOW								
2CV8121	2	С	2.0x3.(	RV	SA	N/A	С	0	M-138-2	E-3	RT	Y10		
			Valve I			SEAL WA	TER RE	turn rei	LIEF VALVE					
2CV8124	2	С			SA	Active	C	0	M-138-4	C-5	RT	Y10		
			0											
			Valve I						N HEADER RELIE					
2CV8152	2	А	3.000	) GL	AO	Active	0	С	M-138-5A	C-7		AJ 20		TDVAD
											FC	CS	CS-4	TP-VA-2
											STC	CS	CS-4	TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		LETDOW	'N HEAD	ER CONT	AINMENT ISOLA	TION VALVE				
								*****					*****	

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									ume Control					
Valve EPN	Safety	Cat				Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
2CV8153A	Class 1	В	1.000		AO	Pass Passive	PosC	Pos C	M-138-2	Coor. D-2	Type FC	Freq. Q	Just.	Pos. TP-VA-2
ZCV01JJA	T	D	1.000	GL	AU	Fassive	C	C	M-130-2	U-2	STC	Q		IF-VA-Z
											PI	Y2		TP-VA-4
			Makun 8	8							11	12		
			Valve N						HEAT EXCHANGE					
2CV8153B	1	В	1.000	GL	AO	Passive	С	С	M-138-2	C-2	FC	Q		TP-VA-2
											STC PI	Q		
				-							P1	Y2		TP-VA-4
			Valve N						HEAT EXCHANGE					
2CV8160	2	Α	3.000	GL	AO	Active	0	С	M-138-5A	B-8		AJ	<b>66</b> 4	<b>TD 1/4 D</b>
											FC	CS	CS-4	TP-VA-2
											STC	CS	CS-4	TP-VA-1
											PI	Y2		TP-VA-4
			Valve N			LETDOW	N HEAD		AINMENT ISOLA				h-American	
2CV8348	2	С	2.000	СК	SA	Passive	SYS	С	M-138-3B	E-2	CCD	CM		
											COD	СМ		
			Valve N	Name		CHECK -	RCS LO	OP FILL						
2CV8355A	2	В	2.000	GL	MO	Active	0	O/C	M-138-1	B-8	SC	M18	http://www.analysiana	
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve N	Name		RCP SEAI	. INJEC	FION ISC	LATION VALVE					
2CV8355B	2	В	2.000	GL	MO	Active	0	0/C	M-138-1	C-4	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve N	Name		RCP SEAI	. INJEC	TION ISC	LATION VALVE					
2CV8355C	2	В	2.000	GL	МО	Active	0	0/C	M-138-2	B-8	SC	M18	·····	
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve N	Name		RCP SEA	_ INJEC	TION ISC	DLATION VALVE					
2CV8355D	2	В	2.000				0	0/C	M-138-2	B-5	SC	M18		
								•			SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve M	Name		RCP SEA	INJEC	TION ISC	LATION VALVE					
2CV8367A	1	C	2.000		SA	N/A	SYS	0	M-138-1	C-7	BDC	CM		
/	-	2	2.000			,,,	2.5	-			CO	OP		
			Value	Nome						-				
		~	Valve M				*****		ET CHECK VALVE			<b>C</b> 14		******
2CV8367B	1	С	2.000	) CK	SA	N/A	SYS	0	M-138-2	C-3	BDC	CM		
											СО	OP		
			Valve N	Name	ł	RCP SEA	L INJEC	TION INL	ETCHECK VALVE					
Annua														
2CV8367C	1	С	2.000	СК	SA	N/A	SYS	0	M-138-2	C-7	BDC	CM		
2CV8367C	1	С	2.000	СК	SA	N/A	SYS	0	M-138-2	C-7	BDC CO	CM OP		

	<b>.</b>	<b>e</b> -		95. artis	ar				me Control			-	<b>D</b> .(	
Valve EPN		Cat				-		Safety	P&ID	P&ID			Deferred	Tech.
CV8367D	Class 1	С	2.000		Type SA	Pass N/A	Pos SYS	Pos 0	M-138-2	Coor. C-5	BDC	Ereq. CM	Just.	Pos.
CV0507D	T	C	2.000	CK	JA	N/A	313	0	M-130-2	C-5	CO	OP		
											0	01		
			Valve N						T CHECK VALVE					
2CV8368A	2	С	2.000	CK	SA	Active	SYS	С	M-138-1	C-7	CCD	CM		
											COD	CM		
			Valve N	lame		CHECK V	ALVE - S	eal injeg	TION INLET					
2CV8368B	2	С	2.000	CK	SA	Active	SYS	С	M-138-1	C-4	CCD	CM		
											COD	CM		
			Valve N	lame		CHECK V	ALVE - S	EAL INJE	CTION INLET					
2CV8368C	2	С	2.000	СК	SA	Active	SYS	С	M-138-2	C-8	CCD	CM		
											COD	CM		
			Valve M	ē a ma		CHECK V			CTION INLET					
000000		C	2.000									CM		
2CV8368D	2	C	2.000	CK	SA	Active	SYS	С	M-138-2	C-5	CCD COD	CM CM		
											COD	CIM		
			Valve M						CTION INLET					
2CV8372A	1	С	2.000	СК	SA	N/A	SYS	0	M-138-1	C-6	BDC	CM		
											CO	OP		
			Valve M	lame		RCP SEAI	. INJECT	TION INLE	T CHECK VALVE					
2CV8372B	1	С	2.000	СК	SA	N/A	SYS	0	M-138-1	C-3	BDC	CM		
											со	OP		
			Valve M	lame		RCP SEA	INJECT	FION INLE	T CHECK VALVE					
2CV8372C	1	С	2.000		SA	N/A	SYS	0	M-138-2	C-7	BDC	CM		
20105720	+	C	2.000	CR	JA	1,7,7,	515	U	11 100 2	с,	CO	OP		
			Mahra				TNITC							
			Valve I						T CHECK VALVE	~ ~ ~				
2CV8372D	1	С	2.000	CK	SA	N/A	SYS	0	M-138-2	C-5	BDC	CM		
											CO	OP		
			Valve M	Vame		RCP SEA	_ INJECT	FION INLE	T CHECK VALVE					
2CV8440	2	С	4.000	CK	SA	Active	SYS	O/C	M-138-4B	D-5	CCU	CM		
											CO	CM		
			Valve M	Vame		су уст с	V01T O	UTLET CH	IK VLV					
2CV8480A	2	С	2.000	СК	SA	Active	SYS	0/C	M-138-3A	D-6	CC	Q		
											со	Q		
			Valve I	Vame		CV PP M		N CHK VĽ	v			-		
2C/18/19/1P	2	<u></u>	2.000							B-6	<u></u>			
2CV8480B	2	С	2.000	CK	SA	Active	515	O/C	M-138-3A	D-0	CC CO	Q Q		
											0	ų		
			Valve I			~~~		V CHK VL					0-14P-4-9	
2CV8481A	2	С	4.000	CK	SA	Active	SYS	O/C	M-138-3A	D-6	CC	Q		
											CO	RR	RJ-5	
			Valve I	Name		CV PP D	SCH CH	K VLV						
		С	4 000	СК	SA	Active	SYS	O/C	M-138-3A	C-7	CC	Q		
2CV8481B	2	L L	-1.000											
2CV8481B	2	Ľ	4.000	CR	0.11	,		0,0			CO	RR	RJ-5	

						Cher	mical a	and Volu	me Control					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2CV8546	2	С	8.000	CK	SA	Active	SYS	O/C	M-138-4	A-5	CCU	CM		
											COF	CM		
			Valve N	lame	F	RWST TO	CHAR	GING PUM	P SUCTION CHEC	CK VALVE				
2CV8804A	2	В	8.000	GA	MO	Active	С	0/C	M-138-4	B-6	SC	M18		
											SO	M18		
											STO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve N	lame	F	RHR TO	CHARGI	NG PUMP	SUCTION ISOLA	TION VALVE				

N.F K	m. * -		-	* ***					Starting Air					<b>_</b> -
Valve EPN	Safety	Cat	Size			Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
DG5182A	Class NC	Skid-B	2 00	Туре		Active	Pos C	Pos	M 152 20	Coor.	Туре	Freq.	Just.	Pos.
DG5162A	NC				AO		-	0	M-152-20	B-5	SO	Q		TP-VA-7
			falve I						TING AIR CONTR					
.DG5182B	NC	Skid-B	3.00	PLT	AO	Active	С	0	M-152-20	B-5	SO	Q		TP-VA-7
		I	<i>l</i> aive i	lame		DIESEL G	ENERAT	OR STAR	TING AIR CONTR	ROL VALVE				
LDG5183A	NC	Skid-B	3.00	PLT	AO	Active	С	0	M-152-20	E-5	SO	Q		TP-VA-7
		1	/alve I	lame		DIESEL G	ENERAT	OR STAR	TING AIR CONTR					
LDG5183B	NC	Skid-B	3.00	PLT	AO	Active	С	0	M-152-20	E-5	SO	Q		TP-VA-7
			/alve I						TING AIR CONTR			τ.		
	NC											<u> </u>		
1DG5184A	NC	Skid-C	3.00	CK	SA	Active	C	0	M-152-20	B-6	CCD	СМ		
											CO	Q		TP-VA-7
			/alve I	Name		DIESEL G		OR STAR	TING AIR CHECK	VALVE				
1DG5184B	NC	Skid-C	3.00	CK	SA	Active	С	0	M-152-20	B-6	CCD	CM		
											CO	Q		TP-VA-7
		١	/alve I	Name		DIESEL G	GENERAT	OR STAF	TING AIR CHECK	VALVE				
1DG5185A	NC	Skid-C	3.00	СК	SA	Active	С	0	M-152-20	E-6	CCD	CM		
											СО	Q		TP-VA-7
		١	/alve I	Name		DIESEL O	GENERAT	OR STAF	TING AIR CHECK	VALVE				
1DG5185B	NC	Skid-C	3.00	СК	SA	Active	С	0	M-152-20	E-6	CCD	CM		
							-	-			CO	Q		TP-VA-7
			Valve I	uama					TING AIR CHECK			Ľ		
1DG5205A	NC	 Skid-C				Active	C							TD 1/4 7
IDG5205A	NC	SKIU-C		CK	SA	Active	L	0/C	M-152-20	C-5	CC CO	Q		TP-VA-7 TP-VA-7
											0	Q		TE-VA-7
			Valve I						SHUTTLE VALVE					
1DG5205B	NC	Skid-C		СК	SA	Active	С	0/C	M-152-20	C-5	CC	Q		TP-VA-7
											CO	Q		TP-VA-7
		١	Valve I	Name		DG AIR S	START C	NTRL VLV	SHUTTLE VALVE	÷				
1DG5206A	NC	Skid-C		СК	SA	Active	С	O/C	M-152-20	D-6	CC	Q		TP-VA-7
											CO	Q		TP-VA-7
		١	Valve I	Name		DG AIR S	START C	NTRL VL	SHUTTLE VALVE	E				
1DG5206B	NC	Skid-C		СК	SA	Active	С	0/C	M-152-20	D-6	CC	Q	****	TP-VA-7
								•			СО	Q		TP-VA-7
			Valve I	Name			TART C		/ SHUTTLE VALVE	:		-		
1DG5207A	NC	Skid-B		GA				0	M-152-20	C-6	SO	Q	- Anno	TP-VA-7
IDGJ207A	NC										30	Q		IF-VA-7
			Valve I					FOR AIR	START SOLENOID	VALVE				
1DG5207B	NC	Skid-B		GA	SO	Active	С	0	M-152-20	C-6	SO	Q		TP-VA-7
		١	Valve I	Name		DIESEL O	GENERAT	FOR AIR	START SOLENOID	VALVE				
1DG5208A	NC	Skid-B		GA	SO	Active	C	0	M-152-20	D-6	SO	Q		TP-VA-7
		,	Valve I	Name		DIESEL	SENERAT	FOR ATR	START SOLENOID	VALVE		-		
1DG5208B	NC	Skid-B				Active		0	M-152-20	D-6	SO	Q		TP-VA-7
TOGIZUOD	INC.							-			30	Q		1F*VA*/
			Valve						START SOLENOID					
1DG5209A	NC	Skid-B		GA	SO	Active	С	0	M-152-20	C-5	SO	Q		TP-VA-7
		1	Valve I	Name		DIESEL C	SENERAT	FOR AIR	START SOLENOID	VALVE				

						Dies	el Gen	erator	Starting Air					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
10052000				Туре			Pos	Pos	M 152 20	Coor.	Туре	Freq.	Just.	Pos.
1DG5209B	NC	Skid-B		GA	SO	Active	С	0	M-152-20	C-5	SO	Q		TP-VA-7
			Valve N						START SOLENOID					
1DG5210A	NC	Skid-B		GA	SO	Active	С	0	M-152-20	D-5	SO	Q		TP-VA-7
		١	Valve N	lame		DIESEL G	ENERAT	OR AIR	START SOLENOID	VALVE				
1DG5210B	NC	Skid-B		GA	SO	Active	С	0	M-152-20	D-5	SO	Q		TP-VA-7
		١	Valve N	lame		DIESEL G	ENERAT	OR AIR	START SOLENOID	VALVE				
1SA148A	3	С	0.75	RV	SA	Passive	С	O/C	M-54-4A	F-6	RT	Y10		
		١	Valve N	Vame		DG STAR	TING AI	R RECEI	VER RELIEF VALV	E				
1SA148B	3	С	0.75	RV	SA	Passive	С	0/C	M-54-4A	D-6	RT	Y10		
		1	Valve M	Vame		DG STAR	TING AI	R RECEIV	VER RELIEF VALV	E				
	3	C	0.75	RV	SA	Passive	C	O/C	M-54-4A	F-3	RT	Y10		
		1	Valve I	Vame		DG STAR			VER RELIEF VALV	F				
1SA148D	3	С	0.75			Passive	· · · · · · · · · · · · · · · · · · ·	0/C	M-54-4A	D-3	RT	Y10		
	5	-	Valve M				_	•			111	110		
1041014	3		1.000		SA		SYS		VER RELIEF VALV	E E-7		CM		
1SA181A	2	C	1.000		SA	Active	515	C	M-54-4A	E-1	CCD COD	CM CM		
		,	Valve I	1			ECEIVE	י אואיד ח	NLET CHECK VAL	VE	000	Cri		
 1SA181B	3	C	1.000									CM		
ISAIOID	2	Ç	1.000	CK	SA	Active	SYS	L	M-54-4A	B-7	CCD COD	CM CM		
		,	Valve I				CCENT			V. <del></del>	COD	CIT		
1SA181C	3	<u> </u>	1.000	-					NLET CHECK VAL			CM		
ISAIOIC	2	L	1.000		SA	Active	SYS	C	M-54-4A	E-2	CCD COD	CM CM		
		,	Valve I				FORME		NLET CHECK VAL	V.F	COD	Cri		
1SA181D	3	С	1.000									CM		
1241010	2	L	1.000	CK	SA	Active	SYS	С	M-54-4A	B-2	CCD COD	CM CM		
								D TANK 1			000	CIT		
	NC	·····	Valve I						NLET CHECK VAL					TD 1/4 7
2DG5182A	NC		3.00		AO	Active	С	0	M-152-20	B-5	SO	Q		TP-VA-7
****			Valve I						RTING AIR CONT					
2DG5182B	NC	Skid-B	3.00	PLT	AO	Active	С	0	M-152-20	B-5	SO	Q		TP-VA-7
			Valve I			DIESEL G	ENERAT	TOR STAF	RTING AIR CONTR					
2DG5183A	NC	Skid-B	3.00	PLT	AO	Active	С	0	M-152-20	E-5	SO	Q		TP-VA-7
		1	Valve I	Name		DIESEL O	SENERAT	FOR STAI	RTING AIR CONT	ROL VALVE				
2DG5183B	NC	Skid-B	3.00	PLT	AO	Active	С	0	M-152-20	E-5	SO	Q		TP-VA-7
		,	Valve I	Name		DIESEL G	ENERAT	OR STA	RTING AIR CONT	ROL VALVE				
2DG5184A	NC	Skid-C	3.00	СК	SA	Active	С	0	M-152-20	B-6	CCD	CM		
											CO	Q		TP-VA-7
						DIESEL G	ENERAT	FOR STAI	RTING AIR CHECK	( VALVE				
		1	Valve I	Name										
2DG5184B	NC		Valve 1 3.00		SA	Active	C	0	M-152-20	B-6	CCD	CM		
2DG5184B	NC								M-152-20	B-6	CCD CO	CM Q		TP-VA-7

		-	_		-				Starting Air				-	
Valve EPN	Safety	Cat		Viv		Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class				Туре	******	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
DG5185A	NC	Skid-C	3.00	СК	SA	Active	С	0	M-152-20	E-6	CCD	CM		
											CO	Q		TP-VA-7
		V	/aive N	lame		DIESEL G	ENERAT	OR STAR	TING AIR CHECK	VALVE				
2DG5185B	NC	Skid-C	3.00	CK	SA	Active	С	0	M-152-20	E-6	CCD	СМ		
											CO	Q		TP-VA-7
		v	/alve N	lame		DIESEL G	ENERAT	OR STAR	TING AIR CHECK	VALVE				
DG5205A	NC	Skid-C		СК	SA	Active	C	0/C	M-152-20	C-5	CC	Q		TP-VA-7
								,		× .	со	Q		TP-VA-7
			/alve N						SHUTTLE VALVE					
										~ -				
DG5205B	NC	Skid-C		CK	SA	Active	С	O/C	M-152-20	C-5	CC	Q		TP-VA-7
											CO	Q		TP-VA-7
		I	Valve N	lame		DG AIR S	TART C	VTRL VLV	SHUTTLE VALVE					
DG5206A	NC	Skid-C		CK	SA	Active	С	O/C	M-152-20	D-6	CC	Q		TP-VA-7
											СО	Q		TP-VA-7
		1	Valve N	Name		DG AIR S	TART CI	VTRL VLV	SHUTTLE VALVE	•				
DG5206B	NC	Skid-C		СК	SA	Active		O/C	M-152-20	D-6	CC	Q		TP-VA-7
		0.00 0		0.1	0,1	1.667.6	U	0,0	11 104 10	00	co	Q		TP-VA-7
			×					1701 141			00	4		
			Valve N						SHUTTLE VALVE					
DG5207A	NC	Skid-B		GA	SO	Active	С	0	M-152-20	C-6	SO	Q		TP-VA-7
		1	Valve N	Name		DIESEL O	GENERAT	OR AIR S	START SOLENOID	VALVE				
2DG5207B	NC	Skid-B		GA	SO	Active	С	0	M-152-20	C-6	SO	Q		TP-VA-7
		,	Valve N	Name			FNERAT	OR AIR	START SOLENOID	VALVE				
2DG5208A	NC	Skid-B		GA	SO	Active	C	0	M-152-20	D-6	SO	Q		TP-VA-7
DGJZ00A	NC						-				30	ų		16-44-7
			Valve N	Name		DIESEL O	GENERAT	OR AIR S	START SOLENOID	VALVE				
2DG5208B	NC	Skid-B		GA	SO	Active	С	0	M-152-20	D-6	SO	Q		TP-VA-7
		1	Valve N	Name		DIESEL G	GENERAT	OR AIR S	START SOLENOID	VALVE				
2DG5209A	NC	Skid-B	,	GA	SO	Active	С	0	M-152-20	C-5	SO	Q		TP-VA-7
									START SOLENOID					
			Valve N										ana ana amin'ny Galanda amin'ny fanana	
2DG5209B	NC	Skid-B		GA	50	Active	С	0	M-152-20	C-5	SO	Q		TP-VA-7
		1	Valve N	Name		DIESEL O	GENERAT	OR AIR S	START SOLENOID	VALVE				
2DG5210A	NC	Skid-B		GA	SO	Active	С	0	M-152-20	D-5	SO	Q		TP-VA-7
		١	Valve N	Name		DIESEL C	GENERAT	OR AIR S	START SOLENOID	VALVE				
2DG5210B	NC	Skid-B				Active					SO	Q		TP-VA-7
20032100	ne										50	ų		11 1/1/1
			Valve N			DIESEL C	SENERAT	OR AIR S	START SOLENOID					
2SA148A	3	С	0.75	RV	SA	Passive	С	O/C	M-54-4B	F-6	RT	Y10		
		١	Valve N	Name		DG STAR	TING AI	R RECEIV	/ER RELIEF VALV	Ξ				
2SA148B	3	C	0.75	RV	SA	Passive	С	O/C	M-54-4B	D-6	RT	Y10		
			Valve N											
									/ER RELIEF VALVI					
2011/202	3	C	0.75	RV	SA	Passive	С	0/C	M-54-4B	F-3	RT	Y10		
2SA148C						DG STAR	TING AT	R RECEIV	/ER RELIEF VALVI	=				
2SA148C		1	Valve N	Name		00000				-				
2SA148C 2SA148D	3		0.75						M-54-4B		RT	Y10		

						Dies	el Gen	erator S	tarting Air					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Type	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2SA181A	3	С	1.000	CK	SA	Active	SYS	С	M-54-4B	E-7	CCD	CM		
											COD	CM		
			Valve N	lame	[	DG AIR R	ECEIVE	R TANK IN	ILET CHECK VALVE	E				
2SA181B	3	С	1.000	СК	SA	Active	SYS	С	M-54-4B	B-7	CCD	СМ		
											COD	CM		
			Valve N	lame	[	DG AIR R	ECEIVE	R TANK IN	ILET CHECK VALVE	E				
25A181C	3	С	1.000	CK	SA	Active	SYS	С	M-54-4B	E-2	CCD	CM		
											COD	CM		
			Valve N	lame	I	DG AIR F	ECEIVE	R TANK IN	ILET CHECK VALVE	<u>:</u>				
2SA181D	3	С	1.000	CK	SA	Active	SYS	С	M-54-4B	B-2	CCD	CM		
											COD	CM		
			Valve M	lame	I	DG AIR F	ECEIVE	R TANK IN	ILET CHECK VALVE	E				

							Die	esel Fue	l Oil					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1DO003A	3	С	1.5	СК	SA	Active	SYS	0/C	M-50-1B	F-2	CC	Q		
											CO	Q		
			Valve I	Name		DO TRAN	SEER P		CHARGE CHECK	VALVE				
1DO003B	3	С	1.5	СК	SA	Active		0/C	M-50-1A	E-2	CC	Q		
ID0003B	J	C	1.5	CK	эн	Active	313	0/0	M-30-1A	L-2	co	Q		
											0	Q		
			Valve I	Name		DO TRAN	SFER P	UMP DIS	CHARGE CHECK	VALVE				
1D0003C	3	С	1.5	СК	SA	Active	SYS	O/C	M-50-1B	E-2	CC	Q		
											CO	Q		
			Valve I	Name		DO TRAN	ISFER P	UMP DIS	CHARGE CHECK	VALVE				
1DO003D	3	С	1.5	CK	SA	Active	SYS	O/C	M-50-1A	E-2	CC	Q		
1000050	5	Ç	1.0	CR	5/1	neuve	515	0,0	11 50 11	has 2	СО	Q		
												Q		
			Valve	Name		DO TRAN	ISFER P	UMP DIS	CHARGE CHECK	VALVE				
1DO020A	3	С	4	RV	SA	Passive	С	O/C	M-50-1B	E-2	RT	Y10		
			1.5x2.	5										
			Valve	Name		DO TRAN	ISFER P	UMP DIS	CHARGE RELIEF	VALVE				
1DO020B	3	С	1.5x2.	5 RV	SA	Passive	С	0/C	M-50-1A	E-3	RT	Y10		
			Valve	Name		DO TRAN	ISFER F		CHARGE RELIEF	VALVE				
1D0020C	3	С		RV		Passive			M-50-1B	E-2	RT	Y10		
1000200	J	C	1.5x2.		34	rassive	C	0/0	M-20-10	L-2	KI.	110		
			Valve	Name			ISEER F		CHARGE RELIEF	VALVE				
1000200												V10		
1D0020D	3	С	1.5x2.	5 KV	SA	Passive	С	0/C	M-50-1A	D-3	RT	Y10		
			Valve	Name		DO TRAN	ISFER F	PUMP DIS	CHARGE RELIEF	VALVE				
2DO003A	3	С	1.5	CK	SA	Active	SYS	0/C	M-130-1A	C-3	CC	Q		
											CO	Q		
			Valve	Name		DO TRAN	ISFER F	PUMP DIS	CHARGE CHECK	VALVE				
2D0003B	3	C	1.5	СК	SA			0/C	M-130-1B	C-3	CC	Q		
2000038	J	C	1.5	CK	JA	Active	313	0/0	N-100-10	0-5	СС	Q		
											co	Q		
			Valve	Name		DO TRAN	ISFER F	PUMP DIS	CHARGE CHECK	VALVE				
2DO003C	3	С	1.5	CK	SA	Active	SYS	O/C	M-130-1A	C-2	CC	Q		
											CO	Q		
			Valve	Name		DO TRAN	ISFER F	PUMP DIS	CHARGE CHECK	VALVE				
2D0003D	3	С	15	CK	SA	Active	SYS	O/C	M-130-1B	C-3	CC	Q		
2000000	5	C	1.0	en	571	Tiedre	010	0,0	11 100 10	0.5	СО	Q		
											0	ų		
			Valve	Name		DO TRAN	ISFER F	PUMP DIS	CHARGE CHECK	VALVE				
2DO020A	3	С		RV	SA	Passive	e C	O/C	M-130-1A	C-4	RT	Y10		
			1.5x2.	5										
			Valve	Name		DO TRAN	ISFER F	PUMP DIS	CHARGE RELIEF	VALVE				
2DO020B	3	С	1.5x2.	5 RV	SA	Passive	С	O/C	M-130-1B	C-3	RT	Y10		
			Valve	Name		DO TRAN	ISFER F		CHARGE RELIEF	VALVE				
2000200	3	С		RV				0/C	M-130-1A	C-4	RT	Y10	·····	
2DO020C	. <b>د</b>	L	1.5x2.		SA	Passive	: L	0/0	MI-TOO-TH	U-4	KI.	110		
			Valve					סזה מאווס	CHARGE RELIEF					
2DO020D	3	С	1.5x2.	5 RV	SA	Passive	С	0/C	M-130-1B	C-3	RT	Y10		
			Valve	Name		DO TRAN	SFER I	PUMP DIS	CHARGE RELIEF	VALVE				

Diesel Fuel Oil

			0				<u>د</u> ه	,						
							Fuel	Pool Co	oling					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1FC009	2	A	4	PLG	М	Passive	LC	С	M-63-1A	C-7	LTJ	٦J		
			Valve I	Name	I	REFUELIN	NG CAVI	TY TO PU	IRIFIC PUMPS SU	ICTION ISOL	- VLV			
1FC010	2	Α	4	BAL	М	Passive	LC	С	M-63-1A	C-6	LTJ	AJ	*****	
			Valve i	Name	I	REFUELI	NG CAVI	TY TO PL	IRIFIC PUMPS SU	ICTION ISOL	_ VLV			
1FC011	2	А	3	BAL	М	Passive	LC	С	M-63-1C	B-6	LTJ	LA		
			Valve	Name	Ś	SPENT FL	JEL PIT	DEMIN T	O REFUEL CAVIT	Y MAN ISOL	VLV			
1FC012	2	А	3	BAL	М	Passive	LC	С	M-63-1C	B-8	LTJ	AJ		
			Valve	Name	5	SPENT FL	JEL PIT	DEMIN T	O REFUEL CAVIT	Y MAN ISOL	VLV			
2FC009	2	А	4	PLG	М	Passive	LC	С	M-63-1A	B-7	LTJ	AJ		
			Valve	Name	I	REFUELI	NG CAVI	TY TO PL	IRIFIC PUMPS SU	ICTION ISOL	. VLV			
2FC010	2	А	4	BAL	М	Passive	LC	С	M-63-1A	B-6	LTJ	AJ		
			Valve	Name	l	REFUELI	NG CAVI	ITY TO PL	IRIFIC PUMPS SU	ICTION ISOL	_ VLV			
2FC011	2	Α	3	BAL	М	Passive	LC	С	M-63-1B	B-2	LTJ	AJ		
			Valve	Name	!	SPENT FL	JEL PIT	DEMIN T	O REFUEL CAVIT	Y MAN ISOL	VLV			
2FC012	2	А	3	BAL	М	Passive	LC	С	M-63-1B	B-1	LTJ	AJ		
			Valve	Name		SPENT FL	JEL PIT	DEMIN T	O REFUEL CAVIT	Y MAN ISOL	VLV			

							Fire	e Proteci	ion					
Valve EPN	Safety	Cat	Sîze	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Type	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1FP010	2	В	4	GL	AO	Active	0	С	M-52-1	E6	FC	Q		TP-VA-2
											STC	Q		
											PI	Y2		TP-VA-4
			Valve I	Name	F	FIRE PRC	TECTIC	N OUTBO	ARD CONTAINM	IENT ISOLAT	ION VLV			
1FP345	2	С	6	CK	SA	Passive	С	С	M-52-1	E7	CCU	CM		
											СО	CM		TP-VA-8
			Valve I	Name	F	FIRE PRC	TECTIC	)n inboaf	RD CONTAINME	NT ISOLATIO	N VLV			
1FP450	3	С		RV	SA	Active	С	0/C	M-52-1	E-7	RT	Y10		
			0.75x1 0											
			Valve I	Name	F	FIRE PRO	TECTIC	N RELIEF	VALVE					
2FP010	2	В	4	GL	AO	Active	0	С	M-52-1	E3	FC	Q		TP-VA-2
											STC	Q		
											PI	Y2		TP-VA-4
			Valve I	Name	I	FIRE PRO	TECTIC	ON OUTBO	ARD CONTAINM	IENT ISOLAT	ION VLV			
2FP345	2	С	6	CK	SA	Passive	С	С	M-52-1	E2	CCU	CM		
											со	CM		TP-VA-8
			Valve I	Name	I	FIRE PRO	TECTIC	on Inboar	RD CONTAINMEI	NT ISOLATIO	N VLV			
2FP450	3	С	0.75x1 0	. RV	SA	Active	С	0/C	M-52-1	E2	RT	Y10		
			Valve	Name	1	FIRE PRO	DTECTIC	ON RELIEF	VALVE					

Volue EDM	Cafair	C-+	<b>C</b>	Sec.	مقامر 🚓	A res I		1 Feedw		09.1h	Toot	Tert	Dafamad	Tork
Valve EPN	Safety Class	Lđt	SIZE		Act. Type	-	Pos	Pos	P&ID	P&ID Coor.	Test Type	Test. Freq.	Deferred Just.	Tech. Pos.
LFW009A	2	В	16	GA	HO	Active	0	C	M-36-1C	C-5	STC	CS	CS-3	TP-VA-1
	_	_					-	-			PI	Y2		TP-VA-4
			Valve	Mama		HOV S/G	EW ISC							
1FW009B	2	В	16	GA	НО	·	0	C	M-36-1A	C-5	STC	CS	CS-3	TP-VA-1
IFWUU9D	2	D	10	GA	но	Active	0	C	M-30-1A	C-3	PI	Y2	C3-3	TP-VA-1 TP-VA-4
			** * .								11	12		
			Valve			HOV S/G				~ ~ ~		~~~		
1FW009C	2	В	16	GA	HO	Active	0	С	M-36-1D	C-5	STC	CS	CS-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		HOV S/G	FW ISC	DL VLV						
1FW009D	2	В	16	GA	HO	Active	0	С	M-36-1B	C-5	STC	CS	CS-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		HOV S/G	FW ISC	DL VLV						
1FW034A	NC	В	2	GL	AO	Passive	0	С	M-36-1C	E-2	FC	RR	RJ-8	
			Valve	Name		S/G FEED	WATER	TEMPERI	NG FLOW CONT	ROL VALVE				
1FW034B	NC	В	2	GL		Passive		C	M-36-1A	E-2	FC	RR	RJ-8	
11 11 1003 10	ne	D									10		10 0	
			Valve						NG FLOW CONT					
1FW034C	NC	В	2	GL	AO	Passive	0	С	M-36-1D	E-2	FC	RR	RJ-8	
			Valve	Name		S/G FEED	WATER	TEMPERI	NG FLOW CONT	ROL VALVE				
1FW034D	NC	В	2	GL	AO	Passive	0	С	M-36-1B	E-2	FC	RR	RJ-8	
			Valve	Name		S/G FEED	WATER	TEMPERI	NG FLOW CONT	ROL VALVE				
1FW035A	2	В	3	GL	AO	Active	0	С	M-36-1C	E-3	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		S/G FEED	WATER	TEMPERI	NG ISOLATION	VALVE				
1FW035B	2	В	3	GL	AO	Active	0	с	M-36-1A	E-3	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name	1	S/G FFFI	WATER	TEMPERI	NG ISOLATION	VALVE				
1FW035C	2	В	3	GL	AO	Active	0	C	M-36-1D	E-3	FC	Q		TP-VA-2
	2	D	5	GL	AO	ACLIVE	0	C	M 30 1D	2.5	STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			1/-1					TEMPERT			11	12		11 1/1
			Valve			-			ING ISOLATION					
1FW035D	2	В	3	GL	AO	Active	0	С	M-36-1B	E-3	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve			S/G FEED	OWATER		NG ISOLATION	VALVE				
1FW036A	2	С	3	СК	SA	Passive	SYS	С	M-36-1C	E-3	CCU	CM		
											CO	CM		TP-VA-8
			Valve	Name	ł	FEEDWA	TER TEM	1PERING I	LINE CHECK VAL	VE				
1FW036B	2	С	3	СК	SA	Passive	SYS	С	M-36-1A	E-3	CCU	CM		
	_	_	-					-			CO	CM		TP-VA-8

Valve EPN							Mair	1 Feedw	rater					
	Safety Class	Cat	Size	Vlv Type		~	Norm Pos	Safety Pos	P&ID	P&ID Coor.	Test Type	Test Freg.	Deferred Just.	Tech. Pos.
1FW036C	2	C	3	CK	SA	Passive	SYS	C	M-36-1D	E-3	CCU	CM	3434.	
											СО	CM		TP-VA-8
			Valve I	Name		FEEDWAT	ER TEM	PERING L	INE CHECK VAL	VE				
1FW036D	2	С	3	CK	SA	Passive	SYS	С	M-36-1B	E-3	CCU	CM		
											CO	CM		TP-VA-8
			Valve I	Name	I	FEEDWAT	ER TEM	PERING L	.INE CHECK VAL	VE				
1FW039A	2	В	6	GA	AO	Active	С	С	M-36-1C	C-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		S/G LOW	FLOW F	EEDWATI	ER ISOLATION V	'ALVE				
1FW039B	2	В	6	GA	AO	Active	С	С	M-36-1A	C-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		S/G LOW	FLOW F	EEDWAT	ER ISOLATION V	ALVE				
1FW039C	2	В	6	GA	AO	Active	С	С	M-36-1D	C-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		S/G LOW	FLOW F	EEDWAT	ER ISOLATION V	ALVE				
1FW039D	2	В	6	GA	AO	Active	С	С	M-36-1B	C-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Nama		C/C LOW								
				ndine		S/G LOW	FLOW F	EEDWAI	ER ISOLATION V	ALVE				
1FW079A	2	В	16	CK	SA	Active	SYS	C	M-36-1C	C-4	CCD	СМ		
1FW079A	2	В									CCD COD	CM CM		
1FW079A	2			CK	SA	Active	SYS	С						
1FW079A 1FW079B	2		16	CK	SA	Active	SYS	С	M-36-1C					
			16 Valve I	CK Name	SA	Active FEEDWAT	SYS ER ISO	C LATION C	M-36-1C CHECK VALVE	C-4	COD	СМ		
		В	16 Valve I	CK Name CK	SA SA	Active FEEDWAT Active	SYS ER ISO SYS	C LATION C C	M-36-1C CHECK VALVE	C-4	COD	СМ		
1FW079B	2	В	16 Valve I 16 Valve I	CK Name CK Name	SA SA	Active FEEDWAT Active FEEDWAT	SYS ER ISO SYS ER ISO	C LATION C C LATION C	M-36-1C HECK VALVE M-36-1A HECK VALVE	C-4 C-4	COD CCD COD	CM CM CM		
		В	16 <b>Valve I</b> 16	CK Name CK	SA SA	Active FEEDWAT Active	SYS ER ISO SYS	C LATION C C	M-36-1C CHECK VALVE M-36-1A	C-4	COD CCD COD CCD	CM CM CM		
1FW079B	2	В	16 <b>Valve I</b> 16 <b>Valve I</b> 16	CK Name CK Name CK	SA SA SA	Active FEEDWAT Active FEEDWAT Active	SYS ER ISO SYS ER ISO SYS	C LATION C C LATION C C	M-36-1C HECK VALVE M-36-1A HECK VALVE M-36-1D	C-4 C-4	COD CCD COD	CM CM CM		
1FW079B 1FW079C	2	B	16 Valve I 16 Valve I 16 Valve I	CK Name CK Name CK	SA SA SA	Active FEEDWAT Active FEEDWAT Active FEEDWAT	SYS ER ISO SYS ER ISO SYS ER ISO	C LATION C C LATION C C LATION C	M-36-1C CHECK VALVE M-36-1A CHECK VALVE M-36-1D CHECK VALVE	C-4 C-4 C-4	COD CCD COD CCD COD	CM CM CM CM		
1FW079B	2	В	16 <b>Valve I</b> 16 <b>Valve I</b> 16	CK Name CK Name CK	SA SA SA	Active FEEDWAT Active FEEDWAT Active	SYS ER ISO SYS ER ISO SYS ER ISO	C LATION C C LATION C C LATION C	M-36-1C CHECK VALVE M-36-1A CHECK VALVE M-36-1D CHECK VALVE	C-4 C-4	COD CCD CCD CCD COD	CM CM CM CM CM		
1FW079B 1FW079C	2	B	16 Valve I 16 Valve I 16 Valve I 16	CK Name CK Name CK Name CK	SA SA SA	Active FEEDWAT Active FEEDWAT Active FEEDWAT Active	SYS ER ISO SYS ER ISO SYS ER ISO SYS	C LATION C C LATION C C LATION C C	M-36-1C HECK VALVE M-36-1A HECK VALVE M-36-1D HECK VALVE M-36-1B	C-4 C-4 C-4	COD CCD COD CCD COD	CM CM CM CM		
1FW079B 1FW079C 1FW079D	2 2 2	B	16 Valve I 16 Valve I 16 Valve I 16 Valve I	CK Name CK Name CK Name CK	SA SA SA	Active FEEDWAT Active FEEDWAT Active FEEDWAT Active FEEDWAT	SYS ER ISO SYS ER ISO SYS ER ISO SYS ER ISO	C LATION C C LATION C C LATION C LATION C	M-36-1C CHECK VALVE M-36-1A CHECK VALVE M-36-1D CHECK VALVE M-36-1B CHECK VALVE	C-4 C-4 C-4 C-3	COD CCD CCD COD CCD CCD CCD	CM CM CM CM CM CM		
1FW079B 1FW079C	2	B	16 Valve I 16 Valve I 16 Valve I 16 Valve I	CK Name CK Name CK Name CK	SA SA SA SA	Active FEEDWAT Active FEEDWAT Active FEEDWAT Active FEEDWAT Passive	SYS ER ISO SYS ER ISO SYS ER ISO SYS ER ISO O	C LATION C C LATION C C LATION C C LATION C C	M-36-1C CHECK VALVE M-36-1A CHECK VALVE M-36-1D CHECK VALVE M-36-1B CHECK VALVE M-36-1C	C-4 C-4 C-4	COD CCD CCD CCD COD	CM CM CM CM CM	RJ-8	
1FW079B 1FW079C 1FW079D 1FW510	2 2 2 NC	B B B	16 Valve I 16 Valve I 16 Valve I 16 Valve I	CK Name CK CK Name CK Name ANG Name	SA SA SA SA	Active FEEDWAT Active FEEDWAT Active FEEDWAT Passive FEEDWAT	SYS ER ISO SYS ER ISO SYS ER ISO SYS ER ISO O	C LATION C C LATION C C LATION C C LATION C C	M-36-1C CHECK VALVE M-36-1A CHECK VALVE M-36-1D CHECK VALVE M-36-1B CHECK VALVE M-36-1C VALVE	C-4 C-4 C-4 C-3 D-2	COD COD CCD COD CCD COD FC	CM CM CM CM CM CM CM RR	RJ-8	
1FW079B 1FW079C 1FW079D	2 2 2	B B B	16 Valve I 16 Valve I 16 Valve I 16 Valve I 16	CK Name CK Name CK Name CK Name ANG	SA SA SA SA	Active FEEDWAT Active FEEDWAT Active FEEDWAT Active FEEDWAT Passive	SYS ER ISO SYS ER ISO SYS ER ISO SYS ER ISO O	C LATION C C LATION C C LATION C C LATION C C	M-36-1C CHECK VALVE M-36-1A CHECK VALVE M-36-1D CHECK VALVE M-36-1B CHECK VALVE M-36-1C	C-4 C-4 C-4 C-3	COD CCD CCD COD CCD CCD CCD	CM CM CM CM CM CM	RJ-8 RJ-8	
1FW079B 1FW079C 1FW079D 1FW510	2 2 2 NC	B B B	16 Valve I 16 Valve I 16 Valve I 16 Valve I	CK Name CK Name CK Name CK Name ANG Name GA	SA SA SA SA AO	Active FEEDWAT Active FEEDWAT Active FEEDWAT Passive FEEDWAT Passive	SYS ER ISO SYS ER ISO SYS ER ISO SYS ER ISO O ER REG C	C LATION C C LATION C C LATION C C LATION C C GULATING C	M-36-1C CHECK VALVE M-36-1A CHECK VALVE M-36-1D CHECK VALVE M-36-1B CHECK VALVE M-36-1C VALVE	C-4 C-4 C-4 C-3 D-2	COD COD CCD COD CCD COD FC	CM CM CM CM CM CM CM RR		
1FW079B 1FW079C 1FW079D 1FW510	2 2 2 NC	B B B	16 Valve I 16 Valve I 16 Valve I 16 Valve I 4 Valve I	CK Name CK Name CK Name CK Name ANG Name GA	SA SA SA AO AO	Active FEEDWAT Active FEEDWAT Active FEEDWAT Passive FEEDWAT Passive FEEDWAT	SYS ER ISO SYS ER ISO SYS ER ISO SYS ER ISO O ER REG C ER REG	C LATION C C LATION C C LATION C C LATION C C GULATING C	M-36-1C HECK VALVE M-36-1A HECK VALVE M-36-1D HECK VALVE M-36-1B HECK VALVE M-36-1C VALVE M-36-1C	C-4 C-4 C-4 C-3 D-2	COD COD CCD COD CCD COD FC	CM CM CM CM CM CM CM RR		
1FW079B 1FW079C 1FW079D 1FW510 1FW510A	2 2 2 NC NC	B B B B	16 Valve I 16 Valve I 16 Valve I 16 Valve I 4 Valve I	CK Name CK Name CK Name CK Name GA Name GA	SA SA SA SA AO AO	Active FEEDWAT Active FEEDWAT Active FEEDWAT Passive FEEDWAT Passive FEEDWAT	SYS ER ISO SYS ER ISO SYS ER ISO SYS ER ISO O ER REG C ER REG O	C LATION C C LATION C C LATION C C LATION C C GULATING C GULATING C	M-36-1C HECK VALVE M-36-1A HECK VALVE M-36-1D HECK VALVE M-36-1B HECK VALVE M-36-1C VALVE M-36-1C BYPASS VALVE M-36-1A	C-4 C-4 C-4 C-3 D-2 C-2	COD COD CCD COD CCD COD FC FC	CM CM CM CM CM CM RR RR	RJ-8	
1FW079B 1FW079C 1FW079D 1FW510 1FW510A	2 2 2 NC NC	B B B B	16 Valve I 16 Valve I 16 Valve I 16 Valve I 4 Valve I 4 Valve I 16	CK Name CK Name CK Name CK Name GA Name GA	SA SA SA SA AO AO	Active FEEDWAT Active FEEDWAT Active FEEDWAT Passive FEEDWAT Passive FEEDWAT Passive	SYS ER ISO SYS ER ISO SYS ER ISO O ER REG C ER REG O ER REG	C LATION C C LATION C C LATION C C LATION C C GULATING C GULATING C	M-36-1C HECK VALVE M-36-1A HECK VALVE M-36-1D HECK VALVE M-36-1B HECK VALVE M-36-1C VALVE M-36-1C BYPASS VALVE M-36-1A	C-4 C-4 C-4 C-3 D-2 C-2	COD COD CCD COD CCD COD FC FC	CM CM CM CM CM CM RR RR	RJ-8	

			-				Mair	1 Feed	vater					
Valve EPN	Safety	Cat	Size	Vlv	Act.	Act/				P&ID	Test	Test	Deferred	Tech.
	Class					Pass	Pos	Pos		Coor.	Type	Freq.	Just.	Pos.
1FW530	NC	В	16			Passive	0	С	M-36-1D	D-2	FC	RR	RJ-8	
			Valve I	Name	I	FEEDWAT	ER REG	ULATING	S VALVE					
1FW530A	NC	В	4	GA	AO	Passive	С	С	M-36-1D	C-2	FC	RR	RJ-8	
			Valve I	Name	1	FEEDWAT	ER REG	ULATING	G BYPASS VALVE					
1FW540	NC	В	16	ANG	AO	Passive	0	С	M-36-1B	D-2	FC	RR	RJ-8	
			Valve I	Name	1	FEEDWAT	ER REG	ULATING	G VALVE					
1FW540A	NC	В	4	GA	AO	Passive	С	С	M-36-1B	C-2	FC	RR	RJ-8	
			Valve I	Name	i	FEEDWAT	ER REG	ULATING	G BYPASS VALVE					
2FW009A	2	В	16	GA	НО	Active	, O	С	M-121-1B	C-5	STC	CS	CS-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		HOV S/G	FW ISC	DL VLV						
2FW009B	2	В	16	GA	НО	Active	0	С	M-121-1D	C-5	STC	CS	CS-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		HOV S/G	FW ISC	DL VLV						
2FW009C	2	В	16	GA	HO	Active	0	С	M-121-1A	C-5	STC	CS	CS-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		HOV S/G	FW ISC	DL VLV						
2FW009D	2	В	16	GA	HO	Active	0	С	M-121-1C	C-5	STC	CS	CS-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		HOV S/G	FW ISC	ol VLV						
2FW034A	NC	В	2	GL	AO	Passive	0	С	M-121-1B	E-2	FC	RR	RJ-8	
			Valve	Name		s/g feed	WATER	TEMPER	ING FLOW CONTR	OL VALVE				
2FW034B	NC	В	2	GL	AO	Passive	0	С	M-121-1D	E-2	FC	RR	RJ-8	
			Valve	Name		S/G FEED	WATER	TEMPER	ING FLOW CONTR	OL VALVE				
2FW034C	NC	В	2	GL	AO	Passive	0	С	M-121-1A	E-2	FC	RR	RJ-8	
			Valve	Name		S/G FEED	WATER	TEMPER	ING FLOW CONTR					
2FW034D	NC	В	2	GL	AO	Passive	0	С	M-121-1C	E-2	FC	RR	RJ-8	
			Valve	Name		S/G FEED	WATER	TEMPER	RING FLOW CONTR					
2FW035A	2	В	3	GL	AO	Active	0	С	M-121-1B	E-3	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STC-A			
											STC-B			
											PI	Y2		TP-VA-4
			Valve	Name		S/G FEED	WATER	TEMPER	RING ISOLATION V	ALVE				
2FW035B	2	В	3	GL	AO	Active	0	С	M-121-1D	E-3	FC	Q		TP-VA-2
						-				10	STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		S/G FEED	WATER	TEMPER	RING ISOLATION V	ALVE				
2FW035C	2	В	3	GL	AO	Active	0	С	M-121-1A	<b>E-</b> 3	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		S/G FEED	WATER	TEMPER	RING ISOLATION V	ALVE				

IST-BRW-PLAN

							Main	n Feedw	rater					
Valve EPN	Safety Class	Cat	Size	Viv Type	Act. Type	Act/ Pass	Norm Pos	Safety Pos	P&ID	P&ID Coor.	Test Type	Test Freq.	Deferred Just.	Tech. Pos.
2FW036A	2	C	3	CK	SA	Passive	SYS	C	M-121-1B	E-3	CCU	CM	Just.	
	-	-	-					•			CO	CM		TP-VA-8
		,	Valve I	Name	I	FEEDWAT	ER TEM	IPERING	LINE CHECK VAL	νe				
2FW036B	2	С	3	CK	SA	Passive	SYS	С	M-121-1D	E-3	CCU	CM		
											СО	СМ		TP-VA-8
			Valve I	Name	1	FEEDWAT	ER TEM	IPERING	LINE CHECK VAL	VE				
2FW036C	2	С	3	СК	SA	Passive	SYS	С	M-121-1A	E-3	CCU	CM		
											со	CM		TP-VA-8
			Valve I	Name		FEEDWAT	ER TEM	1PERING	LINE CHECK VAL	VE				
2FW036D	2	С	3	СК	SA	Passive	SYS	С	M-121-1C	E-3	CCU	CM		
	-	-	C		0			-			CO	CM		TP-VA-8
			Valve I	Name		FFFDWAT		IPERING	LINE CHECK VAL	VF				
2FW039A	2	В	6	GA	AO	Active	0	C	M-121-1B	 C-4	FC	CS	CS-9	TP-VA-2
	_	_	-				-	-			STC	CS	CS-9	TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		S/G PRFF	IEATER	BYPASS 1	SOLATION VALVI	=				
2FW039B	2	В	6	GA	AO	Active	0	<u>C</u>	M-121-1D	 C-4	FC	CS	CS-9	TP-VA-2
21 110350	2	L.	Ū	0,1	710	, let ve	Ŭ	C	11 464 46	61	STC	CS	CS-9	TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Manaa					SOLATION VALVI	-				
2FW039C	2	В	6 valve	GA	AO	Active	0	C	M-121-1A	 C-4	FC	CS	CS-9	TP-VA-2
2FW039C	2	D	D	GA	AU	Active	0	C	M-121-1A	C-4	STC	CS	CS-9 CS-9	TP-VA-2 TP-VA-1
											PI	Y2	C3-9	TP-VA-1 TP-VA-4
								D)/D4.00.1		_	FI	12		TF-VA-T
			Valve						ISOLATION VALV					
2FW039D	2	В	6	GA	AO	Active	0	С	M-121-1C	C-4	FC	CS	CS-9	TP-VA-2
											STC	CS	CS-9	TP-VA-1
											PI	Y2		TP-VA-4
			Valve						ISOLATION VALV				Net state and state a	
2FW043A	2	В	3	GL	AO	Active	С	С	M-121-1B	B-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve			FEEDWA			ALVE BYPASS VA					
2FW043B	2	В	3	GL	AO	Active	С	С	M-121-1D	B-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		FEEDWA	ter ISO	LATION	ALVE BYPASS VA	ALVE				
2FW043C	2	В	3	GL	AO	Active	С	С	M-121-1A	B-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		FEEDWA	TER ISO		VALVE BYPASS VA	ALVE				
2FW043D	2	В	3	GL	AO	Active	С	С	M-121-1C	B-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4

							Mair	n Feedw	ater					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2FW079A	2	В	16	CK	SA	Active	SYS	С	M-121-1B	C-4	CCD	CM		
											COD	CM		
			Valve I	Name		FEEDWAT	ER ISO	LATION C	HECK VALVE					
2FW079B	2	В	16	CK	SA	Active	SYS	С	M-121-1D	C-4	CCD	СМ		
											COD	CM		
			Valve I	Name		FEEDWAT	ER ISO	LATION C	HECK VALVE					
2FW079C	2	В	16	СК	SA	Active	SYS	С	M-121-1A	C-4	CCD	CM		
											COD	CM		
			Vaive I	Name		FEEDWAT	ER ISO	LATION C	HECK VALVE					
2FW079D	2	В	16	СК	SA	Active	SYS	С	M-121-1C	C-4	CCD	CM		AMONTO CONSTRUCTION OF THE OWNER
											COD	СМ		
			Valve	Name		FEEDWAT	FER ISO		HECK VALVE					
2FW510	NC	В				Passive		C		D-2	FC	RR	RJ-8	
21 110	ne	-						-		02	TC I		10 0	
			Valve					ULATING						
2FW510A	NC	В	4	GA	AO	Passive	С	С	M-121-1B	C-2	FC	RR	RJ-8	
			Valve	Name		FEEDWAT	FER REG	ULATING	BYPASS VALVE					
2FW520	NC	В	16	ANG	AO	Passive	0	С	M-121-1D	D-2	FC	RR	RJ-8	
			Valve	Name		FEEDWAT	FER REG	ULATING	VALVE					
2FW520A	NC	В	4	GA	AO	Passive	С	С	M-121-1D	C-2	FC	RR	RJ-8	
			Valve	Name		FEEDWAT	FER REG	ULATING	BYPASS VALVE					
2FW530	NC	В	16	ANG	AO	Passive	0	С	M-121-1A	D-2	FC	RR	RJ-8	
			Valve	Namo				JULATING	VALVE					
2FW530A	NC	В				Passive				C-2	FC	RR	RJ-8	
21 WJJ0A	NC	D	•				_	-		C-2	i c	<b>NN</b>	N-0	
			Valve						BYPASS VALVE					
2FW540	NC	В	16	ANG	AO	Passive	0	С	M-121-1C	D-2	FC	RR	RJ-8	
			Valve	Name		FEEDWA	FER REC	GULATING	VALVE					
2FW540A	NC	В	4	GA	AO	Passive	С	С	M-121-1C	C-2	FC	RR	RJ-8	
			Valve						BYPASS VALVE					

						R	adioad	ctive Wa	iste Gas					
Valve EPN	Safety	Cat	Size	Vlv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
48444, 14444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1444, 1	Class					Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
0GW1036B	3	В	0.75	DIA	AO	Passive	С	С	M-69-1	C-7	PI	Y2		
			Valve I	Name		0A GAS C	ECAY T	Κ ΤΟ Αυτ	o gas anal isc	ol asmbly				
0GW1037B	3	В	0.75	DIA	AO	Passive	С	С	M-69-1	C-6	PI	Y2		
			Valve I	Name		0B GAS D	ECAY T	K TO AUT	O GAS ANAL ISO	DL ASMBLY				
0GW1038B	3	В	0.75	DIA	AO	Passive	С	С	M-69-1	C-5	PI	Y2		
			Valve I	Name		OC GAS D	ECAY T	K AUTO G	AS ANAL ISOL A	SMBLY				
0GW1039B	3	В	Ø.75	DIA	AO	Passive	С	С	M-69-1	C-4	PI	Y2		
			Valve I	Name		SOL OD (	GAS DEC	CAY TK AU	JTO GAS ANAL IS	5 ASMBLY				
0GW1052B	3	В	0.75	DIA	AO	Passive	C	С	M-69-1	C-3	PI	Y2	·····	
			Valve I				FCAY T		O GAS ANAL ISC					
0GW1053B	3	В		DIA		Passive		C		C-1	PI	Y2		
000010330	5	U						_		-	11	12		
0014102004	3	~	Valve I						O GAS ANAL ISC		70	V10		
0GW9300A	3	L	1.0x2.0			Passive		O/C		D-8	RT	Y10		
			Valve I						RELIEF VALVE					
0GW9300B	3	С	1.0x2.0	RV	SA	Passive	С	O/C	M-69-1	D-7	RT	Y10		
			Valve I			WASTE C		AV TANK	RELIEF VALVE					
0GW9300C	3		1.0x2.			Passive	C			D-6	RT	Y10		
00093000	J	C					-	,		<b>D</b> -0	κı	110		
			Valve						RELIEF VALVE					
0GW9300D	3	С	1.0x2.		SA	Passive	С	0/C	M-69-1	D-5	RT	Y10		
			Valve I			WASTE G	AS DEC	AY TANK	RELIEF VALVE					
0GW9300E	3	C	1.0x2.			Passive		0/C	M-69-1	D-4	RT	Y10		
001190002	0		Valve					•	RELIEF VALVE	5,		120		
0GW9300F	3	C		RV		Passive				D-2	RT	Y10		
10005000F	2	L	1.0x2.		ы	rassive	L	0/0	1-12-11	U-2	K I	110		
			Valve	Nomo		WASTE G		ΔΥ ΤΔΝΚ	RELIEF VALVE					

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						1	nstrur	nent Aiı	Supply					
Valve EPN	Safety	Cat	Sĩze	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1IA065	2	A	3	GL	AO	Active	0	Ċ	M-55-10	C-1	נדו	ΑJ		
											FC	RR	RJ-3	TP-VA-2
											STC	RR	RJ-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		IA SUPPL	Y CONT	AINMENT	ISOLATION VALV	Έ				
1IA066	2	A	3	GL	AO	Active	0	С	M-55-10	C-2	LTJ	AJ	·····	
											FC	RR	RJ-3	TP-VA-2
											STC	RR	RJ-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		IA SUPPL	Y CONT	AINMENT	ISOLATION VALV	'E				
1IA091	2	A/C	0.75	СК	SA	Active	SYS	C	M-55-10	D-1	LTJ	LA		
	-	.,.		-	0,1			-			CCL	CM		
											COF	CM		
			Valve	Namo					ISOLATION CHE			-		
2IA065	2	Α	3	GL	AO	Active	0	C	M-55-15		LTJ	AJ		
214005	2	А	5	GL	AU	Active	U	C	M-22-12	D-0	FC	RR	RJ-3	TP-VA-2
											STC	RR	RJ-3	TP-VA-2 TP-VA-1
											PI	Y2	KU-3	TP-VA-1 TP-VA-4
											FI	12		IF-VA-T
			Valve						ISOLATION VALV					
2IA066	2	Α	3	GL	AO	Active	0	С	M-55-15	D-7	LTJ	AJ		
											FC	RR	RJ-3	TP-VA-2
											STC	RR	RJ-3	TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		IA SUPPL	Y CONT	AINMENT	ISOLATION VALV	/E				
2IA091	2	A/C	0.75	СК	SA	Active	SYS	С	M-55-15	D-7	LTJ	AJ	· · · · · · · · · · · · · · · · · · ·	
											CCL	CM		
											COF	СМ		
			Valve	Namo					ISOLATION CHE					
			*ai*C	14638886		IA JUPPE								

Benker Paras	C-E	<i>•</i>	en	\$ 2 <sup>5</sup> .	at	a		ain Stea					D-6	
Valve EPN	Safety	Cat	Size					Safety	P&ID	P&ID	Test		Deferred	Tech.
LMS001A	Class 2	В	30.25		Type HO	Active	0	Pos C	M-35-2	<u>Coor.</u> C-4	Type STC	Freq. CS	Just. CS-1	TP-VA-1
INSOUTA	2	D	50.25	UA.	110	Active	0	Ç	11 55 2		PI	Y2	0.5 1	TP-VA-4
			Valve M	iame		STFAM G	FNERAT	OR MAIN	STEAM ISOLAT	τον ναινε				
MS001B	2	В	32.75		НО	Active	0	C	M-35-1	E-5	STC	CS	CS-1	TP-VA-1
1100010	~	U	52.75	GA	110	neuve	0	C	11 35 1	LJ	PI	Y2	0.5 1	TP-VA-4
			Valve N	iamo		STEAM G			STEAM ISOLAT					
LMS001C	2	В	32.75		НО	Active	0	C	M-35-2	E-4	STC	CS	 CS-1	TP-VA-1
INDUIC	2	U	52.75	GA	110	Active	0	C	M-JJ-2	L-4	PI	Y2	C3-1	TP-VA-4
			Valve N			CTEAM C	ENICOAT		STEAM ISOLAT		, 1	12		
LMS001D	2	В	30.25								CTC		CS-1	TP-VA-1
1150010	2	D	50.25	GA	HO	Active	0	Ľ	M-35-1	B-5	STC PI	CS Y2	CS-1	TP-VA-1 TP-VA-4
			1.#E	a#		CTT 114 C					11	12		
MCOADA			Valve I						STEAM ISOLAT					
1MS013A	2	С	6x10	RV	SA	Active	С	0/C	M-35-2	C-4	RT	Y10		
			Valve I					OR SAFET	Y VALVE					
1MS013B	2	С	6x10	RV	SA	Active	С	0/C	M-35-1	F-4	RT	Y10		
			Valve I	Vame		STEAM G	ENERAT	OR SAFET	Y VALVE					
1MS013C	2	С	6x10	RV	SA	Active	С	O/C	M-35-2	F-4	RT	Y10		
			Valve I	Vame		STEAM G	ENERAT	OR SAFET	Y VALVE					
1MS013D	2	С	6x10	RV	SA	Active	С	O/C	M-35-1	C-4	RT	Y10		
			Valve I	Vame		STEAM G	ENERAT	OR SAFET	Y VALVE					
1MS014A	2	c	6x10	RV	SA	Active	C	0/C	M-35-2	C-3	RT	Y10	******	
			Valve I					OR SAFET						
1MS014B	2	C		RV	SA	Active		0/C	M-35-1	F-4	RT	Y10		
1130110	2	C								1-4	KI.	110		
			Valve I					OR SAFET						
1MS014C	2	С	6x10	RV	SA	Active	С	O/C	M-35-2	F-3	RT	Y10		
·····			Valve I	Vame		STEAM G	SENERAT	OR SAFET	Y VALVE					
1MS014D	2	С	6x10	RV	SA	Active	С	O/C	M-35-1	C-4	RT	Y10		
			Valve I	Name		STEAM C	GENERAT	OR SAFET	Y VALVE					
1MS015A	2	С	6x10	RV	SA	Active	С	O/C	M-35-2	C-3	RT	Y10	4.40 <i>4.404.404.404.404.404.404.404.404.4</i>	
			Valve I	Vame		STEAM G	GENERAT	OR SAFET	Y VALVE					
1MS015B	2	С	6x10	RV	SA	Active		0/C	M-35-1	F-3	RT	Y10		
			Valve I	Vame		STEAM 0	FNFRAT	OR SAFET	Y VAI VE					
1MS015C	2	С	6x10		SA	Active	C	0/C	M-35-2	F-3	RT	Y10		
11100100	2	C								1-0	IXI	110		
(MCOJED			Valve I					OR SAFET		~ ``				
1MS015D	2	С		RV	SA	Active	С	O/C	M-35-1	C-3	RT	Y10		
			Valve I			STEAM C	GENERAT	OR SAFET	Y VALVE					
1MS016A	2	С	6x10	RV	SA	Active	С	O/C	M-35-2	C-2	RT	Y10		
			Valve I	Name		STEAM C	GENERAT	OR SAFET	Y VALVE					
1MS016B	2	С	6x10	RV	SA	Active	С	O/C	M-35-1	F-3	RT	Y10		
			Valve I	Name		STEAM O	ENERAT	OR SAFET						

Valve EPN		-		<b>1</b> 10	_			ain Stea						
	Safety	Cat	Size	Vîv _				Safety	P&ID	P&ID	Test		Deferred	Tech.
MC01CC	Class		6,10	Type			Pos	Pos	M 25 2	Coor.	Туре	Freq.	Just.	Pos.
LMS016C	2	С	6x10		SA	Active	С	0/C	M-35-2	F-2	RT	Y10		
			Valve I					OR SAFET						
1MS016D	2	С	6x10	RV	SA	Active	С	0/C	M-35-1	C-3	RT	Y10		
			Valve I	lame		STEAM G	ENERAT	OR SAFET	Y VALVE					
1MS017A	2	С	6x10	RV	SA	Active	С	O/C	M-35-2	C-2	RT	Y10		
			Valve I	lame		STEAM G	ENERAT	OR SAFET	Y VALVE					
1MS017B	2	С	6x10	RV	SA	Active	С	O/C	M-35-1	F-2	RT	Y10		
			Valve I	lame		STEAM G	ENERAT	OR SAFET	Y VALVE					
1MS017C	2	С	6x10	RV	SA	Active	С	O/C	M-35-2	F-2	RT	Y10		
			Valve I	lame		STEAM G	ENERAT	OR SAFET	Y VALVE					
1MS017D	2	C		RV	SA	Active		0/C	M-35-1	C-2	RT	Y10		
	-	-	Valve I					FOR SAFET						
1MS018A	2	В	6x6	RV	НО	Active	C	0/C	M-35-2	C-2	FC	Q		TP-VA-2
THUDDION	2	D	070	i v	110	Active	C	0/0	M-33-2	C-2	STC	Q		TP-VA-2
											STO	Q		11 1/11
											PI	Y2		TP-VA-4
			Valve I	lama		STEAM C			SPHERIC RELIE		• 1	12		11 174 1
1MS018B	2	В	6x6	RV	НО	Active		0/C	M-35-1	F-2	FC			TP-VA-2
TMOOTOD	Z	D	0.00	ĸv	пО	Active	C	0/0	M-22-1	F-2	STC	Q Q		TP-VA-2 TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-1 TP-VA-4
			Valve I	lama		STEAM O					••	1		
1MS018C	2		ACIACI	TOHIC		JILANC								
			646	DV	ЦО				SPHERIC RELIE		FC			TD-1/A 2
21100200	£	В	6x6	RV	HO	Active	C	O/C	SPHERIC RELIE M-35-2	F VALVE F-2	FC	Q		TP-VA-2
	£	В	6х6	RV	НО						STC	Q		TP-VA-1
	£	В	бхб	RV	HO						STC STO	Q Q		TP-VA-1 TP-VA-1
	ε.	В				Active	С	O/C	M-35-2	F-2	STC	Q		TP-VA-1
			Valve I	Name		Active	C	O/C FOR ATMO	M-35-2 SPHERIC RELIE	F-2 F VALVE	STC STO PI	Q Q Y2		TP-VA-1 TP-VA-1 TP-VA-4
	2	B				Active	C	O/C	M-35-2	F-2	STC STO PI FC	Q Q Y2 Q		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2
			Valve I	Name		Active	C	O/C FOR ATMO	M-35-2 SPHERIC RELIE	F-2 F VALVE	STC STO PI FC STC	Q Q Y2 Q Q		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1
			Valve I	Name		Active	C	O/C FOR ATMO	M-35-2 SPHERIC RELIE	F-2 F VALVE	STC STO PI FC STC STO	Q Q Y2 Q Q Q		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
			Valve I 6x6	Name RV	HO	Active	C	O/C FOR ATMO	M-35-2 SPHERIC RELIE	F-2 F VALVE	STC STO PI FC STC	Q Q Y2 Q Q		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1
1MS018D	2		Valve i 6x6 Valve i	Name RV Name	HO	Active STEAM C Active	C SENERAT C	O/C FOR ATMO O/C FOR ATMO	M-35-2 SPHERIC RELIE M-35-1 SPHERIC RELIE	F-2 F VALVE C-2	STC STO PI FC STC STO	Q Q Y2 Q Q Q Y2		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
1MS018D			Valve I 6x6	Name RV	HO	Active STEAM C Active	C SENERAT C	o/c For atmo o/c	M-35-2 SPHERIC RELIE M-35-1	F-2 F VALVE C-2	STC STO PI FC STC STO	Q Q Y2 Q Q Q		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
1MS018D	2	В	Valve i 6x6 Valve i	Name RV Name GA	HO	Active STEAM C Active STEAM C Active	C SENERAT C SENERAT	O/C FOR ATMO O/C FOR ATMO O/C	M-35-2 SPHERIC RELIE M-35-1 SPHERIC RELIE	F-2 F VALVE C-2 F VALVE C-2	STC STO PI FC STC STO PI	Q Q Y2 Q Q Q Y2		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
1MS018D 1MS019A	2	В	Valve I 6x6 Valve I 8	Name RV Name GA	HO	Active STEAM C Active STEAM C Active	C SENERAT C SENERAT O Y INLET	O/C FOR ATMO O/C FOR ATMO O/C	M-35-2 SPHERIC RELIE M-35-1 SPHERIC RELIE M-35-2	F-2 F VALVE C-2 F VALVE C-2	STC STO PI FC STC STO PI	Q Q Y2 Q Q Q Y2		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
	2	В	Valve i 6x6 Valve i 8 Valve i	Name RV Name GA Name GA	HO M	Active STEAM C Active STEAM C Active SG PORV Active	C SENERAT C SENERAT O / INLET O	O/C FOR ATMO O/C FOR ATMO O/C ISOLATION O/C	M-35-2 SPHERIC RELIE M-35-1 SPHERIC RELIE M-35-2 N MANUAL VALM	F-2 F VALVE C-2 F VALVE C-2 /ES E-2	STC STO PI FC STC STO PI SC	Q Q Y2 Q Q Q Y2 Y2		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
1MS018D 1MS019A	2	В	Valve I 6x6 Valve I 8 Valve I 8	Name RV Name GA Name GA	HO M	Active STEAM C Active STEAM C Active SG PORV Active	C SENERAT C SENERAT O / INLET O	O/C FOR ATMO O/C FOR ATMO O/C ISOLATION O/C	M-35-2 SPHERIC RELIE M-35-1 SPHERIC RELIE M-35-2 N MANUAL VALM M-35-1	F-2 F VALVE C-2 F VALVE C-2 /ES E-2	STC STO PI FC STC STO PI SC	Q Q Y2 Q Q Q Y2 Y2		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
1MS018D 1MS019A 1MS019B	2	B B	Valve i 6x6 Valve i 8 Valve i 8 Valve i	Name RV Name GA Name GA	HO M M	Active STEAM C Active STEAM C Active SG PORV Active SG PORV Active	C SENERAT C SENERAT O / INLET O / INLET O	O/C FOR ATMO O/C ISOLATIO O/C ISOLATIO O/C	M-35-2 SPHERIC RELIE M-35-1 SPHERIC RELIE M-35-2 N MANUAL VALN M-35-1 N MANUAL VALN	F-2 F VALVE C-2 F VALVE C-2 /ES E-2 /ES E-2	STC STO PI FC STC STO PI SC SC	Q Q Y2 Q Q Q Y2 Y2 Y2		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1
1MS018D 1MS019A 1MS019B	2	B B	Valve I 6x6 Valve I 8 Valve I 8 Valve I 8 Valve I 8	Name RV Name GA Name GA	HO M M	Active STEAM C Active STEAM C Active SG PORV Active SG PORV Active	C SENERAT C SENERAT O / INLET O / INLET	O/C FOR ATMO O/C ISOLATIO O/C ISOLATIO O/C	M-35-2 SPHERIC RELIE M-35-1 SPHERIC RELIE M-35-2 N MANUAL VALV M-35-1 N MANUAL VALV M-35-2	F-2 F VALVE C-2 F VALVE C-2 /ES E-2 /ES E-2	STC STO PI FC STC STO PI SC SC	Q Q Y2 Q Q Q Y2 Y2 Y2		TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1

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STC Q         TP-VA-1           Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE           MS101B         2         B         4         GL         AO         Active         C         C         M-35-1         D-4         FC         Q         TP-VA-2           MS101B         2         B         4         GL         AO         Active         C         C         M-35-1         D-4         FC         Q         TP-VA-2           MS101C         2         B         4         GL         AO         Active         C         C         M-35-2         E-4         FC         Q         TP-VA-2           MS101D         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-2           MS101D         2         B         30.25         GA         AO         Active         O         C         M-35-1         B-5         TC         STC         Q         TP-VA-2           MMS101D         2         B         30.25         GA         HO         Active         O         C         M-3120-24         C-5								М	ain Stei	am						
MS101A       2       B       4       GL       AO       Active       C       C       M-35-2       B-4       FC       Q       TP-Wa-1         MS101A       2       B       4       GL       AO       Active       C       C       M-35-2       B-4       FC       Q       TP-Wa-1         MS101B       2       B       4       GL       AO       Active       C       C       M-35-1       D-4       FC       Q       TP-Wa-1         MS101B       2       B       4       GL       AO       Active       C       C       M-35-2       E-4       FC       Q       TP-Wa-2         MS101C       2       B       4       GL       AO       Active       C       C       M-35-2       E-4       FC       Q       TP-Wa-2         MS101D       2       B       4       GL       AO       Active       C       C       M-35-1       B-5       FC       Q       TP-Wa-2         MS101D       2       B       30.25       GA       HO       Active       O       M-120-2A       C-5       STC       QS       TP-Wa-1         MS001A       2       B <th>Valve EPN</th> <th></th> <th>Cat</th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th>-</th> <th>P&amp;ID</th> <th></th> <th></th> <th></th> <th></th> <th></th>	Valve EPN		Cat				-		-	P&ID						
MAIN STEAM ISOLATION VALVE BYPASS VALVE         TP-VA-1 PI         TP-VA-1 Y2           MS101B         2         B         4         GL         AO         Active         C         M-35-1         D-4         PC         Q         TP-VA-2 TP-VA-4           MS101B         2         B         4         GL         AO         Active         C         M-35-1         D-4         PC         Q         TP-VA-2 TP-VA-4           MS101C         2         B         4         GL         AO         Active         C         M-35-2         E-4         FC         Q         TP-VA-1 PI         Y2         TP-VA-4           MS101D         2         B         4         GL         AO         Active         C         M-35-1         B-5         FC         Q         TP-VA-1 PI         Y2         TP-VA-1 PI         Y2         TP-VA-1           MS101D         2         B         4         GL         AO         Active         C         M-35-1         B-5         FC         Q         TP-VA-1           Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE         PI         Y2         TP-VA-1         PI         Y2         TP-VA-1           Y2         B <t< td=""><td>1MS101A</td><td></td><td>В</td><td></td><td></td><td></td><td></td><td></td><td></td><td>M-35-2</td><td></td><td></td><td>N.</td><td>3056-</td><td></td></t<>	1MS101A		В							M-35-2			N.	3056-		
Valve         Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE         PC         Q         TP-VA-4           MS1018         2         B         4         GL         AO         Active         C         C         M-35-1         D-4         FC         Q         TP-VA-1           MS1018         2         B         4         GL         AO         Active         C         C         M-35-1         D-4         FC         Q         TP-VA-2           MS1010         2         B         4         GL         AO         Active         C         C         M-35-2         E-4         FC         Q         TP-VA-2           MS1010         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-2           MS1010         2         B         AC         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-1           MS1010         2         B         30.25         GA         ACIve         C         C         M-120-24         C5         STC         C5         STC         TP-VA-1      <																
MS101B       2       8       4       GL       AO       Active       C       C       M-35-1       D-4       FC       Q       TP-VA-2         MS101B       2       8       4       GL       AO       Active       C       M-35-1       D-4       FC       Q       TP-VA-1         MS101C       2       8       4       GL       AO       Active       C       M-35-2       E-4       FC       Q       TP-VA-2         MS101D       2       8       4       GL       AO       Active       C       M-35-1       B-5       FC       Q       TP-VA-2         IMS101D       2       8       4       GL       AO       Active       C       C       M-35-1       B-5       FC       Q       TP-VA-2         IMS101D       2       8       30.25       GA       HO       Active       O       C       M-120-2A       C-5       STC       C       TP-VA-1         IMS001A       2       8       32.75       GA       HO       Active       O       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001B       2       8												PI			TP-VA-4	
Valve Name         MAIN STEAN ISOLATION VALVE BYPASS VALVE         STC         Q         TP-VA-1           IMS101C         2         B         4         GL         AO         Active         C         C         M-35-2         E4         FC         Q         TP-VA-2           IMS101C         2         B         4         GL         AO         Active         C         C         M-35-2         E4         FC         Q         TP-VA-2           IMS101D         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-2           IMS101D         2         B         30.25         GA         HO         Active         O         C         M-120-2A         C5         STC         C5         C5-1         TP-VA-1           2MS001A         2         B         32.75         GA         HO         Active         O         C         M-120-1         E-5         STC         C5         C5-1         TP-VA-1           2MS001B         2         B         32.75         GA         HO         Active         O         C         M-120-1         E-5         STC<				Valve M	lame		MAIN ST	EAM ISC	LATION	VALVE BYPASS V	ALVE					
STC         Q         TP-VA-1           Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE         TP-VA-4           IMSIDIC         2         B         4         GL         AO         Active         C         C         M-35-2         E-4         FC         Q         TP-VA-2           IMSIDIC         2         B         4         GL         AO         Active         C         C         M-35-2         E-4         FC         Q         TP-VA-1           Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE         Y2         TP-VA-1         PI         Y2         TP-VA-1           IMSIDID         2         B         3         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-2           Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE         Y2         TP-VA-1         PI         Y2         TP-VA-1           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE BYPASS VALVE         Y2         TP-VA-1         PI         Y2         TP-VA-1           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Y2         TP-VA-1         PI         Y2         TP-VA-1 <td< td=""><td>1MS101B</td><td>2</td><td>В</td><td>4</td><td>GL</td><td>AO</td><td>Active</td><td>С</td><td>C</td><td>M-35-1</td><td>D-4</td><td>FC</td><td>Q</td><td></td><td>TP-VA-2</td></td<>	1MS101B	2	В	4	GL	AO	Active	С	C	M-35-1	D-4	FC	Q		TP-VA-2	
Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE           IMS101C         2         B         4         GL         AO         Active         C         C         M-35-2         E-4         FC         Q         TP-VA-1           PI         Y2         TP-VA-1         PI         Y2         TP-VA-1         PI         Y2         TP-VA-1           IMS101D         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-1           IMS101D         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-2           IMS101D         2         B         30.25         GA         HO         Active         O         C         M-120-2A         C-5         STC         CS         CS-1         TP-VA-1           2MS001B         2         B         32.75         GA         HO         Active         O         C         M-120-1         E-5         STC         CS         CS-1         TP-VA-1           2MS001D         2         B         32.75												STC	Q		TP-VA-1	
MS101C       2       B       4       GL       AO       Active       C       C       M-35-2       E-4       FC       Q       TP-VA-2         Valve Name       MAIN STEAM ISOLATION VALVE BYPASS VALVE       PI       Y2       TP-VA-2         IMS101D       2       B       4       GL       AO       Active       C       M-35-1       B-5       FC       Q       TP-VA-2         Valve Name       MAIN STEAM ISOLATION VALVE BYPASS VALVE       Valve Name       MAIN STEAM ISOLATION VALVE BYPASS VALVE       Y2       TP-VA-1         2       B       30.25       GA       HO       Active O       C       M-120-2A       C-5       STC       CS       CS-1       TP-VA-1         2       Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       PI       Y2       TP-VA-1         2       B       32.75       GA       HO       Active       O       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2       B       32.75       GA       HO       Active       O       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2       B       32.75       GA       HO <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>PI</td><td>Y2</td><td></td><td>TP-VA-4</td></t<>												PI	Y2		TP-VA-4	
STC Q         TP-VA-1           Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE           IMSI0ID         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-2           IMSI0ID         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-1           Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE         Valve         Main STEAM ISOLATION VALVE BYPASS VALVE           205001A         2         B         32.75         GA         HO         Active         O         M-120-1         E-5         STC         CS         CS-1         TP-VA-1           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE <th colspan<="" td=""><td></td><td></td><td></td><td>Valve M</td><td>lame</td><td></td><td>MAIN ST</td><td>EAM ISC</td><td>LATION</td><td>VALVE BYPASS V</td><td>ALVE</td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td></td> <td>Valve M</td> <td>lame</td> <td></td> <td>MAIN ST</td> <td>EAM ISC</td> <td>LATION</td> <td>VALVE BYPASS V</td> <td>ALVE</td> <td></td> <td></td> <td></td> <td></td>				Valve M	lame		MAIN ST	EAM ISC	LATION	VALVE BYPASS V	ALVE				
Valve Name         MAIN STEAM ISOLATION VALVE BYPASS VALVE         PI         Y2         TP-VA-4           IMS101D         2         B         4         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-1           IMS101D         2         B         3         GL         AO         Active         C         C         M-35-1         B-5         FC         Q         TP-VA-1           PI         Y2         TP-VA-1         PI         Y2         TP-VA-1         PI         Y2         TP-VA-1           20001A         2         B         30.25         GA         HO         Active         O         C         M-120-1         E-5         FI         Y2         TP-VA-1           20001B         2         B         32.75         GA         HO         Active         O         C         M-120-1         E-5         FI         Y2         TP-VA-1           20001C         2         B         32.75         GA         HO         Active         O         C         M-120-1         E-5         STC         CS         SC-1         TP-VA-1           20001C         2 <td< td=""><td>1MS101C</td><td>2</td><td>В</td><td>4</td><td>GL</td><td>AO</td><td>Active</td><td>С</td><td>С</td><td>M-35-2</td><td>E-4</td><td>FC</td><td>Q</td><td></td><td>TP-VA-2</td></td<>	1MS101C	2	В	4	GL	AO	Active	С	С	M-35-2	E-4	FC	Q		TP-VA-2	
Valve NameMAIN STEAM ISOLATION VALVE BYPASS VALVEIMS101D2B4GLAOActiveCCM-35-1B-5FCQTP-VA-2STCV2V2TP-VA-4FCQTP-VA-1PIY2TP-VA-4Valve NameMAIN STEAM ISOLATION VALVE BYPASS VALVEFCQTP-VA-1PIY2TP-VA-12B30.25GAHOActiveOCM-120-2AC-5STCCSCS-1TP-VA-12PIV3STEAM GENERATOR MAIN STEAM ISOLATION VALVEFCSCSCS-1TP-VA-12B32.75GAHOActiveOCM-120-1E-5STCCSCS-1TP-VA-42Valve NameSTEAM GENERATOR MAIN STEAM ISOLATION VALVEFCV2TP-VA-4PIY2TP-VA-42B32.75GAHOActiveOCM-120-2BD-5STCCSCS-1TP-VA-42MAIN STEAM GENERATOR MAIN STEAM ISOLATION VALVEValve NameSTEAM GENERATOR MAIN STEAM ISOLATION VALVEFCQTP-VA-42MS001D2B30.25GAHOActiveOCM-120-1B-5SCQSTCQ2MS001D2B30.25GAHOActiveCM-120-1B-5SCQSTCQTP-VA-42MS001D2B30.25 </td <td></td> <td>STC</td> <td>Q</td> <td></td> <td>TP-VA-1</td>												STC	Q		TP-VA-1	
IMS101D       2       B       4       GL       AO       Active       C       C       M-35-1       B-5       FC       Q       TP-VA-2         STC       Q       TP-WA-1       PI       Y2       TP-VA-4       PI       Y2       TP-VA-4         Valve Name       MAIN STEAM ISOLATION VALVE BYPASS VALVE       STC       Q       CS       CS-1       TP-VA-4         2MS001A       2       B       30.25       GA       HO       Active       O       C       M-120-2A       C-5       STC       CS       CS-1       TP-VA-4         2MS001B       2       B       32.75       GA       HO       Active       O       C       M-120-2A       C-5       STC       CS       CS-1       TP-VA-4         2MS001B       2       B       32.75       GA       HO       Active       O       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-4         2MS001C       2       B       32.75       GA       HO       Active       O       C       M-120-1B       D-5       STC       CS       CS-1       TP-VA-1         2MS001D       2       B       30.25       GA												PI	Y2		TP-VA-4	
STC         Q         TP-VA-1           PI         Y2         TP-VA-1           PI         Y2         TP-VA-4           2         B         30.25         GA         HO         Active         O         C         M-120-2A         C-5         STC         CS         CS-1         TP-VA-1           2         B         30.25         GA         HO         Active         O         C         M-120-2A         C-5         STC         CS         CS-1         TP-VA-1           2         B         32.75         GA         HO         Active         O         C         M-120-1         E-5         STC         CS         CS-1         TP-VA-4           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE           2M5001C         2         B         32.25         GA         HO         Active         O         C         M-120-2B         D-5         STC         CS         CS-1         TP-VA-1           2M5001D         2         B         30.25         GA         HO         Active         O         C         M-120-1         B-5         STC         Q         P/1         Y2         TP-VA-4				Valve M	lame		MAIN ST	EAM ISC	DLATION	VALVE BYPASS V	ALVE					
Valve Name       MAIN STEAM ISOLATION VALVE BYPASS VALVE       PI       Y2       TP-VA-4         2MS001A       2       B       30.25       GA       H0       Active       0       C       M-120-2A       C-5       STC       CS       CS-1       TP-VA-1         2MS001B       2       B       32.75       GA       H0       Active       0       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001B       2       B       32.75       GA       H0       Active       0       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001C       2       B       32.75       GA       H0       Active       0       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001D       2       B       30.25       GA       H0       Active       0       C       M-120-1       B-5       STC       CS       CS-1       TP-VA-1         2MS001D       2       B       30.25       GA       H0       Active       C       M-120-1       B-5       STC       QS       CS-1       TP-VA-1         2MS001	1MS101D	2	В	4	GL	AO	Active	С	С	M-35-1	B-5	FC	Q		TP-VA-2	
Value Name       MAIN STEAM ISOLATION VALVE BYPASS VALVE         2MS001A       2       B       30.25       GA       H0       Active       0       C       M-120-2A       C-5       STC       CS       CS-1       TP-VA-1         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       Valve       Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         2MS001B       2       B       32.75       GA       H0       Active       0       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001C       2       B       32.75       GA       H0       Active       0       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001C       2       B       32.75       GA       H0       Active       0       C       M-120-2B       D-5       STC       CS       CS-1       TP-VA-1         2MS001C       2       B       30.25       GA       H0       Active       0       C       M-120-1       B-5       STC       CS       CS-1       TP-VA-1         2MS01D       2       B       30.25       GA       H0       Active       C       O/C<												STC	Q		TP-VA-1	
2MS001A         2         B         30.25         GA         HO         Active         0         C         M-120-2A         C-5         STC         CS         CS         CS         TP-VA-1           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE           2MS001C         2         B         32.75         GA         HO         Active         0         C         M-120-2B         D-5         STC         CS         CS-1         TP-VA-1           2MS001C         2         B         32.75         GA         HO         Active         0         C         M-120-2B         D-5         STC         CS         CS-1         TP-VA-1           2MS001D         2         B         30.25         GA         HO         Active         0         C         M-120-1         B-5         SC         Q         D         TP-VA-4           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Y1         TP-VA-4           ZMS013A         2												PI	Y2		TP-VA-4	
Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         PI         Y2         TP-VA.4           2MS001B         2         B         32.75         GA         HO         Active         0         C         M-120-1         E-5         STC         CS         CS-1         TP-VA.4           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE           2MS001C         2         B         32.75         GA         HO         Active         0         C         M-120-28         D-5         STC         CS         CS-1         TP-VA-1           2MS001C         2         B         30.25         GA         HO         Active         0         C         M-120-28         D-5         STC         Q         STC         Q         D-7         D-4         D-5         STC         Q         STC         Q         D-7         D-4         D-5         STC         Q         STC         Q         D-7         D-4         D-7         D-4 <t< td=""><td></td><td></td><td></td><td>Valve I</td><td>lame</td><td></td><td>MAIN ST</td><td>EAM ISC</td><td>DLATION</td><td>VALVE BYPASS V</td><td>ALVE</td><td></td><td></td><td></td><td></td></t<>				Valve I	lame		MAIN ST	EAM ISC	DLATION	VALVE BYPASS V	ALVE					
Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         2MS001B       2       B       32.75       GA       HO       Active       0       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001B       2       B       32.75       GA       HO       Active       0       C       M-120-1       E-5       STC       CS       CS-1       TP-VA-1         2MS001C       2       B       32.75       GA       HO       Active       0       C       M-120-2B       D-5       STC       CS       CS-1       TP-VA-1         2MS001D       2       B       32.75       GA       HO       Active       0       C       M-120-2B       D-5       STC       CS       CS-1       TP-VA-1         2MS001D       2       B       30.25       GA       HO       Active       O       C       M-120-1       B-5       STC       Q       PI       Y2       Y2       TP-VA-4         2MS001D       2       B       30.25       GA       HO       Active       C       M-120-1       B-5       STC       Q       PI       Y2       Y2       YP-VA-4	2MS001A	2	В	30.25	GA	НО	Active	0	С	M-120-2A	C-5	STC	CS	CS-1	TP-VA-1	
2MS001B         2         B         32.75         GA         HO         Active         O         C         M-120-1         E-5         STC         CS         CS-1         TP-VA-1           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         PI         Y2         TP-VA-1         TP-VA-4           2MS001C         2         B         32.75         GA         HO         Active         O         C         M-120-2B         D-5         STC         CS         CS-1         TP-VA-1           2MS001C         2         B         32.75         GA         HO         Active         O         C         M-120-2B         D-5         STC         CS         CS-1         TP-VA-1           2MS001D         2         B         30.25         GA         HO         Active         O         C         M-120-1         B-5         SC         Q         PI         Y2         TP-VA-4           2MS001D         2         B         30.25         GA         HO         Active         C         M-120-1         B-5         SC         Q         PI         Y2         TP-VA-4           2MS013A         2         C         6x10         RV         S												PI	Y2		TP-VA-4	
PI       Y2       TP-VA-4         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         22MS001C       2       B       32.75       GA       H0       Active       0       C       M-120-2B       D-5       STC       CS       CS       TP-VA-1         2MS001C       2       B       32.75       GA       H0       Active       0       C       M-120-2B       D-5       STC       CS       CS       CS-1       TP-VA-1         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         ZMS001D       2       B       30.25       GA       H0       Active       0       C       M-120-1       B-5       STC       Q       Q       PI       Y2       TP-VA-4         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Valve Name       STEAM GENERATOR SAFETY VALVE         Valve Name       STEAM GENERATOR SAFETY VALVE         Valve Name       STEAM GENERATOR SAFETY VALVE				Valve I	lame		STEAM G	SENERAT	OR MAIN	I STEAM ISOLATI	Ion valve					
Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         2MS001C       2       B       32.75       GA       HO       Active       O       C       M-120-28       D-5       STC       CS       CS-1       TP-VA-1         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         2MS001D       2       B       30.25       GA       HO       Active       O       C       M-120-11       B-5       SC       Q       Q       PI       Y2       TP-VA-1         2MS001D       2       B       30.25       GA       HO       Active       O       C       M-120-11       B-5       SC       Q       PI       Y2       TP-VA-4         2MS001D       2       B       30.25       GA       HO       Active       O       C       M-120-11       B-5       SC       Q       PI       Y2       TP-VA-4         2MS013A       2       C       6x10       RV       SA       Active       C       O/C       M-120-2A       E-4       RT       Y10       ZZ       PI       Y2       TP-VA-4         2MS013B       2       C	2MS001B	2	В	32.75	GA	НО	Active	0	С	M-120-1	E-5	STC	CS	CS-1	TP-VA-1	
2       B       32.75       GA       HO       Active       O       C       M-120-2B       D-5       STC       CS       CS-1       TP-VA-1         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       Valve       Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE         2MS001D       2       B       30.25       GA       HO       Active       O       C       M-120-1       B-5       STC       Q       PI       Y2       TP-VA-4         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       STC       Q       PI       Y2       TP-VA-4         Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       STC       Q       PI       Y2       TP-VA-4         Valve Name       STEAM GENERATOR SAFETY VALVE       STEAM GENERATOR SAFETY VALVE       E-4       RT       Y10       Y10         2MS013C       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       E-4       RT       Y10         2MS013D       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       C-4       RT       Y10<												PI	Y2		TP-VA-4	
Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE           2MS001D         2         B         30.25 GA         HO         Active         O         C         M-120-1         B-5         SC         Q           2MS001D         2         B         30.25 GA         HO         Active         O         C         M-120-1         B-5         SC         Q           2MS01D         2         B         30.25 GA         HO         Active         O         C         M-120-1         B-5         SC         Q         PI         Y2         TP-VA-4           2MS013A         2         C         6x10 RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           2MS013B         2         C         6x10 RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           2MS013C         2         C         6x10 RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           2MS013D         2         C         6x10 RV         SA         Active         C         0/C         M-120-1				Valve I	Vame		STEAM O	GENERAT	OR MAIN	I STEAM ISOLATI	ION VALVE					
Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE           2MS001D         2         B         30.25         GA         HO         Active         O         C         M-120-1         B-5         SC         Q           2MS001D         2         B         30.25         GA         HO         Active         O         C         M-120-1         B-5         SC         Q           2MS01D         2         B         30.25         GA         HO         Active         O         C         M-120-1         B-5         SC         Q           2MS013D         2         C         6x10         RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           2MS013A         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           2MS013D         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           2MS013D         2         C         6x10         RV         SA         Active         C	2MS001C	2	В	32.75	GA	НО	Active	0	C	M-120-2B	D-5	STC	CS	CS-1	TP-VA-1	
2MS001D         2         B         30.25         GA         HO         Active         O         C         M-120-1         B-5         SC         Q           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         FTP-VA-4         Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Valve         RT         Y10           2MS013A         2         C         6x10         RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS013C         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         C-4         RT         Y10           2MS013D         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         C-4         RT         Y10												PI				
2MS001D         2         B         30.25         GA         HO         Active         O         C         M-120-1         B-5         SC         Q           Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         FTP-VA-4         Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         Valve         RT         Y10           2MS013A         2         C         6x10         RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS013C         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         C-4         RT         Y10           2MS013D         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         C-4         RT         Y10				Valve I	Vame		STEAM O	SENERAT	OR MAIN	STEAM ISOLAT	ION VALVE					
Valve Name         STEAM GENERATOR MAIN STEAM ISOLATION VALVE         PI         Y2         TP-VA-4           2MS013A         2         C         6x10         RV         SA         Active         C         0/C         M-120-2A         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         0/C         M-120-2A         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           2MS013C         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           2MS013C         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           2MS013D         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         C-4         RT         Y10           2MS014A         2         C         6x10	2MS001D	2	В									SC	0			
Valve Name       STEAM GENERATOR MAIN STEAM ISOLATION VALVE       Y2       TP-VA-4         2MS013A       2       C       6x10       RV       SA       Active       C       0/C       M-120-2A       E-4       RT       Y10         2MS013A       2       C       6x10       RV       SA       Active       C       0/C       M-120-2A       E-4       RT       Y10         2MS013B       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       E-4       RT       Y10         2MS013B       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       E-4       RT       Y10         2MS013C       2       C       6x10       RV       SA       Active       C       0/C       M-120-2B       E-5       RT       Y10         2MS013D       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       C-4       RT       Y10         2MS013D       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       C-4       RT       Y10		_	-					-	-							
2MS013A         2         C         6x10         RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS013B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS013C         2         C         6x10         RV         SA         Active         C         O/C         M-120-2B         E-5         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         Valve         STEAM GENERATOR SAFETY VALVE         Valve         Name         STEAM GENERATOR SAFETY VALVE           2MS013D         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         C-4         RT         Y10           2MS014A         2         C         6x10         RV												PI			TP-VA-4	
STEAM GENERATOR SAFETY VALVE         ZMS013B       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       E-4       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE         ZMS013C       2       C       6x10       RV       SA       Active       C       0/C       M-120-2B       E-5       RT       Y10         ZMS013C       2       C       6x10       RV       SA       Active       C       0/C       M-120-2B       E-5       RT       Y10         ZMS013C       2       C       6x10       RV       SA       Active       C       0/C       M-120-2B       E-5       RT       Y10         ZMS013D       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       C-4       RT       Y10         ZMS014A       2       C       6x10       RV       SA       Active       C       0/C       M-120-2A       E-4       RT       Y10         ZMS014A       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       E-4				Valve I	Name		STEAM C	GENERAT	OR MAIN	STEAM ISOLAT	ION VALVE					
STEAM GENERATOR SAFETY VALVE         ZMS013B       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       E-4       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE         ZMS013C       2       C       6x10       RV       SA       Active       C       0/C       M-120-2B       E-5       RT       Y10         ZMS013C       2       C       6x10       RV       SA       Active       C       0/C       M-120-2B       E-5       RT       Y10         ZMS013C       2       C       6x10       RV       SA       Active       C       0/C       M-120-2B       E-5       RT       Y10         ZMS013D       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       C-4       RT       Y10         ZMS014A       2       C       6x10       RV       SA       Active       C       0/C       M-120-2A       E-4       RT       Y10         ZMS014A       2       C       6x10       RV       SA       Active       C       0/C       M-120-1       E-4	2MS013A	2	С	6x10	RV	SA						RT	Y10			
2MS013B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         E-5         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         E-5         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         E-5         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         C -4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         C -4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         C -4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         C -4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10		_	_													
Vaive Name         STEAM GENERATOR SAFETY VALVE           2MS013C         2         C         6x10         RV         SA         Active         C         0/C         M-120-2B         E-5         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE           2MS013D         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         C-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE           2MS013D         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         C-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE           2MS014A         2         C         6x10         RV         SA         Active         C         0/C         M-120-2A         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE           2MS014B         2         C         6x10         RV         SA         Active         C         0/C         M-120-1         E-4         RT         Y10           Valve Name	2MC013B	2						~~~~			E_4	DT	V10			
2MS013C       2       C       6x10       RV       SA       Active       C       O/C       M-120-2B       E-5       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE       STEAM GENERATOR SAFETY VALVE       C       Active       C       O/C       M-120-1       C-4       RT       Y10         2MS013D       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       C-4       RT       Y10         2MS013D       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       C-4       RT       Y10         2MS014A       2       C       6x10       RV       SA       Active       C       O/C       M-120-2A       E-4       RT       Y10         2MS014A       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       E-4       RT       Y10         2MS014B       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       E-4       RT       Y10         2MS014C       2       C       6x10       RV       SA <td< td=""><td>21430130</td><td>2</td><td>C</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>C-4</td><td>KI.</td><td>110</td><td></td><td></td></td<>	21430130	2	C								C-4	KI.	110			
Valve Name         STEAM GENERATOR SAFETY VALVE           2MS013D         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         C-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         Valve Name         STEAM GENERATOR SAFETY VALVE           2MS014A         2         C         6x10         RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           2MS014B         2         C         6x10         RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           2MS014B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS014B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE           2MS014C </td <td></td> <td></td> <td>-</td> <td></td>			-													
2MS013D       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       C-4       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE       STEAM GENERATOR SAFETY VALVE       E-4       RT       Y10         2MS014A       2       C       6x10       RV       SA       Active       C       O/C       M-120-2A       E-4       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE         2MS014B       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       E-4       RT       Y10         2MS014B       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       E-4       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE         2MS014C       2       C       6x10       RV       SA       Active       C       O/C       M-120-2B       E-4       RT       Y10	2MS013C	2	С	6x10	RV	SA					E-5	RT	Y10			
Valve Name         STEAM GENERATOR SAFETY VALVE           2MS014A         2         C         6x10         RV         SA         Active         C         O/C         M-120-2A         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10           2MS014B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS014B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           2MS014C         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10				Valve I	Vame		STEAM C	GENERAT		TY VALVE						
2MS014A       2       C       6x10       RV       SA       Active       C       O/C       M-120-2A       E-4       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE       STEAM GENERATOR SAFETY VALVE       E-4       RT       Y10         2MS014B       2       C       6x10       RV       SA       Active       C       O/C       M-120-1       E-4       RT       Y10         Valve Name       STEAM GENERATOR SAFETY VALVE         2MS014C       2       C       6x10       RV       SA       Active       C       O/C       M-120-2B       E-4       RT       Y10	2MS013D	2	С	6x10	RV	SA	Active	С	0/C	M-120-1	C-4	RT	Y10			
Valve Name         STEAM GENERATOR SAFETY VALVE           2MS014B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10           2MS014C         2         C         6x10         RV         SA         Active         C         O/C         M-120-2B         E-4         RT         Y10				Valve I	Name		STEAM C	GENERAT	for safe	TY VALVE						
2MS014B         2         C         6x10         RV         SA         Active         C         O/C         M-120-1         E-4         RT         Y10           Valve Name         STEAM GENERATOR SAFETY VALVE         STEAM GENERATOR SAFETY VALVE         E-4         RT         Y10           2MS014C         2         C         6x10         RV         SA         Active         C         O/C         M-120-2B         E-4         RT         Y10	2MS014A	2	С	6x10	RV	SA	Active	С	O/C	M-120-2A	E-4	RT	Y10			
Valve Name         STEAM GENERATOR SAFETY VALVE           2MS014C         2         C         6x10         RV         SA         Active         C         0/C         M-120-2B         E-4         RT         Y10				Valve I	Vame		STEAM C	GENERAT	FOR SAFE	TY VALVE						
Valve Name         STEAM GENERATOR SAFETY VALVE           2MS014C         2         C         6x10         RV         SA         Active         C         0/C         M-120-2B         E-4         RT         Y10	2MS014B	2	С	6x10	RV	SA	Active	С	0/C	M-120-1	E-4	RT	Y10			
2MS014C 2 C 6x10 RV SA Active C O/C M-120-2B E-4 RT Y10																
	2MS014C	2									F-4	PΤ	Y10			
Valve Name STEAM GENERATOR SAFETY VALVE	LITUTTO	<b>4</b>	C								L 1	IX1	110			
				Valve l	vame		SIEAM	ENERAT	UR SAFE							

							M	ain Stei	am					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			*****		Pass	Pos	Pos		Coor.		Freq.	Just.	Pos.
2MS014D	2	С	6x10	RV	SA	Active	С	O/C	M-120-1	C-4	RT	Y10		
			Valve N	lame		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS015A	2	С	6x10	RV	SA	Active	С	O/C	M-120-2A	E-3	RT	Y10		
			Valve I	lame		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS015B	2	С	6x10	RV	SA	Active	С	O/C	M-120-1	E-3	RT	Y10		
			Valve N	lame		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS015C	2	С	6x10	RV	SA	Active	С	0/C	M-120-2B	E-3	RT	Y10		
			Valve I	Vame		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS015D	2	С	6x10	RV	SA	Active	C	O/C	M-120-1	C-3	RT	Y10		
			Valve I	lame		STEAM G	FNERAT	OR SAFE	TY VALVE					
2MS016A	2	C	6x10			Active	C	0/C	M-120-2A	E-3	RT	Y10		
ZHOOTON	2	C								LJ		110		
		~	Valve I						TY VALVE	<b>F D</b>	DT			
2MS016B	2	С		RV		Active		•	M-120-1	E-3	RT	Y10		
			Valve I						TY VALVE					
2MS016C	2	С	6x10	RV	SA	Active	С	0/C	M-120-2B	E-3	RT	Y10		
			Valve I	Name		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS016D	2	С	6x10	RV	SA	Active	С	0/C	M-120-1	C-3	RT	Y10		
			Valve I	Name		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS017A	2	С	6x10	RV	SA	Active	С	O/C	M-120-2A	E-2	RT	Y10		
			Valve I	Name		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS017B	2	С	6x10	RV	SA	Active	С	0/C	M-120-1	E-2	RT	Y10		
			Valve I	Name		STEAM G	ENERAT	OR SAFE	TY VALVE					
2MS017C	2	C				Active	<u> </u>	0/C	M-120-2B	E-2	RT	Y10		
	_	-	Valve I				-		TY VALVE					
2MS017D	2	C		RV						C-2	DT	V10		
21150170	Z	C				Active		0/C	M-120-1	C-2	RT	Y10		
			Valve I						TY VALVE					
2MS018A	2	В	бхб	RV	HO	Active	С	O/C	M-120-2A	E-1	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		STEAM G	GENERAT		OSPHERIC RELIE	= VALVE				
2MS018B	2	В	бхб	RV	НО	Active	С	O/C	M-120-1	E-2	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		STEAM G	SENERAT	OR ATM	OSPHERIC RELIE	F VALVE				
2MS018C	2	В	6x6	RV	HO	Active	С	0/C	M-120-2B	E-1	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Value	Name		STEAM								
			Valve	Name		SIEAM (	BENERAI	UKAIM	OSPHERIC RELIE	- VALVE				

							M	ain Stea	m					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2MS018D	2	В	6x6	RV	HO	Active	С	0/C	M-120-1	C-2	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Vame	!	STEAM G	ENERAT	OR ATMO	SPHERIC RELIEF	VALVE				
2MS019A	2	В	8	GA	М	Active	0	0/C	M-120-2A	D-2	SC	Y2		
			Valve I	Name	1	SG PORV	INLET	ISOLATIO	N MANUAL VALV	ES				
2MS019B	2	В	8	GA	M	Active	0	0/C	M-120-1	E-2	SC	Y2		
			Valve I	Name		SG PORV			N MANUAL VALV	=ς				
2MS019C	2	В	8	GA	 M	Active	0	0/C	M-120-2B	 D-2	SC	Y2		
21130190	2		-				-				50	14		
			Valve I	Name		SG PORV	INLET		N MANUAL VALV					
2MS019D	2	В	8	GA	М	Active	0	O/C	M-120-1	C-2	SC	Y2		
			Valve I	Name		sg porv	INLET	ISOLATIO	N MANUAL VALV	ES				
2MS101A	2	В	4	GL	AO	Active	С	С	M-120-2A	C-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		MAIN ST	EAM IS		ALVE BYPASS V	ALVE				
2MS101B	2	В		GL	AO	Active	C	С	M-120-1	D-5	FC	Q		TP-VA-2
	_	_					-	_			STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Nama					ALVE BYPASS V					
2461010														
2MS101C	2	В	4	GL	AO	Active	С	С	M-120-2B	C-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		MAIN ST	EAM IS	DLATION \	ALVE BYPASS V	ALVE				
2MS101D	2	В	4	GL	AO	Active	С	С	M-120-1	B-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name	L	MAIN ST	FAM IS		ALVE BYPASS V	AI VE				

Valve EPN Safety Size Viv Act. Cat Act/ Norm Safety P&TD P&ID Test Deferred Test Tech. Class Туре Туре Freq. Just. Pos. Pass Pos Pos Coor. Type 10G057A M-47-2 2 Α 3 BTF MO Passive С С E-6 LTJ AJ Valve Name H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE 10G079 2 Α 3 BTF MO Passive С С M-47-2 E-6 LTJ AJ Valve Name H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE 10G080 M-47-2 2 А BTF MO Passive С С E-5 LTJ AJ 3 Valve Name H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE 10G081 2 А 3 BTF MO Passive С С M-47-2 E-5 LTJ AJ H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE Valve Name 10G082 2 3 BTF С M-47-2 F-6 А MO Passive С LTJ AJ H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE Valve Name 10G083 2 MO Passive M-47-2 А 3 BTF С С E-6 LTJ AJ Valve Name H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE 10G084 2 Α 3 BTF MO Passive С С M-47-2 E-4 LTJ AJ Valve Name H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE 10G085 2 3 BTF MO Passive С С M-47-2 E-4 LTJ AJ А H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE Valve Name 20G057A 2 3 BTF MO Passive С С M-150-2 E-7 LTJ AJ А Valve Name H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE 20G079 2 MO Passive А 3 BTF С С M-150-2 E-7 LTJ AJ H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE Valve Name 20G080 2 А 3 BTF MO Passive С С M-150-2 E-6 LTJ AJ H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE Valve Name 20G081 2 3 BTF MO Passive С С M-150-2 E-6 LTJ AJ А H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE Valve Name 20G082 2 M-150-2 A 3 BTF MO Passive С С E-7 LTJ AJ H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE Valve Name 20G083 2 А 3 BTF MO Passive С С M-150-2 E-7 LTJ A) Valve Name H2 RECOMBINER DISCH CONTAINMENT ISOLATION VALVE 20G084 2 M-150-2 E-5 А 3 BTF MO Passive С С LTJ ΑJ H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE Valve Name 20G085 2 А 3 BTF MO Passive С С M-150-2 E-5 LTJ AJ Valve Name H2 RECOMBINER SUCTION CONTAINMENT ISOLATION VALVE

Off Gas

IST-BRW-PLAN

						Proc	ess Ra	diation	Monitoring					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1PR001A	2	Α	1	GL	AO	Active	0	С	M-78-10	F8	LTJ	LA		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		CONTAIN	MENT A	TMOSPH	ERE TO PR OUTS	IDE ISOL V	ALVE			
1PR001B	2	А	1	GL	AO	Active	0	С	M-78-10	F7	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
N			Valve I	Name		CONTAIN	MENT A	TMOSPH	ERE TO PR OUTS	IDE ISOL V	ALVE			
1PR002E	2	Α	2	GL	М	Passive	С	С	M-78-6	D5	LTJ	AJ		
			Valve	Name		EQUIP H	ATCH AI	R LOCK /	AIR MON OUTLT I	ISOL VLV				
1PR002F	2	Α	2	GL	М	Passive	С	С	M-78-6	B7	LTJ	٤		
			Valve	Name		EMERGE	NCY HAT	CH AIR	LOCK AIR MON C	UTLT ISOL V	VLV			
1PR002G	2	A/C	2	СК	SA	Passive	SYS	С	M-78-6	D4	LTJ	AJ		
											CCL	CM		TP-VA-7
											со	CM		TP-VA-7
			Valve	Name		EOUIP H	ATCH PE	RSONNE	L AIR LOCK AIR N	MON OUTLT	CHECK			
1PR002H	2	A/C	2	СК	SA	Passive		С	M-78-6	B7	LTJ	AJ		
1.100211	-	,, e	-	Cit	0, (	1 455176	010	C C	11700	5,	CCL	CM		TP-VA-7
											CO	CM		TP-VA-7
			Valve	Nama		EMERCE			Lock Air Mon O					
1PR032	2	A/C	1 vaive	CK	SA	Active	SYS	C	M-78-10	E1	LTJ	AJ		
IPRUJZ	Z	A/C	T	CK	SA	Active	515	C	M-10-10	ET	CCL	CM		
											COF	CM		TP-VA-8
			Makes -				OCECC				001	Ç, I		11 1/10
			Valve						NITORING RTRN (					
1PR033A	2	А	2	GL	М	Passive		С	M-78-6	D8	נדו	ΕA		
			Valve	Name		EQUIP H	ATCH AI	R LOCK		RAD MON I	SOL			
1PR033B	2	А	2	GL	М	Passive	С	С	M-78-6	D7	LTJ	AJ		
			Valve	Name		EQUIP H	ATCH AI	R LOCK	INSIDE AIR LOCK	RAD MON I	SOL			
1PR033C	2	Α	2	GL	М	Passive	С	С	M-78-6	C6	LTJ	AJ		
			Valve	Name		EMERGEI		TCH AIR	LOCK INSIDE LOC	CK RAD MON	ISOL			
1PR033D	2	A	2	GL	M	Passive		С	M-78-6	C6	LTJ	AJ		
21100000	-											, 0		
			Valve						LOCK INSIDE LOC					
1PR066	2	А	1	GL	AO	Active	0	С	M-78-10	E1	LTJ	۲A)		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve						PLE RETURN OUT					
2PR001A	2	Α	1	GL	AO	Active	0	С	M-151-1	F8	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		CONTAIN	IMENT A	TMOSPH	IERE TO PR OUTS	SIDE ISOL V	ALVE			

						Proc	ess Ra	diation	Monitoring					
Valve EPN	Safety	Cat	Sîze	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2PR001B	2	А	1	GL	AO	Active	0	С	M-151-1	F7	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		CONTAIN	MENT A	TMOSPH	ERE TO PR OUTS	SIDE ISOL V	ALVE			
2PR002E	2	A	2	GL	M	Passive	С	С	M-78-6	B7	LTJ	AJ		
			Valve	Name			атсн ат	R LOCK	AIR MON OUTLT I					
2PR002F	2	A	2	GL	M	Passive		C	M-78-6	B7	177			
ZPRUUZP	Z	A	2	GL	M	Passive	C	C	M-/0-0	D7	LTJ	ΕA		
			Valve	Name		EMERGEN	ICY HAT	CH AIR	LOCK AIR MON C	DUTLT ISOL	VLV			
2PR002G	2	A/C	2	CK	SA	Passive	SYS	С	M-78-6	B7	LTJ	AJ		
											CCL	CM		TP-VA-7
											CO	CM		TP-VA-7
			Valve	Name		EQUIP H	ATCH PE	RSONNE	L AIR LOCK AIR I	MON OUTLT	CHECK			
2PR002H	2	A/C	2	СК	SA	Passive	SYS	С	M-78-6	B7	LTJ	AJ		
		•									CCL	CM		TP-VA-7
											СО	CM		TP-VA-7
			Valve	Nama		EMERCEN	ורע איז		Lock air mon o		. VIV			
200022		N/C												
2PR032	2	A/C	1	CK	SA	Active	SYS	С	M-151-1	E1	LTJ	LA LA		
											CCL	CM		
											COF	CM		TP-VA-8
			Valve	Name		CNMT PR	OCESS	RAD MO	NITORING RTRN	CHECK VLV				
2PR033A	2	Α	2	GL	М	Passive	С	С	M-78-6	C6	LTJ	LA		
			Valve	Name		EQUIP H	ATCH AI	R LOCK :	INSIDE AIR LOCK	RAD MON I	SOL			
2PR033B	2	A	2	GL	M	Passive	С	С	M-78-6	C6	LTJ	AJ		***
			Valve					PLOCK	INSIDE AIR LOCK		501			
2000220												• •		
2PR033C	2	А	2	GL	М	Passive	С	С	M-78-6	C6	LTJ	LA		
			Valve	Name		EMERGEN	NCY HAT	CH AIR	LOCK INSIDE LOC	ck rad mon	ISOL			
2PR033D	2	Α	2	GL	М	Passive	С	С	M-78-6	C6	LTJ	AJ		
			Valve	Name		EMERGE		CH AIR	LOCK INSIDE LOO	CK RAD MON	ISOL			
	2	A	1	GL	AO	Active	0	C	M-151-1	E1	LTJ	AJ		5. (annual an
2	£		*		7.0	1.0070	Ŭ	C	11 202 2	<b>L</b>	FC	Q		TP-VA-2
											STC	Q		TP-VA-2 TP-VA-1
											PI	Υ2		TP-VA-1 TP-VA-4
												12		1 F-VA-4
			Valve	Name		CNMT AT	Mosph	ERE SAM	PLE RETURN OUT	TSIDE ISOL V	/ALVE			

							Proce	ss Sam	pling					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1PS228A	2	А	0.5	GA	SO	Active	0	0/C	M-68-7	E-7	STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Vame		POST ACC	C. MON	T 1A CNN	1T OUTSIDE SUC	TION SOL V	LV			
1PS228B	2	А	0.5	GA	SO	Active	0	O/C	M-68-7	C-7	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		POST ACC	C. MONT	1B CNM	T OUTSIDE SUCT	FION SOL VL	.V			
1PS229A	2	Α	0.5	GA	SO	Active	0	O/C	M-68-7	E-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		POST ACC	C. MON	T 1A CNI	IT OUTSIDE SUC	TION SOL V	LV			
1PS229B	2	A	0.5	GA	SO	Active	0	O/C	M-68-7	C-6	STC	Q	*****	TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		POST ACC	C. MON	T 1B CN	AT OUTSIDE SUC	T SOL VLV				
1PS230A	2	A	0.5	GA	SO	Active	С	0/C	M-68-7	D-7	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve	Name		POST ACC	C. MONT	TA CNM	IT OUTSIDE DISC	CH SOL VLV				
1PS230B	2	A	0.5	GA	SO	Active	С	O/C	M-68-7	B-7	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve	Name		POST AC	C. MONT	Γ 1B CNM	IT OUTSIDE DISC	CH SOL VLV				
1PS231A	2	A/C			SA	Active	SYS	0/C	M-68-7	D-8	CC	CM		
-,	<b>E</b> -1	,,c	0.75		57		5,5	5,0		U U	СС	Q		
											СО	Q		
											LT	Y2		
			Volvo	Nomo			сл цр M					•		
1PS231B		A /C	<b>Valve</b> 0.75						TRN CHECK VLV	B-8	CC	CM		
1627218	2	A/C	0.75	CK	SA	Active	SYS	O/C	M-68-7	B-9				
											CO	Q		
											CO	Q		
											CO LT	Q		
											LT	Y2		
			Valve	Name		POST LO	CA H2 M	ION 1B R	TRN CHECK VLV					
					······									

							Proce	ess Sam	pling					
Valve EPN	Safety	Cat	Size		Act.	-		Safety	P&ID	P&ID	Test		Deferred	Tech.
1PS9354A	<u>Class</u> 2	A	0.375		Type AO	Pass Active	Pos C	Pos C	M-68-1B	Coor. D-6	Type LTJ	Freq.	Just.	Pos.
12393344	2	A	0.575	GL	AU	Active	C	Ľ	M-00-10	D-0	FC	AJ Q		
											STC	Q		
											PI	Y2		
			Valve N	iamo				INSIDE I			••			
1PS9354B	2	A	0.375		AO	Active	C	C	M-68-1B	D-5	LTJ	AJ		
1 0000 10	L		0107.0	01	110	neure	C	C	1100 10	00	FC	Q		
											STC	Q		
											PI	Y2		
			Valve M	lame	1	PZR STM	SMPLE	OUTSIDE	ISOL VLV					
1PS9355A	2	A	0.375		AO	Active	C	C	M-68-1B	B-6	LTJ	AJ		
							_	-			FC	Q		
											STC	Q		
											PI	Y2		
			Valve 1	Vame	l	PZR LIQI	JID SMP	L INSIDE	ISOL VLV					
1PS9355B	2	A	0.375		AO	Active		С	M-68-1B	B-5	LTJ	AJ		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve I	Vame		PZR LIQI	JID SAM	PLE OUTS	SIDE ISOL VLV					
1PS9356A	2	A	0.375	GL	AO	Active	С	C	M-68-1A	D-5	LTJ	AJ		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve I	Name		RC LOOF	SAMPLI	E INSIDE I	ISOL VLV					
1PS9356B	2	A	0.375	GL	AO	Active	С	С	M-68-1A	D-4	LTJ	AJ		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve I	Name		RC LOOF	SAMPLI	E OUTSID	e isol vlv					
1PS9357A	2	A	0.375	GL	AO	Active	С	С	M-68-1B	A-6	LTJ	AJ	*****	
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve I	Name		SI ACCU	M SAMPI	E INSIDE	ISOL VLV					
1PS9357B	2	A	0.375	GL	AO	Active		С	M-68-1B	A-5	LTJ	٦		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve I	Name		SI ACCU	M SAMPI	E OUTSI	DE ISOL VLV					
2PS228A	2	A	0.5	GA	SO	Active	0	O/C	M-140-6	E-7	STC	Q		TP-VA-1
											STO	Q		TP-VA-1
												-		
											LT	Y2		
											LT PI	Y2 Y2		TP-VA-4

							Proci	ess San	npling					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos	·····	Coor.	Туре	Freq.	Just.	Pos.
2PS228B	2	Α	0.5	GA	SO	Active	0	O/C	M-140-6	C-7	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Vame		POST LOO	CA H2 M	10N 2B 0	DUTSIDE SUCT VL	/				
2PS229A	2	A	0.5	GA	SO	Active	0	O/C	M-140-6	E-6	FO	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		POSTIO	CA H2 M	10N 2A (		J				
2PS229B	2	A	0.5	GA	SO	Active	0	0/C	M-140-6	C-6	STC	Q		TP-VA-1
ZF J2290	2	~	0.5	GA	30	Active	0	0/0	11-1-0-0	C-0	STO	Q		TP-VA-1 TP-VA-1
											LT	Y2		11-14-1
											PI	Y2		TP-VA-4
				_							L1	12		IF-VA-4
			Valve I						DUTSIDE SUCT VL	V				
2PS230A	2	А	0.5	GA	SO	Active	С	0/C	M-140-6	D-7	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STO	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		POST LO	CA H2 M	10N 2A (	OUTSIDE DISCH V	LV				
2PS231A	2	A/C	0.75	СК	SA	Active	SYS	O/C	M-140-6	D-8	CC	CM		
											со	Q		
											LT	Y2		
			Valve I	Name		POSTIO	CA HYD	ROGEN I	MONITOR 2A CHE					
2PS231B	2	A/C	0.75		SA	Active	SYS	0/C	M-140-6	B-8	CC	CM		
2632310	2	AyC	0.75	CK	SA	Active	313	0/0	N-140-0	D-0	co			
											LT	Q Y2		
											LI	12		
	·····		Valve I			POST LO	CA HYD		MONITOR 2B CHEC	CK VALVE				
2PS9354A	2	Α	0.375	i GL	AO	Active	С	С	M-140-1B	D-6	LTJ	L		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve	Name		PZR STM	SAMPLI	e inside	E ISOL VLV					
2PS9354B	2	Α	0.375	GL	AO	Active	C	С	M-140-1B	D-5	LTJ	LA		
			_			-					FC	Q		
											STC	Q		
											PI	Y2		
			¥/			070 0714	C 4 1 4 D 1 4				• •			
			Valve	мате		PLK SIM	SAMPLI		DE ISOL VLV					

							Proc	ess Sam	pling					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2PS9355A	2	А	0.375	GL	AO	Active	С	С	M-140-1B	B-6	LTJ	AJ		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve N	lame	F	ZR LIQU	JID SAM	PLE INSI	E ISOL VLV					
2PS9355B	2	A	0.375	GL	AO	Active	С	С	M-140-1B	B-5	LTJ	AJ		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve M	lama	r				IDE ISOL VLV					
2PS9356A	2	A	0.375		AO	Active	C	C	M-140-1A	D-5	LTJ	AJ		
2F39330A	Z	A	0.375	GL	AU	ALLIVE	C	C	M-140-1A	D-2	FC	Q		
											STC	Q		
											PI	Y2		
											FI	12		
			Valve M					EINSIDE						
2PS9356B	2	А	0.375	GL	AO	Active	С	С	M-140-1A	D-4	LTJ	AJ		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve M	lame	I	RC LOOP	SAMPL	E OUTSID	e isol vlv					
2PS9357A	2	A	0.375	GL	AO	Active	С	С	M-140-1B	A-6	LTJ	AJ		
											FC	Q		
											STC	Q		
											PI	Y2		
			Valve I	lame			η σαμά		ISOL VLV					
2PS9357B	2	<b>A</b>	0.375		AO	Active	C	C	M-140-1B	A-5	LTJ	LA		
2F 33337 D	2	A	0.373	GL.	AO	ALLIVE	C	C	01-0-10	A-2	FC	. –		
												Q		
											STC	Q		
											PI	Y2		
			Valve I	Vame	:	SI ACCU	M SAMP	LE OUTSI	DE ISOL VLV					

							Read	ctor Co	olant					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1RC014A	1	В	1.00	GL	SO	Active	С	O/C	M-60-1B	E-3	FC	CS	CS-6	TP-VA-2
											STC	CS	CS-6	TP-VA-1
											STO	CS	CS-6	TP-VA-1
											PI	Y2		TP-VA-4
			Valve M	lame		REACTOR	HEAD \	/ENT ISC	LATION VALVE					
1RC014B	1	В	1.00	GL	SO	Active	С	O/C	M-60-1B	F-3	FC	CS	CS-6	TP-VA-2
											STC	CS	CS-6	TP-VA-1
											STO	CS	CS-6	TP-VA-1
											PI	Y2		TP-VA-4
			Valve 1	Vame		REACTOR	HEAD \	VENT ISC	DLATION VALVE					
1RC014C	1	В	1.00	GL	SO	Active	С	0/C	M-60-1B	E-3	FC	CS	CS-6	TP-VA-2
											STC	CS	CS-6	TP-VA-1
											STO	CS	CS-6	TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	1 <b>1</b>		PEACTOR		IENT TO	DLATION VALVE					
1000110	d											~~~		
1RC014D	1	В	1.00	GL	SO	Active	С	O/C	M-60-1B	F-3	FC	CS	CS-6	TP-VA-2
											STC	CS	CS-6	TP-VA-1
											STO	CS	CS-6	TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		REACTOR	HEAD	VENT ISC	DLATION VALVE					
1RY030A	3	С		RV	SA	Active	С	O/C	M-60-8	F-7	RT	Y10		
			0.75x1 00	•										
							~		TEE \ (.) / E					
			Valve I						IEF VALVE					
1RY030B	3	С	0.75x1 00	. RV	SA	Active	С	0/C	M-60-8	F-6	RT	Y10		
			Valve I		·····				IEF VALVE					
1RY075	2	Α	0.50	GL	М	Passive	LC	С	M-2060-6	C-3	LTJ	AJ		
			Valve I	Name		DEAD WE	IGHT T	ESTER IS	SOLATION VALVE					
1RY085A	3	С	2.00	CK	SA	Active	SYS	С	M-60-8	C-7	CCD	CM	······································	
											CCL	CM		
			Valve I	Name		INSTR AI	r Suppi	LY TO PO	RV ACCUMULATOR		LVE			
1RY085B	3	C	2.00	СК	SA	Active	SYS	С	M-60-8	C-6	CCD	CM		
11(10000	0		2100	0.11	0.1		0.0	U U	11 00 0		COD	CM		
												CH		
			Valve I						RV ACCUMULATOR					
1RY086A	3	С	2.00	CK	SA	Active	SYS	С	M-60-8	C-7	CCD	CM		
											COD	CM		
			Valve I	Name		INSTR AI	r suppi	LY TO PO	RV ACCUMULATOF	R CHECK VA	LVE			
1RY086B	3	С	2.00	СК	SA	Active	SYS	С	M-60-8	C-6	CCD	CM		
											COD	CM		
			Valve I	Namo		INCTO AT	וממו וכ ס		RV ACCUMULATOR					
10/100	NC													
1RY160	NS	С		CK	SA	Active	SYS	0	M-60-6	D-4	TRV	Y10		
			Valve I	Name		PRIMARY	WATER	SUPPLY	TO PRT CHECK VA	LVE				

#### IST-BRW-PLAN

							Paar	tor Coo	lant					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/		Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	-	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1RY455A	1	В	3.00	GL	AO	Active	С	O/C	M-60-5	C-8	FC	RR		TP-VA-2
											STC	RR		TP-VA-1
											STO	RR		TP-VA-1
											PI	Y2		TP-VA-4
			Valve N	lame		PRESSUR	IZER PO	WER OPI	RATED RELIEF	ALVE (PORV	)			
1RY456	1	В	3.00	GL	AO	Active	С	0/C	M-60-5	D-8	FC	RR		TP-VA-2
											STC	RR		TP-VA-1
											STO	RR		TP-VA-1
											PI	Y2		TP-VA-4
			Valve M	lame		PRESSUR	IZER PO	WER OP	ERATED RELIEF	VALVE (PORV	')			
1RY8000A	1	В	3.00	GA	MO	Active	O/C	0/C	M-60-5	C-8	DIAG	MOV		
											PI	MOV		
											SC	Q		
											SO	Q		
											STC	Q		TP-VA-1, TP-VA-6
			Valve I	iama		PRESSUR								TF-VA-U
1RY8000B	1	В	3.00	GA	МО	Active	0/C	0/C	M-60-5	D-8	DIAG	MOV		
INTOGOD	Ŧ	U	5.00	UA.	110	Active	0/0	0,0	11 00 5	00	PI	MOV		
											SC	Q		
											SO	Q		
											STC	Q		TP-VA-1,
												Ľ		TP-VA-6
			Valve I	lame		PRESSUR	IZER PC	orv bloc	K VALVE					
1RY8010A	1	B/C	6.00	RV	SA	Active	С	O/C	M-60-5	E-6	RT	Y10		
			Valve I	Vame		PRESSUR	IZER SA	FETY VA	LVE					
1RY8010B	1	B/C	6.00	RV	SA	Active	С	0/C	M-60-5	E-5	RT	Y10		
			Valve I	Name		PRESSUR	IZER SA	FETY VA	LVE					
1RY8010C	1	B/C	6.00	RV	SA	Active	С	O/C	M-60-5	E-4	RT	Y10		
			Valve I	Name		PRESSUR	IZER SA	FETY VA	LVE					
1RY8025	2	A	0.375	GL	AO	Active	C	С	M-60-6	F-2	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		PRT GAS	ANALYZ	ER CONT	AINMENT ISOLA	TION VALVE				
1RY8026	2	A	0.375	GL	AO	Active	0	С	M-60-6	F-3	LTJ	٦		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
										e.	PI	Y2		TP-VA-4
			Valve I	Name		PRT GAS	ANALYZ	ER CONT	AINMENT ISOLA	TION VALVE				
1RY8028	2	A		DIA	AO	Active	0	С	M-60-6	E-2	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	ç		TP-VA-1
														TP-VA-4
											PI	Y2		1P-VA-4

								ilant					
Safety	Cat	Size			-			P&ID	P&ID	Test			Tech.
	A	0.75						M-60-6				JUST.	Pos.
2	7	0.75	DIA	70	Active	0	C	11 00 0	62				TP-VA-2
													TP-VA-1
													TP-VA-4
		1/- 5 #	8					ININGENIT ICOL AT		LT	12		IF-VA-T
~ ~													
2	A/C	3.00	CK	SA	Active	515	C	M-90-9	E-3				
										COF	СМ		
					PRIMARY		SUPPLY '	TO PRT CHECK V					
2	A/C	0.75	CK	SA	Active	SYS	С	M-60-6	E-3	LTJ			
										CCL	CM		
										COF	CM		
		Valve I	lame		NITROGE	N SUPP	ly to pr	T CHECK VALVE					
1	В	1.00	GL	SO	Active	С	O/C	M-135-1B	F-2	FC	CS	CS-6	TP-VA-2
										STC	CS	CS-6	TP-VA-1
										STO	CS	CS-6	TP-VA-1
		Valve I	iame		REACTOR		VENT ISC	ATION VALVE					
										FC	 	<u> </u>	TP-VA-2
									62				TP-VA-1
													TP-VA-1 TP-VA-1
												CS-0	
										PI	12		TP-VA-4
			·										
1	В	1.00	GL	SO	Active	С	O/C	M-135-1B	F-2				TP-VA-2
												CS-6	TP-VA-1
												CS-6	TP-VA-1
										PI	Y2		TP-VA-4
		Valve I	Name		REACTO	R HEAD	VENT ISC	LATION VALVE					
1	В	1.00	GL	SO	Active	С	O/C	M-135-1B	E-2	FC	CS	CS-6	TP-VA-2
										STC	CS	CS-6	TP-VA-1
										STO	CS	CS-6	TP-VA-1
										PI	Y2		TP-VA-4
		Valve I	Vame		REACTO		VENT ISC	ATTON VALVE					
		VOIVC I						······	E_7	DT	V10		
J	C	0.75x1		SA	Active	C	0/0	102-0	1-7	NI	110		
		00	•										
		Valve I	Name		PORV AC	CUMULA	ATOR REL	IEF VALVE					
3	C				Active	C	0/C	M-135-8	F-6	RT	Y10		
U		00		0.1	, lette	-	0, 0	11 200 0			120		
		Valve	Name		PORV AC	CUMULA	ATOR REL	IEF VALVE					
2	A	0.50	GL	М	Passive	LC	С	M-2135-6	E-6	LTJ	AJ		
		Valve I	Name		DEAD W	EIGHT T	ESTER IS	OLATION VALVE					
					•••								
	 	2 00	CK	c۸	Activo	ςνc		M-135-8	C-7		CM		
3	С	2.00	СК	SA	Active	SYS	С	M-135-8	C-7	CCD COD	CM CM		
	Class 2 2 2 2 1 1 1 3 3	Class         2       A         2       A/C         2       A/C         1       B         1       B         1       B         1       B         3       C         3       C	Class         Valve N           2         A         0.75           2         A/C         3.00           2         A/C         3.00           Valve N           2         A/C         0.75           Valve N           2         A/C         0.75           Valve N           1         B         1.00           Valve N         Valve N           3         C         0.75x1           00         Valve N         00           Valve N         3         C	ClassType2A $0.75$ DIA2A $0.75$ DIA2A/C $3.00$ CKValve Name2A/C $0.75$ CKValve Name1B $1.00$ GLValve Name3C $0.75x1$ . $00$ 3C $0.75x1$ . $RV00RV3C0.75x1.RV3C0.75x1.RV3C0.75x1.RVValve Name$	ClassType Type2A $0.75$ DIAAO2A/C $3.00$ CKSA2A/C $3.00$ CKSAValve Name2A/C $0.75$ CKSAValve Name1B $1.00$ GLSOValve Name3C $0.75x1$ . $00$ SA3C $0.75x1$ . RVSA3C $0.75x1$ . RVSA3C $0.75x1$ . RVSA3C $0.75x1$ . RVSA	ClassType TypePass2A $0.75$ DIAAOActive2A/C $3.00$ CKSAActive2A/C $3.00$ CKSAActive2A/C $0.75$ CKSAActive2A/C $0.75$ CKSAActive2A/C $0.75$ CKSAActive1B $1.00$ GLSOActive1B $1.00$ GLSOActive1B $1.00$ GLSOActive1B $1.00$ GLSOActive1B $1.00$ GLSOActive1B $1.00$ GLSOActive3CRVSAActive3C $0.75 \times 1. RV$ SAActive $00$ Valve NamePORV ACPORV AC	SafetyCatSizeVivAct.Act/NormClassA0.75DIAAOActiveO2A0.75DIAAOActiveO2A/C3.00CKSAActiveSYS2A/C3.00CKSAActiveSYS2A/C0.75CKSAActiveSYS2A/C0.75CKSAActiveSYS2A/C0.75CKSAActiveSYS1B1.00GLSOActiveC1B1.00GLSOActiveC1B1.00GLSOActiveC1B1.00GLSOActiveC1B1.00GLSOActiveC3CRVSAActiveC3C0.75x1.WSAActiveC3C0.75x1.FWSAActiveC3C0.75x1.FWSAActiveC3C0.75x1.FWSAActiveC3C0.75x1.FWSAActiveC3C0.75x1.FWSAActiveC3C0.75x1.FWSAActiveC3C0.75x1.FWSAActiveC3C0.75	Safety ClassCatSizeVivAct.Act/NormSafety PosPos2A0.75DIAAOActiveOC2A0.75DIAAOActiveSYSC2A/C3.00CKSAActiveSYSC2A/C3.00CKSAActiveSYSC2A/C0.75CKSAActiveSYSC2A/C0.75CKSAActiveSYSC1B1.00GLSOActiveCO/CValve NameNITROGEN SUPPLY TO PR1B1.00GLSOActiveCO/CValve NameREACTOR HEAD VENT ISO1B1.00GLSOActiveCO/C1B1.00GLSOActiveCO/C1B1.00GLSOActiveCO/C1B1.00GLSOActiveCO/C1B1.00GLSOActiveCO/C3CRRVSAActiveCO/C3C0.75x1. 00SAActiveCO/C3C0.75x1. 00SAActiveCO/C3C0.75x1. 00SAActiveCO/C3C0.75x1. 00	Class         Type         Type         Pass         Pos           2         A         0.75         DIA         AO         Active         O         C         M-60-6           Valve Name         N2 SUPPLY TO PRT CONTAINMENT ISOLAT           2         A/C         3.00         CK         SA         Active         SYS         C         M-60-6           Valve Name         PRIMARY WATER SUPPLY TO PRT CONTAINMENT ISOLAT           2         A/C         0.75         CK         SA         Active         SYS         C         M-60-6           Valve Name         PRIMARY WATER SUPPLY TO PRT CHECK VALVE         2         A/C         0.75         CK         SA         Active         SYS         C         M-60-6           Valve Name         NITROGEN SUPPLY TO PRT CHECK VALVE         1         B         1.00         GL         SO         Active         C         O/C         M-135-1B           Valve Name         REACTOR HEAD VENT ISOLATION VALVE         1         B         1.00         GL         SO         Active         C         O/C         M-135-1B           Valve Name         REACTOR HEAD VENT ISOLATION VALVE         1         B         1.00         GL         SO         Active <td>SafetyCatSizeVivActAct/NormSafetyP&amp;IDP&amp;IDP&amp;IDClassTypeTypePassPosPosPosCoor.2A0.75VIAAOActiveOCM-60-6E-22A/C3.00CKSAActiveSYSCM-60-6E-32A/C3.00CKSAActiveSYSCM-60-6E-32A/C3.00CKSAActiveSYSCM-60-6E-32A/C0.75CKSAActiveSYSCM-60-6E-32A/C0.75CKSAActiveSYSCM-60-6E-32A/C0.75CKSAActiveSYSCM-60-6E-31B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveC&lt;</td> <td>Safety ClassSize TypeVioAct.Norm PosPos PosPoilDPéliDTest Coor.Type2A0.750IAAOActive0CM-60-6E-2LTJ FC FC STC PT2A/C3.00CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C3.00CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQL1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC STC1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC STC STC STC1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC STC STC STC STC1<td>Safety CassSize TypeViol TypeAct/ PassNorm PosPail PosPail Coor.Test TypeTest Type2A0.75DIAAOActiveOCM-60-6E-2LTI PC PTA2A0.75DIAAOActiveSCM-60-6E-2LTI PC PTA2A/C3.00CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C3.00CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA31.00GLSOActiveCO/CM-135-1BF-2FCCS STOCS4Valve NameREACTOREADVENT ISOLATION VALVEF2FCCS STOCS1B1.00GLSOActiveCO/CM-135-1BF-2FCCS STOCS1Valve NameREACTOREAD</td><td>Safety CaseCaseVivoActAct/ PosPosP81DP81DP81DTestTestDeferred Coor.TestDeferred Just.2A0.75DIAAOActiveOCM-60-6E-2L1DAU2A0.75DIAAOActiveOCM-60-6E-2L1DAU2A0.75DIAAOActiveSYSCM-60-6E-3L1DAJ2A/C3.00CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ31.00GLSOActiveCO/CM-135-1BF-2FCCSCS-65CSAActiveCO/CM-135-1BF-2FCCS&lt;</td></td>	SafetyCatSizeVivActAct/NormSafetyP&IDP&IDP&IDClassTypeTypePassPosPosPosCoor.2A0.75VIAAOActiveOCM-60-6E-22A/C3.00CKSAActiveSYSCM-60-6E-32A/C3.00CKSAActiveSYSCM-60-6E-32A/C3.00CKSAActiveSYSCM-60-6E-32A/C0.75CKSAActiveSYSCM-60-6E-32A/C0.75CKSAActiveSYSCM-60-6E-32A/C0.75CKSAActiveSYSCM-60-6E-31B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveCO/CM-135-1BF-21B1.00GLSOActiveC<	Safety ClassSize TypeVioAct.Norm PosPos PosPoilDPéliDTest Coor.Type2A0.750IAAOActive0CM-60-6E-2LTJ FC FC STC PT2A/C3.00CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C3.00CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQF2A/C0.75CKSAActiveSYSCM-60-6E-3LTJ CQL CQL1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC STC1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC STC STC STC1B1.00GLSOActiveC0/CM-135-1BF-2FC STC STC STC STC STC STC STC1 <td>Safety CassSize TypeViol TypeAct/ PassNorm PosPail PosPail Coor.Test TypeTest Type2A0.75DIAAOActiveOCM-60-6E-2LTI PC PTA2A0.75DIAAOActiveSCM-60-6E-2LTI PC PTA2A/C3.00CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C3.00CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA31.00GLSOActiveCO/CM-135-1BF-2FCCS STOCS4Valve NameREACTOREADVENT ISOLATION VALVEF2FCCS STOCS1B1.00GLSOActiveCO/CM-135-1BF-2FCCS STOCS1Valve NameREACTOREAD</td> <td>Safety CaseCaseVivoActAct/ PosPosP81DP81DP81DTestTestDeferred Coor.TestDeferred Just.2A0.75DIAAOActiveOCM-60-6E-2L1DAU2A0.75DIAAOActiveOCM-60-6E-2L1DAU2A0.75DIAAOActiveSYSCM-60-6E-3L1DAJ2A/C3.00CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ31.00GLSOActiveCO/CM-135-1BF-2FCCSCS-65CSAActiveCO/CM-135-1BF-2FCCS&lt;</td>	Safety CassSize TypeViol TypeAct/ PassNorm PosPail PosPail Coor.Test TypeTest Type2A0.75DIAAOActiveOCM-60-6E-2LTI PC PTA2A0.75DIAAOActiveSCM-60-6E-2LTI PC PTA2A/C3.00CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C3.00CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA2A/C0.75CKSAActiveSYSCM-60-6E-3LTI CLIA31.00GLSOActiveCO/CM-135-1BF-2FCCS STOCS4Valve NameREACTOREADVENT ISOLATION VALVEF2FCCS STOCS1B1.00GLSOActiveCO/CM-135-1BF-2FCCS STOCS1Valve NameREACTOREAD	Safety CaseCaseVivoActAct/ PosPosP81DP81DP81DTestTestDeferred Coor.TestDeferred Just.2A0.75DIAAOActiveOCM-60-6E-2L1DAU2A0.75DIAAOActiveOCM-60-6E-2L1DAU2A0.75DIAAOActiveSYSCM-60-6E-3L1DAJ2A/C3.00CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ2A/C0.75CKSAActiveSYSCM-60-6E-3L1DAJ31.00GLSOActiveCO/CM-135-1BF-2FCCSCS-65CSAActiveCO/CM-135-1BF-2FCCS<

							Read	tor Co	olant					
Valve EPN	Safety	Cat	Sîze			Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2RY085B	3	С	2.00	CK	SA	Active	SYS	С	M-135-8	D-6	CCD COD	CM		
				_								СМ		
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Valve M						DRV ACCUMULATO					
2RY086A	3	С	2.00	CK	SA	Active	SYS	С	M-135-8	C-7	CCD	CM		
											COD	СМ		
			Valve N			INSTR AI	R SUPPL	Y TO PC	DRV ACCUMULATO	R CHECK VA	LVE			
2RY086B	3	С	2.00	CK	SA	Active	SYS	С	M-135-8	D-6	CCD	CM		
											COD	CM		
			Valve M	łame		INSTR AI	r Suppl	Y TO PC	DRV ACCUMULATO	R CHECK VA	<b>LVE</b>			
2RY160	NS	С	0.50	СК	SA	Active	SYS	0	M-60-6	D-4	TRV	Y10		
			Valve M	lame		PRIMARY	WATER	SUPPLY	TO PRT CHECK V	ALVE				
2RY455A	1	В	3.00	GL	AO	Active	С	0/C	M-135-5	C-8	FC	RR		TP-VA-2
											STC	RR		TP-VA-1
											STO	RR		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	lame		PRESSUR	IZER PC	WER OI	PERATED RELIEF \	ALVE (POR	V)			
2RY456	1	В	3.00	GL	AO	Active	С	0/C	M-135-5	D-8	FC	RR		TP-VA-2
											STC	RR		TP-VA-1
											STO	RR		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		PRESSUR	IZER PC	WER O	PERATED RELIEF \	ALVE (POR	V)			
2RY8000A	1	В	3.00	GA	MO	Active	0/C	0/C	M-135-5	C-8	DIAG	MOV		
											PI	MOV		
											SC	Q		
											SO	Q		
											STC	Q		TP-VA-1,
				-										TP-VA-6
			Valve I						CK VALVE					
2RY8000B	1	В	3.00	GA	MO	Active	0/C	0/C	M-135-5	D-8	DIAG	MOV		
											PI	MOV		
											SC	Q		
											SO	Q		
											STC	Q		ТР-VА-1, ТР-VА-6
			Valve I	Vame		PRESSUR	TZER PC		CK VALVE					
2RY8010A	1	B/C			SA	Active	C	0/C	M-135-5	E-6	RT	Y10		
211100104	1	D/C								20	NI	110		
						PRESSUR					~~	N40		
2RY8010B	1	B/C	6.00		SA	Active	С	O/C	M-135-5	E-5	RT	Y10		
****	-110		Valve I			PRESSUR	IZER SA		······································					
2RY8010C	1	B/C	6.00	RV	SA	Active	С	O/C	M-135-5	E-4	RT	Y10		
			Valve I	Name		PRESSUR	IZER SA	FETY V	ALVE					
												·····		

							Rea	ctor Coo	olant					
Valve EPN	Safety	Cat	Size	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2RY8025	2	A	0.375	GL	AO	Active	С	С	M-135-6	F-2	LTJ	ΕA		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											ΡI	Y2		TP-VA-4
			Valve I	Name		PRT GAS	ANALYZ	ER CONT	AINMENT ISOLATI	ON VALVE				
2RY8026	2	A	0.375	GL	AO	Active	0	С	M-135-6	F-3	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		PRT GAS	ANALYZ	ER CONT	AINMENT ISOLAT	ON VALVE				
2RY8028	2	A	3.00	DIA	AO	Active	0	С	M-135-6	E-2	LTJ	AJ		
	_							-	,		FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		PRIMARY	WATER	SUPPLY	TO PRT CONT ISC	ATTON VAL	VF			
2RY8033	2	A	0.75		AO	Active	0	<u>C</u>	M-135-6	E-2		AJ		
21(10035	~	~	0.75	DIA	70	Active	0	C	11 155 0	62	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
											11	14		
			Valve I						AINMENT ISOLATI					
2RY8046	2	A/C	3.00	CK	SA	Active	SYS	С	M-135-6	E-3	LTJ	AJ		
											CCL	CM		
											COF	CM		
			Valve I	Name		PRIMARY	' WATEF	R SUPPLY	TO PRT CHECK VA	LVE				
2RY8047	2	A/C	0.75	СК	SA	Active	SYS	С	M-135-6	E-3	LTJ	AJ		
											CCL	СМ		
											COF	СМ		
			Valve i	Name		NITROGE			T CHECK VALVE					
	,													

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Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре	-	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
RE040	2	A/C	.75x1.0		SA	Active	С	O/C	M-70-1	C-3	נדו	AJ		
		,									RT	Y10		
			Valve N	lame	F	RE PUMP	S DISCH	ARGE REL	IEF VLV					
RE1003	2	A	3	DIA	AO	Active	C	C	M-70-1	B-3	LTJ	٦J		
	-		5	2111		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Ū	U	11.01	20	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			5 f	*	,									
			Valve M						CONTAINMENT					
RE9157	2	А	1	DIA	AO	Active	0	С	M-70-1	C-2	LTJ	L		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve M	Name	I	RCDT NT	TROGEN	I SUPPLY C	ONTAINMENT	ISOLATION V	ALVE			
RE9159A	2	A	0.75	DIA	AO	Active	0	С	M-70-1	E-3	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		
											PI	Y2		TP-VA-4
			Valve I	Name	I	RCDT TO	) AUTO	GAS ANAL	YZER CONTAIN	MENT ISOL V	/ALVE			
RE9159B	2	A	0.75	DIA	AO	Active	С	С	M-70-1	E-2	LTJ	AJ	and a second	
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Mahra I											
<b>D D D D D D D D D D</b>			Valve I						YZER CONTAIN					
LRE9160A	2	А	1	DIA	AO	Active	0	С	M-70-1	D-4	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		RCDT TO	WASTE	E GAS COM	IPRESSOR CON	TAINMENT IS	OL VLV			
RE9160B	2	A	1	DIA	AO	Active	0	С	M-70-1	D-2	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		RCDT TO	WASTE	GAS COM	IPRESSOR CON	TAINMENT IS				
.RE9170	2	A	3	DIA	AO	Active	0	C	M-70-1	B-2		AJ		
	-		-	- 47 1			Ũ	-		4.0° 4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
												14		11 797479
			Valve I						CONTAINMENT					
2RE040	2	A/C	.75x1.(	0 RV	SA	Active	С	O/C	M-141-1	C-6	LTJ	ΑJ		
											RT	Y10		
			Valve I			re pump								

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				Rea	ctor l	Building	g and C	Containr	nent Equipme	ent Drains				
Valve EPN	Safety	Cat	Size	Vīv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2RE1003	2	Α	3	DIA	AO	Active	С	С	M-141-1	C-6	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name	I	RCDT PU	MPS DIS	SCHARGE	CONTAINMENT	ISOLATION V	ALVE			
2RE9157	2	A	1	DIA	AO	Active	0	С	M-141-1	D-7	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		RCDT NT	TROGEN	SUPPLY	CONTAINMENT I	SOLATION V	ALVE			
2RE9159A	2	Α	0.75		AO	Active	0	C	M-141-1	E-6	LTJ	AJ		
211231337	2		0.75	DIA	70	Active	0	C	11 1 1 1	LU	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
												12		IF-VA-4
			Valve I				,		LYZER CONTAIN					
2RE9159B	2	А	0.75	DIA	AO	Active	С	С	M-141-1	E-7	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		RCDT TO	O AUTO	GAS ANA	LYZER CONTAIN	MENT ISOL V	ALVE			
2RE9160A	2	Α	1	DIA	AO	Active	0	С	M-141-1	E-6	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		RCDT TO	WASTE	GAS CO	MPRESSOR CON	TAINMENT IS	OL VLV			
2RE9160B	2	A	1	DIA	AO	Active	0	С	M-141-1	E-7	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve l	Nama					MPRESSOR CON					
2RE9170	2	A	3	DIA	AO	Active	O	C	M-141-1	C-7		LA		
EREJ1/U	2	~	J	DIA	70	Active	U	C	1.1.7.17.7.7	<b>℃</b> -7	FC	ہت Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		RCDT PU	MPS DI	SCHARGE	CONTAINMENT	ISOLATION V	/ALVE			

				Rea	actor	Building	g and (	Contain	ment Floor Dr	rains to R				
Valve EPN	Safety	Cat	Size			-	-	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
RF026	2	Α	2	PLG	AO	Active	0	С	M-48-6B	F-2	LTJ	LA		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I				****		NTAINMENT ISC					
RF026-I/A- CHK	NC	С	1	СК	SA	Active	С	С	M-48.6B	F-2	CO	Q	51.40	
											CC	RR	RJ-10	
			Valve I	Name		CHECK V/ CONTAIN			NSTR AIR SUPPL	Y AND ACCU	MULATO	R ON RF	PUMPS DIS	SCHARGE
.RF027	2	А	2	PLG	AO	Active	0	С	M-48-6A	E-7	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		RF PUMP	S DISCH	IARGE CC	NTAINMENT ISC	DLATION VLV				
LRF027-I/A-	NC	C	1	СК	SA	Active	С	С	M-48.6A	E-7	CC	Q		
СНК											со	Q		
						רטברע ע			NSTR AIR SUPPL					
			Valve			CONTAIN	MENT I	SOLATIO	N VLV				1001501	
.RF060	2	A/C	.75x1.	0 RV	SA	Active	С	O/C	M-48-6B	F-1	LTJ	۲A		
											RT	Y10		
			Valve	Name		RF PUMP	S DISCH	IARGE RE	LIEF VLV					
RF026	2	A	2	PLG	AO	Active	0	С	M-48-6B	D-2	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		RF PUMP	S DISCH	IARGE CO	ONTAINMENT ISC	OLATION VLV	,			
2RF026-I/A-	NC	С	1	СК	SA	Active	C	C	M-48.6B	D-2	CO	Q	······	
СНК											СС	RR	RJ-10	
			Valve	Name				SOLATIO	NSTR AIR SUPPL					
2RF027	2	А	2	PLG	AO	Active	0	С	M-48-6A	B-7	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		RF PUMP	S DISCH	HARGE CO	ONTAINMENT IS	DLATION VLV	,			
2RF027-I/A-	NC	c	1	СК	SA	Active	C	<u>C</u>	M-48.6A	B-7	CC	Q		
СНК			-	Cit	0.1	, leave	0	C		27				
											CO	Q		
			Valve	Name				TWEEN I SOLATIO	NSTR AIR SUPPI	LY AND ACCL	JMULATC	R ON R	F PUMPS DI	SCHARGE
2RF060	2	A/C		RV	SA		С	O/C	M-48-6B	D-1	LTJ	LA		
			.75x1.	.0							RT	Y10		
			Valve	Name		RF PUMP	S DISC	HARGE RE	ELIEF VLV					
			Valve	Name		RF PUMP	S DISCH	HARGE RE	ELIEF VLV					

Safety Class 2	Cat	Sîze	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
7				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2	В	3	GA	MO	Active	0	0/C	M-62	F-4	SC	M18		
										SO	M18		
										STC	M18		TP-VA-1
										STO	M18		TP-VA-1
										DIAG			
										PI	MOV		
	,	Valve I	Name	F	rhr pum	P MINIF	LOW VALV	E					
2	В	3	GA	MO	Active	0	O/C	M-62	A-4	SC	M18		
										SO	M18		
										STC	M18		TP-VA-1
										STO	M18		TP-VA-1
										DIAG	MOV		
										PI	MOV		
		Valve	Name	1	RHR PUM	P MINIF	LOW VALV	E					
1	A	12		МО		С	C	 M-62	E-2	LT	CS	CS-13	4.5
		Value	Nama						עוע ור		1101		
1										<u>т</u> і	27	CS-13	
1	-	12	UA.	no	ACCIVE	C	C	11.02				CO 10	
										PI	MOV		
1	Α	12	GA	МО	Active	С	С	M-62	D-2			CS-13	
										SO			
										DIAG	MOV		
										PI	MOV		
		Valve	Name		MOV B R	h pp su	CT FROM C	HL DWST IS	ol vlv				
1	A	12	GA	MO	Active	С	С	M-62	D-1	LT	CS	CS-13	
										SC	M18		
										SO	M18		
										DIAG	MOV		
										PI	MOV		
		Valve	Name		MOV B R	H PP SU	CT FROM C	HL UPST ISC	DL VLV				
2									D-1	CC.	CS	CS-13	
	.,.		2	2			-, -						
												10 /	
		Value	Name		סµ כווריי						1 6~		
									<u>C 1</u>		~~~	CC_12	
2	A/C	0.75		SA	rassive	515	0/0	1º1-02	C-1				
												KJ-7	
										LT	Y2		
	1	2 B 1 A 1 A 1 A 1 A 2 A/C	2 B 3 Valve 1 A 12 Valve 1 A 12 Valve 1 A 12 Valve 1 A 12 Valve 2 A/C 0.75 Valve	2 B 3 GA Valve Name 1 A 12 GA Valve Name 1 A 12 GA Valve Name 1 A 12 GA Valve Name 1 A 12 GA Valve Name 2 A/C 0.75 CK	2     B     3     GA     MO       Valve Name     MO       1     A     12     GA     MO       1     A     12     GA     MO       1     A     12     GA     MO       Valve Name       2     A/C     0.75     CK     SA       Valve Name	2       B       3       GA       MO       Active         Valve Name       RHR PUM         1       A       12       GA       MO       Active         Valve Name       MOV A Ri         1       A       12       GA       MO       Active         Valve Name       MOV A Ri         1       A       12       GA       MO       Active         Valve Name       MOV A Ri         1       A       12       GA       MO       Active         Valve Name       MOV B Ri         1       A       12       GA       MO Active         Valve Name       MOV B Ri         1       A       12       GA       MOV B Ri         1       A       12       GA       MOV B Ri         2       A/C       0.75       CK       SA       Passive         Valve Name       RH SUCT	2       B       3       GA       MO       Active       O         Valve Name       RHR PUMP MINIF         1       A       12       GA       MO       Active       C         Valve Name       MOV A RH PP SU         1       A       12       GA       MO       Active       C         Valve Name       MOV A RH PP SU         1       A       12       GA       MO       Active       C         Valve Name       MOV A RH PP SU         1       A       12       GA       MO       Active       C         Valve Name       MOV B RH PP SU         1       A       12       GA       MO Active       C         Valve Name       MOV B RH PP SU         1       A       12       GA       MO Active       C         Valve Name       MOV B RH PP SU         2       A/C       0.75       CK       SA       Passive       SYS         Valve Name       RH SUCTION ISC	2       B       3       GA       MO       Active       O       O/C         Valve Name       RHR PUMP MINIFLOW VALV         1       A       12       GA       MO       Active       C       C         Valve Name       MOV A RH PP SUCT FROM A         1       A       12       GA       MO       Active       C       C         Valve Name       MOV A RH PP SUCT FROM A         1       A       12       GA       MO Active       C       C         Valve Name       MOV A RH PP SUCT FROM A         1       A       12       GA       MO Active       C       C         Valve Name       MOV B RH PP SUCT FROM C         1       A       12       GA       MO Active       C       C         1       A       12       GA       MO Active       C       C         Valve Name         MOV B RH PP SUCT FROM C         2       A/C       0.75       CK       SA       Passive       SYS       O/C         Valve Name       RH SUCTION ISOLATION CH	2       B       3       GA       MO       Active       O       O/C       M-62         Valve Name       RHR PUMP MINIFLOW VALVE         1       A       12       GA       MO       Active       C       C       M-62         Valve Name       MOV A RH PP SUCT FROM A HL DWST ISC         1       A       12       GA       MO       Active       C       C       M-62         Valve Name       MOV A RH PP SUCT FROM A HL DWST ISC         1       A       12       GA       MO Active       C       C       M-62         Valve Name       MOV A RH PP SUCT FROM A HL UPST ISC         1       A       12       GA       MO Active       C       C       M-62         Valve Name       MOV B RH PP SUCT FROM C HL DWST ISC         1       A       12       GA       MO Active       C       C       M-62         Valve Name       MOV B RH PP SUCT FROM C HL UPST ISC         1       A       12       GA       MOV B RH PP SUCT FROM C HL UPST ISC         2       A/C       0.75       CK       SA       Passive       SYS       O/C       M-62	2         B         3         GA         MO         Active         O         O/C         M-62         A-4           Valve Name         RHR PUMP MINIFLOW VALVE           1         A         12         GA         MO         Active         C         C         M-62         E-2           Valve Name         MOV A RH PP SUCT FROM A HL DWST ISOL VLV         A         12         GA         MO         Active         C         C         M-62         E-1           Valve Name         MOV A RH PP SUCT FROM A HL DWST ISOL VLV         A         12         GA         MO         Active         C         C         M-62         D-1           Valve Name         MOV A RH PP SUCT FROM A HL UPST ISOL VLV         A         12         GA         MO         Active         C         C         M-62         D-2           Valve Name         MOV B RH PP SUCT FROM C HL DWST ISOL VLV         A         12         GA         MOV B RH PP SUCT FROM C HL DWST ISOL VLV           1         A         12         GA         MOV B RH PP SUCT FROM C HL DWST ISOL VLV           2         A/C         0.75         CK         SA         Passive         SYS         O/C         M-62         D-1           Valve Name <td>Valve Name         RHR PUMP MINIFLOW VALVE           2         B         3         GA         MO         Active         0         O/C         M-62         A-4         SC         SO         STC         STC</td> <td>DIAG         MOV           2         B         3         GA         MO         Active         O         O/C         M-62         A-4         SC         M18           2         B         3         GA         MO         Active         O         O/C         M-62         A-4         SC         M18           2         B         3         GA         MO         Active         O         O/C         M-62         A-4         SC         M18           STC         M18         STC         M18         STC         M18         DIAG         MOV           1         A         12         GA         MO         Active         C         C         M-62         E-2         LT         CS         M18           DIAG         MOV         Active         C         C         M-62         E-1         LT         CS         M18           DIAG         MOV         A RH PP SUCT FROM A HL DWST ISOL VLV         V         I         C         M18         SO         M18           DIAG         MOV A RH PP SUCT FROM A HL UPST ISOL VLV         I         C         M18         SO         M18           DIAG         MOV</td> <td>Valve Name         RHR PUMP MINIFLOW VALVE         NOV         PI         MOV           2         B         3         GA         MO         Active         0         O/C         M-62         A-4         SC         MI8           2         B         3         GA         MO         Active         0         O/C         M-62         A-4         SC         MI8           STC         MI8         STC         MI8         STC         MI8         STC         MI8           STC         MI8         STC         MI8         STC         MI8         STC         MI8           STO         MI8         STC         MI8         STC         MI8         STC         MI8           STO         MI8         STC         MI8         STC         MI8         STC         MI8           SO         MI8         SO         MI8         SO         MI8         SO         MI8           SO         MI8         SO         MI8         SO         MI8         SO         MI8           SO         MI8         SO         MI8         SO         MI8         SO         MI8           SO         MI8         Active&lt;</td>	Valve Name         RHR PUMP MINIFLOW VALVE           2         B         3         GA         MO         Active         0         O/C         M-62         A-4         SC         SO         STC         STC	DIAG         MOV           2         B         3         GA         MO         Active         O         O/C         M-62         A-4         SC         M18           2         B         3         GA         MO         Active         O         O/C         M-62         A-4         SC         M18           2         B         3         GA         MO         Active         O         O/C         M-62         A-4         SC         M18           STC         M18         STC         M18         STC         M18         DIAG         MOV           1         A         12         GA         MO         Active         C         C         M-62         E-2         LT         CS         M18           DIAG         MOV         Active         C         C         M-62         E-1         LT         CS         M18           DIAG         MOV         A RH PP SUCT FROM A HL DWST ISOL VLV         V         I         C         M18         SO         M18           DIAG         MOV A RH PP SUCT FROM A HL UPST ISOL VLV         I         C         M18         SO         M18           DIAG         MOV	Valve Name         RHR PUMP MINIFLOW VALVE         NOV         PI         MOV           2         B         3         GA         MO         Active         0         O/C         M-62         A-4         SC         MI8           2         B         3         GA         MO         Active         0         O/C         M-62         A-4         SC         MI8           STC         MI8         STC         MI8         STC         MI8         STC         MI8           STC         MI8         STC         MI8         STC         MI8         STC         MI8           STO         MI8         STC         MI8         STC         MI8         STC         MI8           STO         MI8         STC         MI8         STC         MI8         STC         MI8           SO         MI8         SO         MI8         SO         MI8         SO         MI8           SO         MI8         SO         MI8         SO         MI8         SO         MI8           SO         MI8         SO         MI8         SO         MI8         SO         MI8           SO         MI8         Active<

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		_	_					il Heat Ro						
Valve EPN		Cat	Size					Safety	P&ID	P&ID		Test	Deferred	Tech.
<u></u>	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
RH8706A	2	A/C	0.75	CK	SA	Passive	SYS	0/C	M-62	D-1	CC	CS	CS-13	
											CO	RR	RJ-7	
											LT	Y2		
			Valve I	Name		RH SUCT	ION ISC	LATION CH	IECK VALVE					
1RH8708A	2	С	3.0 x	RV	SA	Passive	С	0/C	M-62	E-2	RT	Y10	······	
			4.0											
			Valve I	Name		RH PP SL	ICT HDF	R RLF VLV						
1RH8708B	2	С	3.0 x	RV	SA	Passive	С	0/C	M-62	D-2	RT	Y10		
			4.0											
			Valve I	Name		RH PP SL	ICT HDF	R RLF VLV						
RH8716A	2	В	8	GA	МО	Active	0	O/C	M-62	D-8	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	kiama					DSSTIE ISOLAT					
007160														
LRH8716B	2	В	8	GA	MO	Active	0	O/C	M-62	C-8	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		RHR PUM	IP DISC	HARGE CRO	OSSTIE ISOLAT	ION VALVE				
1RH8730A	2	С	8	CK	SA	Active	С	O/C	M-62	E-4	CCF	CS	CS-7	
											COF	CS	CS-7	
			Valve I	Name		RH PP RI	H01PA/F	B DSCH CH	( VI V					
1RH8730B	2	С	8	СК	SA	Active	C	0/C	M-62	C-4	CCF	CS	CS-7	
TKHOYOUD	2	C	0	CK	SA	Active	C	0/0	M-02	C-4	COF	CS		
											COF	CS	CS-7	
			Valve	Name		RH PP RI	H01PA/E	B DSCH CH	( VLV					
2RH610	2	В	3	GA	MO	Active	0	O/C	M-137	F-4	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name				FLOW VAL	/F					
201611	2	В								D 4		M10		
2RH611	Z	D	3	GA	МО	Active	0	0/C	M-137	B-4	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve i			RHR PUM								

								ıl Heat R						
Valve EPN	Safety	Cat	Size			-		Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2RH8701A	1	А	12	GA	MO	Active	С	с	M-137	E-7	LT	CS	CS-13	
											SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV A R	h pp su	CT FROM	A HL DWST ISC	DL VLV				
2RH8701B	1	A	12	GA	MO	Active	С	С	M-137	E-8	LT	CS	CS-13	
											SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV A R	H PP SL	ICT FROM	A HL UPST ISO	L VLV				
2RH8702A	1	A	12	GA	MO	Active	С	С	M-137	D-7	LT	CS	CS-13	
											SC	M18		
											SO	M18		
											DIAG	MOV		
											PIAG	MOV		
											F1	MOV		
		•••••••••••••••••••	Valve I		6+0+1-+				C HL DWST ISC					
2RH8702B	1	А	12	GA	MO	Active	С	С	M-137	D-8	LT	CS	CS-13	
											SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV B R	H PP SL	ICT FROM	C HL UPST ISO	L VLV				
2RH8705A	2	A/C	0.75	СК	SA	Passive	e SYS	O/C	M-137	D-8	CC	CS	CS-13	
											CO	RR	RJ-7	
											LT	Y2		
			Valve I	Name		RH SUCT	ION IS	DLATION C	HECK VALVE					
2RH8705B	2	A/C	0.75	СК	SA	Passive	SYS	O/C	M-137	C-8	CC	CS	<b>CS</b> -13	*****
											CO	RR	RJ-7	
											LT	Y2		
			Valve	Name		RH SUCT	TON IS	DLATION C	HECK VALVE					
2RH8708A	2	С		RV	SA	Passive		0/C	M-137	E-7	RT	Y10		
2101070071	-	0	4.0		0.1	1 455.70		0,0	11 207	<u> </u>		110		
			Valve	Name	;	RH PP SI	JCT HD	r rlf vlv						
2RH8708B	2	С		RV	SA	Passive	С	O/C	M-137	D-7	RT	Y10		
			4.0											
			Valve					R RLF VLV						
2RH8716A	2	В	8	GA	МО	Active	0	O/C	M-137	E-1	SC	CS	CS-14	
											SO	CS	CS-14	
											STC	CS	CS-14	TP-VA-1
											STO	CS	CS-14	TP-VA-1
											DIAG	MOV		
											PI	MOV		

			0						-					
						R	lesidua	ıl Heat R	emoval					
Valve EPN	Safety	Cat	Sîze	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2RH8716B	2	В	8	GA	MO	Active	0	O/C	M-137	C-1	SC	CS	CS-14	
											SO	CS	CS-14	
											STC	CS	CS-14	TP-VA-1
											STO	CS	CS-14	TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		RHR PUM	1P DISC	HARGE CR	OSSTIE ISOLAT	TON VALVE				
2RH8730A	2	С	8	СК	SA	Active	С	O/C	M-137	E-5	CCF	CS	CS-7	
											COF	CS	CS-7	
			Valve I	Name		RH PP RI	H01PA/B	DSCH CH	K VLV					
2RH8730B	2	С	8	СК	SA	Active	С	0/C	M-137	C-5	CCF	CS	CS-7	
											COF	CS	CS-7	
			Valve I	Name		RH PP RI	H01PA/B	DSCH CH	K VLV					

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							S	ervice A	ir					
Valve EPN	Safety	Cat	Size	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1 <b>SA</b> 032	2	Α	1.5	GL	AO	Active	С	С	M-54-2	D6	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name	/	AOV CNI	MT SA S	up hdr o	UTSIDE CNMT	ISOL VLV				
1 <b>SA</b> 033	2	A	1.5	GL	AO	Active	С	С	M-54-2	D7	LTJ	AJ	****	
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Varne		AOV CNI	MT SA S	UP HDR II	NSIDE CNMT IS	OL VLV				
2SA032	2	A	1.5	GL	AO	Active	С	С	M-54-2	D3	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		AOV CNI	MT SA S	UP HDR C	UTSIDE CNMT	ISOL VLV				
2SA033	2	A	1.5	GL	AO	Active	С	С	M-54-2	D2	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	18				יד מסט מוי	NSIDE CNMT IS					

Valve EPN						Stea	am Ger	ntidun 1	Blowdown					
	Safety	Cat	Size	Viv —		Act/		Safety	P&ID	P&ID			Deferred	Tech.
1SD002A	<u>Class</u>	A	2	Type GL	A0	Active	Pos 0	Pos C	M-48-5A	Coor. D-8	Type FC	Freq.	Just.	Pos. TP-VA-2
ISDUUZA	Z	А	2	GL	AU	Active	0	C	M-40-2A	D-0	STC	Q Q		TP-VA-2 TP-VA-1
											LT	Y2		IL-AM-T
											PI	Y2		TP-VA-4
			Valve I	lamo		STFAM G	ENERAT		OWDOWN ISOL	VALVE		12		
1SD002B	2	A	2	GL	AO	Active	0	C	M-48-5A	D-7	FC	Q		TP-VA-2
	-		-					-			STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		STEAM G	ENERAT	OR 1A BL	OWDOWN ISOL	. VALVE				
1SD002C	2	A	2	GL	AO	Active	0	С	M-48-5A	D-6	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		STEAM G	ENERAT	OR 1D BL	OWDOWN ISOL	VALVE				
1SD002D	2	A	2	GL	AO	Active	0	С	M-48-5A	D-6	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve i	Name		STEAM G	ENERAT	OR 1D BL	OWDOWN ISOL	VALVE				
1SD002E	2	A	2	GL	AO	Active	0	С	M-48-5A	D-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve				ENERAT			1411/1				
			AGIAC	name		STEAM G		OR 1B BL	OWDOWN ISOL	. VALVE				
1SD002F	2	A	2	GL	AO	Active	0	OR 1B BL	M-48-5A	D-4	FC	Q		TP-VA-2
1SD002F	2	A									FC STC	Q Q		TP-VA-2 TP-VA-1
1SD002F	2	A												
1SD002F	2	A									STC	Q		
1SD002F	2	A		GL	AO	Active	0	С		D-4	STC LT	Q Y2		TP-VA-1
	2	A	2	GL	AO	Active	0	С	M-48-5A	D-4	STC LT	Q Y2		TP-VA-1
			2 Valve	GL Name	AO	Active STEAM G	O	C TOR 1B BL	M-48-5A OWDOWN ISOI	D-4 _ VALVE	STC LT PI	Q Y2 Y2		TP-VA-1 TP-VA-4
			2 Valve	GL Name	AO	Active STEAM G	O	C TOR 1B BL	M-48-5A OWDOWN ISOI	D-4 _ VALVE	STC LT PI FC	Q Y2 Y2 Q		TP-VA-1 TP-VA-4 TP-VA-2
			2 Valve	GL Name	AO	Active STEAM G	O	C TOR 1B BL	M-48-5A OWDOWN ISOI	D-4 _ VALVE	STC LT PI FC STC	Q Y2 Y2 Q Q		TP-VA-1 TP-VA-4 TP-VA-2
			2 Valve	GL Name GL	AO	Active STEAM G Active	O ENERAT O	C TOR 1B BL C	M-48-5A OWDOWN ISOI	D-4 - VALVE D-3	STC LT PI FC STC LT	Q Y2 Y2 Q Q Y2		TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1
1SD002F 1SD002G 1SD002H			2 Valve 2	GL Name GL	AO	Active STEAM G Active	O ENERAT O	C TOR 1B BL C	M-48-5A OWDOWN ISOI M-48-5A	D-4 - VALVE D-3	STC LT PI FC STC LT	Q Y2 Y2 Q Q Y2		TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1
1SD002G	2	A	2 Valve 2 Valve	GL Name GL Name	AO	Active STEAM G Active STEAM G	O EENERAT O	C TOR 1B BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI	D-4 _ VALVE D-3 _ VALVE	STC LT PI FC STC LT PI	Q Y2 Y2 Q Q Y2 Y2		TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4
1SD002G	2	A	2 Valve 2 Valve	GL Name GL Name	AO	Active STEAM G Active STEAM G	O EENERAT O	C TOR 1B BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI	D-4 _ VALVE D-3 _ VALVE	STC LT PI FC STC LT PI FC	Q Y2 Y2 Q Q Y2 Y2 Q		TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2
1SD002G	2	A	2 Valve 2 Valve	GL Name GL Name	AO	Active STEAM G Active STEAM G	O EENERAT O	C TOR 1B BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI	D-4 _ VALVE D-3 _ VALVE	STC LT PI FC STC LT PI FC STC	Q Y2 Y2 Q Q Y2 Y2 Y2 Q Q		TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2
1SD002G	2	A	2 Valve 2 Valve	GL Name GL GL	AO AO AO	Active STEAM G Active STEAM G Active	O EENERAT O	C TOR 1B BL C TOR 1C BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI	D-4 VALVE VALVE VALVE D-2	STC LT PI FC STC LT PI FC STC LT	Q Y2 Y2 Q Q Y2 Y2 Y2 Q Q Q Y2		TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-2
1SD002G 1SD002H	2	A	2 Valve 2 Valve 2 Valve	GL Name GL GL	AO AO AO	Active STEAM G Active STEAM G Active	O EENERAT O	C TOR 1B BL C TOR 1C BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI M-48-5A	D-4 VALVE VALVE VALVE D-2	STC LT PI FC STC LT PI FC STC LT	Q Y2 Y2 Q Q Y2 Y2 Y2 Q Q Q Y2		TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-2
1SD002G	2	A A	2 Valve 2 Valve 2 Valve	GL Name GL GL	AO AO	Active STEAM G Active STEAM G STEAM G	O ENERAT O ENERAT	C TOR 1B BL C TOR 1C BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI M-48-5A	D-4 D-3 VALVE D-2 L VALVE	STC LT PI FC STC LT PI FC STC LT PI	Q Y2 Y2 Q Q Y2 Y2 Y2 Y2 Y2		TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4
1SD002G 1SD002H	2	A A	2 Valve 2 Valve 2 Valve	GL Name GL GL	AO AO	Active STEAM G Active STEAM G STEAM G	O ENERAT O ENERAT	C TOR 1B BL C TOR 1C BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI M-48-5A	D-4 D-3 VALVE D-2 L VALVE	STC LT PI FC STC LT PI FC STC LT PI FC	Q Y2 Y2 Q Q Y2 Y2 Y2 Q Q Y2 Y2 Y2		TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2
1SD002G 1SD002H	2	A A	2 Valve 2 Valve 2 Valve	GL Name GL GL	AO AO	Active STEAM G Active STEAM G STEAM G	O ENERAT O ENERAT	C TOR 1B BL C TOR 1C BL C	M-48-5A OWDOWN ISOI M-48-5A OWDOWN ISOI M-48-5A	D-4 D-3 VALVE D-2 L VALVE	STC LT PI FC STC LT PI FC STC LT PI FC STC	Q Y2 Y2 Q Q Y2 Y2 Y2 Y2 Y2 Q Q Y2 Y2 Q Q Q		TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-1 TP-VA-4 TP-VA-2

Link	C		e	<b>Z</b> . 192.	<b>6</b> -*				Blowdown	-		······································	D	<b>.</b>
Valve EPN	Safety Class	Cat	Size	Viv		Act/ Pass	Pos	Safety Pos	P&ID	P&ID	Test		Deferred	Tech. Pos.
1SD005B	2	A	0.375	Type Gl	AO	Active	0	C	M-68-8	Coor. D-7	Type FC	Freq. Q	Just.	TP-VA-2
	-	,,	01070	~-		, 100.10	•	-	11 00 0	2,	STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	lame		STEAM G	ENERAT	OR BLOW	DOWN SAMPLE	VALVE				
LSD005C	2	A	0.375	GL	AO	Active	0	С	M-68-8	F-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Vame		STEAM G	ENERAT	or blow	DOWN SAMPLE	VALVE				
LSD005D	2	А	0.375	GL	AO	Active	0	С	M-68-8	D-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	Name		STEAM G	ENERAT	or blow	DOWN SAMPLE	VALVE				
LSD054A	2	В	2	GA	AO	Active	0	С	M-48-5A	D-8	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Name		STEAM G	ENERAT	OR BLOW	DOWN ISOLATI	ON				
LSD054B	2	В	2	GA	AO	Active	0	С	M-48-5A	D-7	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Name		STEAM C	ENERAT	OR BLOW	DOWN ISOLATI	ON				
1SD054C	2	В	2	GA	AO	Active	0	С	M-48-5A	D-6	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Name		STEAM G	FNFRAT	OR BLOW	DOWN ISOLATI	ON				
1SD054D	2	В	2	GA	AO	Active	0	C	M-48-5A	D-6	FC	CS	CS-18	TP-VA-2
1000010	-	5	~	GA	no	neuve	0	C	11 10 5/1	DU	STC	CS	CS-18	TP-VA-1
			Valve I	Vama		STEAM C			DOWN ISOLATI					
1000040														TD 1/4 0
1SD054E	2	В	2	GA	AO	Active	0	С	M-48-5A	D-5	FC	CS	CS-18	TP-VA-2
											STC	CS		
			Valve I						DOWN ISOLATI					
1SD054F	2	В	2	GA	AO	Active	0	С	M-48-5A	D-4	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Name		STEAM G	ENERAT	OR BLOW	DOWN ISOLATI	ON				
1SD054G	2	В	2	GA	AO	Active	0	С	M-48-5A	D-3	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Name		STEAM G	ENERAT	OR BLOW	DOWN ISOLATI	ON				
1SD054H	2	В	2	GA	AO	Active	0	С	M-48-5A	D-2	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Name		STEAM G	ENERAT	OR BLOW	DOWN ISOLATI	ON				
2SD002A	2	A	2	GL	AO	Active	0	С	M-48-5B	C-8	FC	Q		TP-VA-2
							-				STC	Q		TP-VA-1
											LT	Y2		· · · · –
											PI	Y2		TP-VA-4
												•		

Valve EPN						Stea	in dei	neratori	Blowdown					
	Safety	Cat				Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
2SD002B	<b>Class</b> 2	A	2	GL	Type AO	Pass Active	Pos 0	Pos C	M-48-5B	<u>Coor.</u> C-7	Type FC	Freq. Q	Just.	Pos. TP-VA-2
2300020	Z	~	2	GL	AU	Active	0	C	11-10-00	07	STC	Q		TP-VA-2
											LT	Y2		11 174 1
											PI	Y2		TP-VA-4
			Valve N	lame		STEAM G	ENERAT	OR BLOW	DOWN UPPER/L	OWER ISOL				
2SD002C	2	A	2	GL	AO	Active	0	<u>C</u>	M-48-5B	C-6	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve N	lame	:	STEAM G	ENERAT	OR BLOW	DOWN UPPER/L	OWER ISOL	VALVE			
2SD002D	2	A	2	GL	AO	Active	0	С	M-48-5B	C-6	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve N	lame		STEAM G	ENERAT	or blow	DOWN UPPER/L	OWER ISOL	VALVE			
2SD002E	2	Α	2	GL	AO	Active	0	С	M-48-5B	C-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve N	lame		STEAM G	ENERAT	OR BLOW	DOWN UPPER/L	OWER ISOL	VALVE			
2SD002F	2	A	2	GL	AO	Active	0	С	M-48-5B	C-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											STC LT	Q Y2		TP-VA-1
														TP-VA-1 TP-VA-4
			Valve N	lame		STEAM G	ENERAT	OR BLOW	/Down upper/l	OWER ISOL	LT PI	Y2		
2SD002G	2	A	Valve N	lame GL	AO	STEAM G	ENERAT	OR BLOW	/DOWN UPPER/L M-48-5B	OWER ISOL	LT PI	Y2		
25D002G	2	A									LT PI VALVE	Y2 Y2		TP-VA-4
2SD002G	2	A									LT PI VALVE FC	Y2 Y2 Q		TP-VA-4 TP-VA-2
25D002G	2	A									LT PI VALVE FC STC	Y2 Y2 Q Q		TP-VA-4 TP-VA-2
25D002G	2	A		GL	AO	Active	0	С		C-3	LT PI VALVE FC STC LT PI	Y2 Y2 Q Q Y2		TP-VA-4 TP-VA-2 TP-VA-1
2SD002G 2SD002H	2	A	2	GL	AO	Active	0	С	M-48-5B	C-3	LT PI VALVE FC STC LT PI	Y2 Y2 Q Q Y2 Y2		TP-VA-4 TP-VA-2 TP-VA-1
			2 Valve M	GL lame	AO	Active STEAM G	O	C FOR BLOW	M-48-5B /Down Upper/I	C-3 LOWER ISOL	LT PI VALVE FC STC LT PI VALVE	Y2 Y2 Q Q Y2 Y2 Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4
			2 Valve M	GL lame	AO	Active STEAM G	O	C FOR BLOW	M-48-5B /Down Upper/I	C-3 LOWER ISOL	LT PI VALVE FC STC LT PI VALVE FC	Y2 Y2 Q Q Y2 Y2		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2
			2 Valve M	GL lame	AO	Active STEAM G	O	C FOR BLOW	M-48-5B /Down Upper/I	C-3 LOWER ISOL	LT PI VALVE FC STC LT PI VALVE FC STC	Y2 Y2 Q Q Y2 Y2 Y2 Q Q Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2
			2 Valve M 2	GL Iame GL	AO	Active STEAM C Active	O SENERAT O	C FOR BLOW C	M-48-5B /DOWN UPPER/I M-48-5B	C-3 LOWER ISOL C-2	LT PI VALVE FC STC LT PI VALVE FC STC LT PI	Y2 Y2 Q Q Y2 Y2 Y2 Q Q Q Y2		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1
2SD002H	2		2 Valve M 2 Valve M	GL Iame GL	AO	Active STEAM G Active STEAM G	O SENERAT O SENERAT	C FOR BLOW C	M-48-5B /Down Upper/I M-48-5B /Down Upper/I	C-3 LOWER ISOL C-2	LT PI VALVE FC STC LT PI VALVE FC STC LT PI	Y2 Y2 Q Q Y2 Y2 Y2 Q Q Q Y2 Y2		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4
		A	2 Valve M 2	GL Iame GL	AO	Active STEAM C Active	O SENERAT O SENERAT	C FOR BLOW C	M-48-5B /DOWN UPPER/I M-48-5B	C-3 LOWER ISOL C-2	LT PI VALVE FC LT PI VALVE FC STC LT PI VALVE FC	Y2 Y2 Q Q Y2 Y2 Y2 Q Q Q Y2 Y2 Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-2
2SD002H	2	A	2 Valve M 2 Valve M	GL Iame GL	AO	Active STEAM G Active STEAM G	O SENERAT O SENERAT	C FOR BLOW C	M-48-5B /Down Upper/I M-48-5B /Down Upper/I	C-3 LOWER ISOL C-2	LT PI VALVE FC STC LT PI VALVE FC STC LT PI VALVE FC STC	Y2 Y2 Q Q Y2 Y2 Y2 Y2 Q Q Y2 Y2 Q Q Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4
2SD002H	2	A	2 Valve M 2 Valve M	GL Iame GL	AO	Active STEAM G Active STEAM G	O SENERAT O SENERAT	C FOR BLOW C	M-48-5B /Down Upper/I M-48-5B /Down Upper/I	C-3 LOWER ISOL C-2	LT PI VALVE FC LT PI VALVE FC STC LT PI VALVE FC	Y2 Y2 Q Q Y2 Y2 Y2 Q Q Q Y2 Y2 Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-2
2SD002H	2	A	2 Valve M 2 Valve M 0.375	GL lame GL lame GL	AO	Active STEAM C Active STEAM C Active	O SENERAT O SENERAT O	C TOR BLOW C TOR BLOW C	M-48-5B /Down Upper/I M-48-5B /Down Upper/I	C-3 OWER ISOL C-2 .OWER ISOL E-8	LT PI VALVE FC STC LT PI VALVE FC STC LT PI VALVE EC STC LT	Y2 Y2 Q Q Y2 Y2 Y2 Y2 Y2 Q Q Q Q Q Q Q Z Y2		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-2 TP-VA-1
2SD002H 2SD005A	2	A	2 Valve M 2 Valve M 0.375 Valve M	GL lame GL GL	AO AO AO	Active STEAM C Active STEAM C Active	O SENERAT O SENERAT O	C FOR BLOW C FOR BLOW	M-48-5B /DOWN UPPER/I M-48-5B /DOWN UPPER/I M-48-5B	C-3 LOWER ISOL C-2 LOWER ISOL E-8	LT PI VALVE FC STC LT PI VALVE FC STC LT PI VALVE FC STC LT PI	Y2 Y2 Q Q Y2 Y2 Y2 Y2 Q Q Q Y2 Y2 Y2		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-2
2SD002H	2	A A	2 Valve M 2 Valve M 0.375	GL lame GL GL	AO	Active STEAM C Active STEAM C Active	O SENERAT O SENERAT O	C TOR BLOW C TOR BLOW C	M-48-5B /DOWN UPPER/I M-48-5B /DOWN UPPER/I M-48-5B	C-3 OWER ISOL C-2 .OWER ISOL E-8	LT PI VALVE FC STC LT PI VALVE FC STC LT PI VALVE FC STC LT PI	Y2 Y2 Q Q Y2 Y2 Y2 Y2 Q Q Q Y2 Y2 Y2 Q Q Q Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-2 TP-VA-2
2SD002H 2SD005A	2	A A	2 Valve M 2 Valve M 0.375 Valve M	GL lame GL GL	AO AO AO	Active STEAM C Active STEAM C Active	O SENERAT O SENERAT O	C FOR BLOW C FOR BLOW	M-48-5B /DOWN UPPER/I M-48-5B /DOWN UPPER/I M-48-5B	C-3 LOWER ISOL C-2 LOWER ISOL E-8	LT PI VALVE FC LT PI VALVE FC STC LT PI VALVE FC STC LT PI FC STC	Y2 Y2 Q Q Y2 Y2 Y2 Y2 Y2 Q Q Q Y2 Y2 Y2 Q Q Q Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-2
2SD002H 2SD005A	2	A A	2 Valve M 2 Valve M 0.375 Valve M	GL lame GL GL	AO AO AO	Active STEAM C Active STEAM C Active	O SENERAT O SENERAT O	C FOR BLOW C FOR BLOW	M-48-5B /DOWN UPPER/I M-48-5B /DOWN UPPER/I M-48-5B	C-3 LOWER ISOL C-2 LOWER ISOL E-8	LT PI VALVE FC STC LT PI VALVE FC STC LT PI VALVE FC STC LT PI	Y2 Y2 Q Q Y2 Y2 Y2 Y2 Q Q Q Y2 Y2 Y2 Q Q Q Q		TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-4 TP-VA-2 TP-VA-1 TP-VA-2 TP-VA-1 TP-VA-2 TP-VA-2

#### IST-BRW-PLAN

## Braidwood Generating Station - Valve Program Plan

							0	*						
						Stei	am Gei	nerator	Blowdown					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Type	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2SD005C	2	А	0.375	GL	AO	Active	0	С	M-48-5B	E-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											LT	Y2		
											PI	Y2		TP-VA-4
			Valve I	lame	ç	STEAM G	ENERAT	OR BLOW	DOWN SAMPLE	VALVE				
2SD005D	2	A	0.375	GL	AO	Active	0	С	M-48-5B	E-3	FC	Q		TP-VA-2
2300030	2	•	0.375	0L	110	1100140	Ŭ	C	11 10 55	LJ	STC	Q		TP-VA-1
											LT	Y2		11 47 1
											PI	Y2		TP-VA-4
											LT	12		IF-VA-T
			Valve I	lame		STEAM G	ENERAT	OR BLOW	DOWN SAMPLE	VALVE				
2SD054B	2	В	2	GL	AO	Active	0	С	M-48-5B	C-7	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Name	9	STEAM G	ENERAT	OR UPPE	R/LOWER BLOWI	DOWN ISOL	ATION			
2SD054D	2	В	2	GL	AO	Active	0	С	M-48-5B	C-6	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I											
									R/LOWER BLOWI					
2SD054F	2	В	2	GL	AO	Active	0	С	M-48-5B	C-4	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Vame	:	STEAM G	ENERAT	FOR UPPE	R/LOWER BLOWI	DOWN ISOL	ATION			
2SD054H	2	В	2	GL	AO	Active	0	С	M-48-5B	C-2	FC	CS	CS-18	TP-VA-2
											STC	CS	CS-18	TP-VA-1
			Valve I	Viama					R/LOWER BLOWI					
			vdive i	Slipt		STEAM G								

Valve EPN 151101A 151101B	Safety Class 2	Cat B			Act.	Act/	Norm	ty Injecti Safety	P&ID	P&ID	Test	Tart	Deferred	
	2	В		Tuno			10 Million (10 Mil	ware we have			S. Garrand Mar.	8 C.3Q	S-C2C2 2 CU	Tech.
	1999 - 1999 - 1999 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	В		* X 2.~~	Type	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
ISI101B			4	GA	М	Active	LO	O/C	M-61-2	E-3	SC	Y2		
ISI101B											SO	Y2		
1SI101B			Valve I	Name		15I8801A	UPSTRI	M ISOL VLV	,					
	2	В	4	GA	М	Active	LO	O/C	M-61-2	C-3	SC	Y2		
											SO	Y2		
			Valve I	Name		1SI8801E	UPSTRI	M ISOL VLV	,					
1SI121A	2	С		RV	SA	Active	С	0	M-61-4	C-5	RT	Y10		
			0.75x1 0											
						CONTATA								
			Valve I											
1SI121B	2	С	0.75x1 0	. RV	SA	Active	С	0	M-61-4	B-4	RT	Y10		
			Valve I	Name		CONTAIN	MENT S		TION VALVE RE					
1SI8801A	2	В		) GA	MO		C	0/C	M-61-2	D-3	SC	M18		<u></u>
1310001A	2	Б	4.000	GA GA	140	Active	C	0/0	14-01-2	D-3	SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		IL VAT
											PI			
											PI	MOV		
			Valve			CHARGIN	IG TO CO	DLD LEG IN	JECTION MOV					
1SI8801B	2	В	4.000	GA	MO	Active	С	O/C	M-61-2	C-3	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CHARGIN	IG TO CO	OLD LEG IN	JECTION MOV					
1SI8802A	2	В	4	GA	MO	Active	С	0/C	M-61-3	E-3	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Nama										
100000									CNMT ISOL VLV			MIO		
1SI8802B	2	В	4	GA	МО	Active	С	0/C	M-61-3	D-3	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		MOV SI F	PP DSCH	OUTSIDE	CNMT ISOL VLV					
1SI8804B	2	В	8	GA	МО	Active	С	O/C	M-61-1A	C-4	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1,
														TP-VA-6
											DIAG	MOV		
											PI	MOV		
			Valve	Name		RH HX T	o si pun	MP SUCTIO	N ISOLATION V	ALVE				

							Safe	ty Inje	ction					
Valve EPN	Safety	Cat	Size	Viv		Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1SI8806	2	В	8	GA	МО	Active	0	O/C	M-61-1A	D-2	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1, TP-VA-6
											DIAG	MOV		
											PI	MOV		
			Valve I	ilama	,		ст то <b>с</b>		JCT HDR ISOL VL	,				
10100074												MIO		
1SI8807A	2	В	6.000	GA	МО	Active	С	O/C	M-61-1A	E-2	SC	M18		
											SO CTO	M18		
											STO	M18		TP-VA-1, TP-VA-6
											DIAG	MOV		in into
											PI	MOV		
			Valve I	Vana				סכ כוורד	HDR XTIE ISOL	VI				
10100070	~	~								****		MIO		
1SI8807B	2	В	6.000	GA	MO	Active	С	O/C	M-61-1A	E-2	SC	M18		
											SO STO	M18		
											STO	M18		TP-VA-1, TP-VA-6
											DIAG	MOV		
											PI	MOV		
			Valve	Vama	1			ספ כוורד	HDR XTIE ISOL	VI				
1SI8808A	1	В	10	GA	MO	Passive		0/C	M-61-5	C-6	STC	M18		TP-VA-1,
13100004	Т	D	10	GA	MO	Fassive	0	0/0	M-01-5	C-0	310	1410		TP-VA-1, TP-VA-6
											PI	Y2		
			Valve	Name				DISCHAR	GE ISOLATION VA	IVE - MOV				
1SI8808B	1	В	10	GA	мо	Passive	0	0/C	M-61-5	C-3	STC	M18		TP-VA-1,
13100000	T	D	10	GA	MO	rassive	0	0/0	M-01-2	C-3	310	1110		TP-VA-1, TP-VA-6
											PI	Y2		
			Valve	Name			ATOR [	DISCHAR	GE ISOLATION VA	VF - MOV				
15I8808C	1	В	10	GA	мо	Passive		0/C	M-61-6	C-7	STC	M18		TP-VA-1,
13100000	T	U	10	GA	110	rassive	0	0/0	M-01-0	C-7	510	1410		TP-VA-1,
											PI	Y2		
			Valve	Name		ACCUMUI	ATOR I	DISCHAR	GE ISOLATION VA	LVE - MOV				
1SI8808D	1	В	10	GA	MO	Passive		0/C	M-61-6	C-4	STC	M18		TP-VA-1,
13100000	T	U	10	GA	MO	Fassive	0	0/0	M-01-0	C-4	510	1410		TP-VA-1,
											PI	Y2		
			Valve	Name			ATOR [	DISCHAR	GE ISOLATION VA	VF - MOV				
1SI8809A	2	В	8	GA	мо	Active	0	0/C	M-61-4	E-4	SC	M18		
13100074	2	U	U	GA	nu	ACUVE	U	0/0	11 UT-1	<b>L</b> 4	SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		11-44-1
											PI	MOV		
											F1	VUN		
			Valve	Name		MOV RH	HX SI (	OUTLET I	DWST ISOL VLV					

							2010	ty Injec						
Valve EPN	Safety Class	Cat	Size	Viv Type		Act/ Pass	Norm Pos	Safety Pos	P&ID	P&ID Coor.	Test Type	Test Freq.	Deferred Just.	Tech. Pos.
1SI8809B	2	В	8	GA	MO	Active	0	0/C	M-61-4	D-4	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name	I	MOV RH	HX SI O	UTLET D	WST ISOL VLV					
15I8811A	2	В	24	GA	МО	Active	С	O/C	M-61-4	C-5	DIAG	MOV		
											PI	MOV		
											SC	RR	RJ-2	
											SO	RR	RJ-2	
											STO	RR	RJ-2	TP-VA-1
			Valve I	Name		MOV CN	MT RECI	IRC SUMP	OUTLET ISOL V	LV				
1SI8811B	2	В	24	GA	MO	Active	С	0/C	M-61-4	A-5	DIAG	MOV		
											PI	MOV		
											SC	RR	RJ-2	
											SO	RR	RJ-2	
											STO	RR	RJ-2	TP-VA-1
			Valve I	Name		MOV CN	MT RECI		OUTLET ISOL V	LV				
1SI8812A	2	В	12	GA	MO	Active	0	O/C	M-61-4	D-4	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1, TP-VA-6
											DIAG	MOV		11 1/10
											PI	MOV		
			Valve I	Name		MOV RH	PP RWS	ST SUCT I	SOL VLV					
1SI8812B	2	В	12	GA	МО	Active	0	O/C	M-61-4	B-4	SC	M18		
											SO	M18		
											CTC	M18		TP-VA-1,
											STC			TP-VA-6
											DIAG	MOV		TP-VA-6
														TP-VA-6
			Valve I	Name		MOV RH	PP RWS	ST SUCT 1	isol VLV		DIAG	MOV		TP-VA-6
1SI8813	2	В	Valve I	Name	MO	MOV RH		ST SUCT 1		D-7	DIAG	MOV		TP-VA-6
15I8813	2	В							ISOL VLV M-61-1B	D-7	DIAG PI	MOV MOV		TP-VA-6
15I8813	2	В								D-7	DIAG PI SC	MOV MOV M18		TP-VA-6 TP-VA-1, TP-VA-6
1518813	2	В								D-7	DIAG PI SC SO	MOV MOV M18 M18		TP-VA-1,
1518813	2	В								D-7	DIAG PI SC SO STC	MOV MOV M18 M18 M18		TP-VA-1,
1518813	2			GL	МО	Active	0	O/C			DIAG PI SC SO STC DIAG PI	MOV MOV M18 M18 M18 M0V		TP-VA-1,
15I8813	2		2	GL	МО	Active	O	O/C	M-61-1B		DIAG PI SC SO STC DIAG PI	MOV MOV M18 M18 M18 M0V		TP-VA-1,
			2 Valve I	GL Name	MO	Active	O	O/C ON PUMP	M-61-1B MIN FLOW ISOL	ATION VALV	DIAG PI SC SO STC DIAG PI E	MOV MOV M18 M18 M18 MOV MOV		TP-VA-1,
			2 Valve I	GL Name	MO	Active	O	O/C ON PUMP	M-61-1B MIN FLOW ISOL	ATION VALV	DIAG PI SC SO STC DIAG PI E SC	MOV MOV M18 M18 M18 MOV MOV		TP-VA-1,
			2 Valve I	GL Name	MO	Active	O	O/C ON PUMP	M-61-1B MIN FLOW ISOL	ATION VALV	DIAG PI SC SO STC DIAG PI E SC SO	MOV MOV M18 M18 M18 MOV MOV M18 M18		TP-VA-1, TP-VA-6 TP-VA-1,
			2 Valve I	GL Name	MO	Active	O	O/C ON PUMP	M-61-1B MIN FLOW ISOL	ATION VALV	DIAG PI SC SO STC DIAG PI E SC SO STC	MOV MOV M18 M18 M18 MOV MOV M18 M18 M18		TP-VA-1, TP-VA-6 TP-VA-1,

IST-BRW-PLAN

							ty Injec						
Safety	Cat	Size	Vlv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
Class					Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1	A/C	3	CK	SA	Active	SYS	O/C	M-61-2	D-5				
												RJ-5	
										LT	Y2		
	,	Valve N	lame	(	COLD LEG	G HDR S	I SUP CH	K VLV					
1	A/C	6.000	СК	SA	Active	С	O/C	M-61-4	F-7	CC	CS	CS-13	
										CO	CS	CS-8	
										LT	Y2		
	,	Valve N	lame	I		OLD LEG	G ACCUM	INJ CHK VLV					
1	A/C	6.000	CK	SA	Active	С	O/C	M-61-4	D-7	CC	CS	CS-13	
										СО	CS	CS-8	
										LT	Y2		
		Valve N	lame	I	LOOP_C	OLD LE	G ACCUM	INJ CHK VLV					
1	A/C	6.000	СК	SA	Active	С	0/C	M-61-4	D-7	CC	CS	CS-13	
										СО	CS	CS-8	
										LT	Y2		
		Valve N	lame		LOOP C	OLD LE	G ACCUM	INI CHK VLV					
1	~~								F-7			<u>(5-13</u>	
-	7.9 C	0.000	CIX	0/1	, lette	C	0,0		L /				
		Value A	š										
		~~~~							A F			CC 12	
T	A/C	2	CK	JA	Active	515	0/0	M-01-2	A-3				
												N-7	
		1/-l 8	*							E1	12		
1	A/C	2	CK	SA	Active	515	0/0	M-01-3	A-/				
												KJ-4	
										LI	۲Z		
1	A/C	2	CK	SA	Active	SYS	0/C	M-61-3	A-7				
												RJ-4	
										LT	Y2		
					LOOP 3 C	COLD LE	g si chk	VLV					
1	A/C	2	СК	SA	Active	SYS	O/C	M-61-3	A-6	CC	CS	CS-13	
										CO	RR	RJ-4	
										LT	Y2		
		Valve N	lame		LOOP 4 C	OLD LE	g si chk	VLV					
2	В	4	GA	MO	Active	0	0/C	M-61-3	D-3	SC	M18		
										SO	M18		
										STC	M18		TP-VA-1
										DIAG	MOV		
										PI	MOV		
		Valve M						) CL ISOL VLV					
	Class 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Class           1         A/C           1         A/C	Class         A/C         3           1         A/C         6.000           Valve N         1         A/C         2           Valve N         1         A/C         2	Class         Type           1 $A/C$ 3 $CK$ Valve Name         1 $A/C$ $6.000$ $CK$ 1 $A/C$ $6.000$ $CK$ Valve Name         1 $A/C$ $6.000$ $CK$ 1 $A/C$ $6.000$ $CK$ Valve Name         1 $A/C$ $6.000$ $CK$ Valve Name         1 $A/C$ $2$ $CK$ Valve Name         1         <	Class         Type         Type           1 $A/C$ 3 $CK$ SA           Valve Name         Valve Name         Valve Name         Valve Name           1 $A/C$ $6.000$ $CK$ SA           Valve Name         Valve Name         Valve Name         Valve Name           1 $A/C$ $6.000$ $CK$ SA           Valve Name         Valve Name         Valve Name         Valve Name           1 $A/C$ $2$ $CK$ SA           Valve Name         Valve Name         Valve Name         Valve Name           1 $A/C$ $2$ $CK$ SA $L$ $A/C$ <td>ClassTypeTypePass1A/C3CKSAActiveValve NameCOLD LEG1A/C<math>6.000</math>CKSAActiveValve NameLOOP_C1A/C<math>6.000</math>CKSAActiveValve NameLOOP_C1A/C<math>6.000</math>CKSAActiveValve NameLOOP_C1A/C<math>6.000</math>CKSAActiveValve NameLOOP_C1A/C<math>6.000</math>CKSAActiveValve NameLOOP_C1A/C<math>2</math>CKSAActiveValve NameLOOP_C1A/C<math>2</math>CKSAActiveValve NameLOOP 1 C1A/C<math>2</math>CKSAActiveValve NameLOOP 2 C1A/C<math>2</math>CKSAActiveValve NameLOOP 2 C<math>1</math><math>A/C</math><math>2</math>CKSA1A/C<math>2</math>CKSAActiveValve NameLOOP 3 C<math>1</math><math>A/C</math><math>2</math>CKSA1<math>A/C</math><math>2</math>CKSAActiveValve NameLOOP 3 C<math>1</math><math>A/C</math><math>2</math>CK<math>2</math>1<math>A/C</math><math>2</math>CK<math>2</math><math>2</math><math>3</math><math>2</math><math>2</math><math>3</math><math>3</math><math>3</math><math>3</math><math>3</math><math>4</math><math>4</math><math>4</math><math>4</math><math>4</math><math>4</math><math>4</math></td> <td>ClassType TypePassPos1A/C3CKSAActiveSYSValve NameCOLD LEG HDR S1A/C6.000CKSAActiveCValve NameLOOP_COLD LEG1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C2CKSAActiveC1A/C2CKSAActiveSYSValve NameLOOP_COLD LEG1A/C2CKSA1A/C2CKSAActiveSYSValve NameLOOP 1 COLD LEG1A/C2CKSA1A/C2CKSAActiveSYSValve NameLOOP 2 COLD LEG1A/C2CKSA1A/C2CKSAActiveSYSValve NameLOOP 3 COLD LEG1A/C2CKSA1A/C2CKSAActiveSYS</td> <td>ClassTypeTypePassPosPos1A/C3CKSAActiveSYSO/CValve NameCOLD LEG HDR SI SUP CH1A/C<math>6.000</math>CKSAActiveCO/CValve NameLOOP_COLD LEG ACCUM1A/C<math>6.000</math>CKSAActiveCO/CValve NameLOOP_COLD LEG ACCUM1A/C<math>6.000</math>CKSAActiveCO/CValve NameLOOP_COLD LEG ACCUM1A/C<math>6.000</math>CKSAActiveCO/CValve NameLOOP_COLD LEG ACCUM1A/C<math>6.000</math>CKSAActiveCO/CValve NameLOOP_COLD LEG ACCUM1A/C<math>2</math>CKSAActiveSYSO/CValve NameLOOP_COLD LEG ACCUM1A/C<math>2</math>CKSAActiveSYSO/CValve NameLOOP 1 COLD LEG SI CHK1A/C<math>2</math>CKSAActiveSYSO/CValve NameLOOP 2 COLD LEG SI CHK1A/C<math>2</math>CKSAActiveSYSO/CValve NameLOOP 3 COLD LEG SI CHK1A/C<math>2</math>CKSAActiveSYSO/CValve NameLOOP 3 COLD LEG SI CHK1A/C<math>2</math>CKSAActiveSYSO/C</td> <td>Class         Type Type         Pass         Pos         Pos           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2           Valve Name         COLD LEG HDR SI SUP CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         2         CK         SA         Active         SYS         O/C         M-61</td> <td>Class         Type Type         Pass         Pos         Coor.           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5           Valve Name         COLD LEG HDR SI SUP CHK VLV         CO/C         M-61-4         F-7           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         F-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         P-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         2         CK         SA         Active         SYS</td> <td>Class         Type         Type         Type         Pass         Pos         Coor.         Type           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5         CC         GO         GO         GC         I         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5         CC         GC         I         I         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         F-7         CC         GO         I         T         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7         CC         GO         I         T         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7         CC         CO         I         T         T         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7         CC         CO         I         T         A/C         D-7         CC         CC         CO         I         I         I</td> <td>Class         Type         Type         Pass         Pos         Coor.         Type         Preq. CO           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5         CC         CS         GO         RR         RT         Y2           Valve Name         COLD LEG HDR SI SUP CHK VLV         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V&lt;</td> <td>Class         Type         Type         Type         Type         Pass         Pos         Coor.         Type         Freq.         Just.           1         A/C         3         CK         S         Active         SYS         O/C         M-61-2         D-5         CC         CC         CR         RJ-5         LT         V2         RJ-5         LT         Y2         ZJ-7         ZJ-7         ZG         CS         CS-3         LT         Y2         ZJ-7         ZJ-7         ZG         CS         CS-3         LT         Y2         ZJ-7         ZG         CS         CS-3         LT         Y2         ZJ-7         ZG         CS         CS-3         LT         Y2         ZZ         ZG         CS         CS-3         LT         Y2         ZG         CS         CS-3         LT         Y2         ZG         CS         CS-3         LT         Y2         ZG         CS         CS-3         CC<!--</td--></td>	ClassTypeTypePass1A/C3CKSAActiveValve NameCOLD LEG1A/C $6.000$ CKSAActiveValve NameLOOP_C1A/C $2$ CKSAActiveValve NameLOOP_C1A/C $2$ CKSAActiveValve NameLOOP 1 C1A/C $2$ CKSAActiveValve NameLOOP 2 C1A/C $2$ CKSAActiveValve NameLOOP 2 C $1$ $A/C$ $2$ CKSA1A/C $2$ CKSAActiveValve NameLOOP 3 C $1$ $A/C$ $2$ CKSA1 $A/C$ $2$ CKSAActiveValve NameLOOP 3 C $1$ $A/C$ $2$ CK $2$ 1 $A/C$ $2$ CK $2$ $2$ $3$ $2$ $2$ $3$ $3$ $3$ $3$ $3$ $4$ $4$ $4$ $4$ $4$ $4$ $4$	ClassType TypePassPos1A/C3CKSAActiveSYSValve NameCOLD LEG HDR S1A/C6.000CKSAActiveCValve NameLOOP_COLD LEG1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C6.000CKSAActiveC1A/C2CKSAActiveC1A/C2CKSAActiveSYSValve NameLOOP_COLD LEG1A/C2CKSA1A/C2CKSAActiveSYSValve NameLOOP 1 COLD LEG1A/C2CKSA1A/C2CKSAActiveSYSValve NameLOOP 2 COLD LEG1A/C2CKSA1A/C2CKSAActiveSYSValve NameLOOP 3 COLD LEG1A/C2CKSA1A/C2CKSAActiveSYS	ClassTypeTypePassPosPos1A/C3CKSAActiveSYSO/CValve NameCOLD LEG HDR SI SUP CH1A/C $6.000$ CKSAActiveCO/CValve NameLOOP_COLD LEG ACCUM1A/C $2$ CKSAActiveSYSO/CValve NameLOOP_COLD LEG ACCUM1A/C $2$ CKSAActiveSYSO/CValve NameLOOP 1 COLD LEG SI CHK1A/C $2$ CKSAActiveSYSO/CValve NameLOOP 2 COLD LEG SI CHK1A/C $2$ CKSAActiveSYSO/CValve NameLOOP 3 COLD LEG SI CHK1A/C $2$ CKSAActiveSYSO/CValve NameLOOP 3 COLD LEG SI CHK1A/C $2$ CKSAActiveSYSO/C	Class         Type Type         Pass         Pos         Pos           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2           Valve Name         COLD LEG HDR SI SUP CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV         1         A/C         2         CK         SA         Active         SYS         O/C         M-61	Class         Type Type         Pass         Pos         Coor.           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5           Valve Name         COLD LEG HDR SI SUP CHK VLV         CO/C         M-61-4         F-7           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         F-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         P-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7           Valve Name         LOOPCOLD LEG ACCUM INJ CHK VLV           1         A/C         2         CK         SA         Active         SYS	Class         Type         Type         Type         Pass         Pos         Coor.         Type           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5         CC         GO         GO         GC         I         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5         CC         GC         I         I         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         F-7         CC         GO         I         T         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7         CC         GO         I         T         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7         CC         CO         I         T         T         A/C         6.000         CK         SA         Active         C         O/C         M-61-4         D-7         CC         CO         I         T         A/C         D-7         CC         CC         CO         I         I         I	Class         Type         Type         Pass         Pos         Coor.         Type         Preq. CO           1         A/C         3         CK         SA         Active         SYS         O/C         M-61-2         D-5         CC         CS         GO         RR         RT         Y2           Valve Name         COLD LEG HDR SI SUP CHK VLV         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V<	Class         Type         Type         Type         Type         Pass         Pos         Coor.         Type         Freq.         Just.           1         A/C         3         CK         S         Active         SYS         O/C         M-61-2         D-5         CC         CC         CR         RJ-5         LT         V2         RJ-5         LT         Y2         ZJ-7         ZJ-7         ZG         CS         CS-3         LT         Y2         ZJ-7         ZJ-7         ZG         CS         CS-3         LT         Y2         ZJ-7         ZG         CS         CS-3         LT         Y2         ZJ-7         ZG         CS         CS-3         LT         Y2         ZZ         ZG         CS         CS-3         LT         Y2         ZG         CS         CS-3         LT         Y2         ZG         CS         CS-3         LT         Y2         ZG         CS         CS-3         CC </td

							Safe	ty Inje	ction					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1SI8821B	2	В	4	GA	MO	Active	0	O/C	M-61-3	D-3	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I			MOV SI	PP DSCH	A XTIE TO	) CL ISOL VLV		~			
1SI8835	2	В	4	GA	MO	Active	0	O/C	M-61-3	C-4	SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV SI F	PPS DSC	H XTIE T	o cl isol vlv					
1SI8840	2	В	12	GA	MO	Active	С	O/C	M-61-3	B-4	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve i	Name		MOV RH	I HXS TC	) 1A/1C L	OOP HL ISOL VLV	,				
15I8841A	1	A/C	8	СК	SA	Active	SYS	O/C	M-61-3	E-5	CC	CS	CS-13	
											со	RR	RJ-6	
											LT	Y2		
			Valve	Name					1ST CHECK VALV	/F				
1SI8841B	1	A/C		CK	SA	Active		0/C	M-61-3	C-7	CC	CS	CS-13	
1310041D	T	A/C	0	CK	34	Active	515	0/0	M-01-2	C-7	co	RR	RJ-6	
											LT	Y2	NJ-0	
			** *								L.	14		
			Valve						1ST CHECK VALV					
1SI8842	2	С	0.75x1 0	. RV	SA	Passive	C	0/C	M-61-3	B-3	RT	Y10		
			Valve	Al				DELTERN						
4010054	~ ~		Vdive			RHR HX				~ ·	~~			
1SI8851	2	C	0.75x1	RV	SA	Passive	e C	0/C	M-61-3	C-4	RT	Y10		
			0											
			Valve	Name		SI TO CO	old leg	RELIEF V	/ALVE					
1SI8853A	2	С	0.75x1	. RV	SA	Passive	С	O/C	M-61-3	F-3	RT	Y10		
1010000.1		-	0		0,1			0,0				120		
			Valve	Name		SI PUMP	DISCHA	RGE REL	IEF VALVE TO HO	T LEG				
1SI8853B	2	С		RV	SA	Passive	e C	0/C	M-61-3	B-3	RT	Y10		
		-	0.75x1		-			-, -		2.5				
			0											
			Valve	Name		SI PUMP	DISCHA	RGE REL	IEF VALVE TO HO	T LEG				
1SI8855A	2	С	1.0x2.	0 RV	SA	Passive	C	O/C	M-61-5	E-6	RT	Y10		
			Valve	Name		ACCUMU	LATOR F	RELIEF V	ALVE					
1SI8855B	2	С		RV		Passive		0/C	M-61-5	E-3	RT	Y10		
	-	C	1.0x2.		0, (			0,0		2.7				
			Valve	Name		ACCUMU	ILATOR F	RELIEF V/	ALVE					
1SI8855C	2		1.0x2.			Passive		0/C	M-61-6	E-7	RT	Y10		
-9100000	£	<u> </u>								L /	NI.	110		
			Valve	Name		ACCUMU	LAIORF		ALVE					

								ty Inje	tion					
Valve EPN	Safety	Cat	Size					Safety	P&ID	P&ID	Test		Deferred	Tech.
SI8855D	2	C		RV RV	Type SA	Pass Passive	Pos C	Pos O/C	M-61-6	<u> </u>	Type RT	Freq. Y10	Just.	Pos.
5100555	2	Ç	1.0x2.0		5/1	1035170	C	0,0	11 01 0	<b>_</b> .		110		
			Valve M	lame		ACCUMUL	ATOR R	ELIEF VA	LVE					
SI8856A	2	С	2.0x3.0	RV	SA	Passive	С	O/C	M-61-4	F-3	RT	Y10	4	and a sum of the sum of
			Valve M	lame		RHR HX C	UTLET	HEADER	RELIEF VALVE					
1SI8856B	2	С		RV	SA	Passive	С	O/C	M-61-4	E-3	RT	Y10		
			2.0x3.0			ענו חוות								
100000			Valve M						RELIEF VALVE	E 2	DT	V10		
LSI8858	2	С	1.0x0.7 5	RV	SA	Passive	C	O/C	M-61-1A	F-3	RT	Y10		
			Valve I	lame		SAFETY I	NJECTIO	ON SUCT	ON RELIEF VALV	E				
SI8871	2	A	0.750	GL	AO	Active	С	С	M-61-6	A-3	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I					·	VSIDE CNMT ISO					
LSI8875A	2	В	1.000	GL	AO	Passive	С	С	M-61-5	F-6	PI	Y2		
			Valve I	lame		SAFETY I	NJECTI	ON TANK	N2 SUPPLY/VENT	ISO VALVE				
LSI8875B	2	В	1.000	GL	AO	Passive	С	С	M-61-5	F-3	PI	Y2		
			Valve I	lame		SAFETY I	NJECTI	ON TANK	N2 SUPPLY/VEN	ISO VALVE				
1SI8875C	2	В	1.000	GL	AO	Passive	С	С	M-61-6	E-7	PI	Y2		
			Valve I	lame		SAFETY I	NJECTI	ON TANK	N2 SUPPLY/VEN	ISO VALVE				
1SI8875D	2	В	1.000	GL	AO	Passive	С	С	M-61-6	E-4	PI	Y2		
			Valve I	lame		SAFETY I	NJECTI	ON TANK	N2 SUPPLY/VEN	ISO VALVE				
1SI8877A	2	В	0.750	GL	AO	Passive	С	С	M-61-5	B-6	PI	Y2		
			Valve I	Vame		SI ACCUN	1ULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
1SI8877B	2	В	0.750	GL	AO	Passive	С	С	M-61-5	B-3	PI	Y2		
			Valve I	Vame		SI ACCUN	IULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
1SI8877C	2	В	0.750	GL	AO	Passive	С	С	M-61-6	B-7	PI	Y2		
			Valve I	Vame		SI ACCUN	IULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
1SI8877D	2	В	0.750	GL	AO	Passive	С	С	M-61-6	B-4	PI	Y2	*****	
			Valve I	Vame		SI ACCUN	NULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
1SI8878A	2	В	1.000	GL	AO	Passive	С	С	M-61-5	C-5	PI	Y2		
			Valve I	Name		SI ACCU	ULATO	R FILL LI	NE ISOLATION V	ALVE				
1SI8878B	2	В	1.000	GL	AO	Passive	С	С	M-61-5	C-3	PI	Y2		
			Valve I	Vame		SI ACCUN	IULATO	R FILL LI	NE ISOLATION V	ALVE				
1SI8878C	2	В	1.000			Passive		C	M-61-6	C-6	PI	Y2		
		-	Valve I						NE ISOLATION V			. –		
1SI8878D	2	В		GL		Passive		C	M-61-6	C-4	PI	Y2		
	-	J	Valve i						NE ISOLATION V		• •			
1SI8879A	2	В	0.750			Passive		C	M-61-5	B-6	PI	Y2		
101001 24	4	U	0.750	Name		SI ACCU				50		14		

							Safe	ty Inj	ection					
Valve EPN	Safety	Cat	Size	Viv		-	Norm	-	P&ID	P&ID	Test	Test	Deferred	Tech.
10100700	<u>Class</u> 2		0.750	Type		· · · · · · · · · · · · · · · · · · ·	Pos	Pos	MCTE	Coor.	Туре	Freq.	Just.	Pos.
1SI8879B	2	В	0.750		AO	Passive	C	C	M-61-5	B-3	PI	Y2		
			Valve M			·			AND DRAIN ISOLA					
1SI8879C	2	В	0.750			Passive	С	С	M-61-6	A-7	PI	Y2		
			Valve M						AND DRAIN ISOLA	TION VALVE				
1SI8879D	2	В	0.750	GL	AO	Passive	С	С	M-61-6	A-4	PI	Y2		
			Valve N	lame		SI ACCUM	IULATOF	R TEST	AND DRAIN ISOLA	TION VALVE				
1SI8880	2	Α	1.000	GL	AO	Active	С	С	M-61-6	F-3	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I						ITSIDE CNMT ISOL	. VLV				
1SI8882	2	В	0.750	GL	AO	Passive	С	С	M-61-2	B-5	PI	Y2		
			Valve I	Name		SAFETY I	NJECTIC	ON TES	T LINE ISOLATION	VALVE				
1SI8888	2	Α	0.75	GL	AO	Active	С	С	M-61-3	E-3	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
*****	~		Valve I			AOV SI F	PS TO A	ACCUM	FILL OUTSIDE CN	MT ISO				
1SI8889A	2	В	0.750	GL	AO	Passive	С	С	M-61-3	F-6	PI	Y2		
			Valve I	Name		SAFETY I	NJECTIC	ON TES	T LINE AOV					
1SI8889B	2	В	0.750	GL	AO	Passive	С	С	M-61-3	F-7	PI	Y2		
			Valve I	Name		SAFETY I	NJECTIC	ON TES	T LINE AOV					
1SI8889C	2	В	0.750	GL	AO	Passive	С	С	M-61-3	F-7	PI	Y2		
			Valve I	Name		SAFETY I	NJECTIO	ON TES	T LINE AOV					
1SI8889D	2	В	0.750	GL	AO	Passive	С	С	M-61-3	F-6	PI	Y2		
			Valve I	Name		SAFETY I	NJECTIC	ON TES	T LINE AOV					
1SI8900A	1	A/C	1.5	СК	SA	Active	С	0/C	M-61-2	F-7	CC	CS	CS-13	
		·						•			CO	RR	RJ-5	
											LT	Y2		
			Valve I	Name		LOOP CC	DLD LEG	SI SUP	CHK VLV					
1SI8900B	1	A/C	1.5	СК	SA	Active	С	0/C	M-61-2	D-7	CC	CS	CS-13	
											со	RR	RJ-5	
											LT	Y2		
			Valve I	Name		LOOP CC	)LD LEG	SI SUP	CHK VLV					
1SI8900C	1	A/C		CK	SA		С	0/C	M-61-2	C-7	CC	CS	CS-13	
		•									со	RR	RJ-5	
											LT	Y2		
			Valve I	Name		LOOP CO	)LD LEG	SI SUP	CHK VLV					
15I8900D	1	A/C		СК	SA	Active	<u>с</u>	0/C	M-61-2	B-7	CC	CS	CS-13	
	_	.,					-	-, 5		- •	co	RR	RJ-5	
											LT	Y2	-	
			Valve I	Name		LOOP CC		SUSUE						
								51 501		······································				

-	_						ty Injec						
-	Cat	Size			-			P&ID	P&ID				Tech.
Class						Pos			Coor.	Туре			Pos.
1	A/C	2	СК	SA	Active	SYS	0/C	M-61-3	E-4				
												RJ-4	
										LI	Y2		
		Valve I	Name	I	LOOP HO	OT LEG	si chk vl'	V					
1	A/C	2	CK	SA	Active	SYS	0/C	M-61-3	D-7	CC	CS	CS-13	
										CO	RR	RJ-4	
										LT	Y2		
		Valve I	Name		LOOP H	OT LEG :	SI CHK VL	v					
1	A/C	2	СК	SA	Active	SYS	0/C	M-61-3	C-7	СС	CS	CS-13	
-	,,,0			0.1	, 101, 10	0.0	-,-		•				
		s.c						.,					
1	A/C	2	CK	SA	Active	SYS	O/C	M-61-3	E-4				
												RJ-4	
										LT	Y2		
		Valve I	Name		LOOP H	ot leg	si chk vl	N					
2	С	1.500	) CK	SA	Active	SYS	0	M-61-1A	F-7	CC	CM		
										CO	Q		
		Valve I	Name		SAFETY 1		ON PUMP	MINIMUM FLOW	CHECK VAL	VE			
2											0		
£	C	1.500	CR	JA	Active	515	0	NOI IN	20				
							~				4		
2	В	1.5	GL	MO	Active	0	O/C	M-61-1A	E-6				
										STC	M18		TP-VA-1 TP-VA-6
											MOV		IP-VA-0
										• •	1101		
2	С	4.000	) CK	SA	Active	SYS	O/C	M-61-1A	E-7				
										CO	RR	RJ-4	
		Valve	Name	1	SAFETY	INJECTI	on pump	DISCHARGE CH	ECK VALVE				
2	С	4.000	СК	SA	Active	SYS	0/C	M-61-1A	C-6	CC	Q		
										CO	RR	RJ-4	
		Valve	Namo	Ł	SAFETY	INIFCTI		DISCHARGE CH	CK VALVE				
										זמ	<u>v</u> 2		TP-VA-4
Z	Ø									۲1	12		1 F-VA-4
		Valve	Name		SI PUMP	SUCTIC	IN FROM I	RWST ISOLATIO	N VALVE				
2	В	6.000	) GA	MO	Passive	e O	0	M-61-1A	C-3	PI	Y2		TP-VA-4
		Valve	Name	•	SI PUMP	SUCTIO	N FROM I	RWST ISOLATIO	N VALVE				
2	В	6	GA	MO	Active	0	0	M-61-1A	F-2	SC	M18		
	5	U	Un.			0	Ŭ			so	M18		
2										50			
2										STO	M18		TP-VA-1
2										STO	M18 MOV		TP-VA-1
L										STO DIAG PI	M18 MOV MOV		TP-VA-1
	Class 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Class         1       A/C         1       A/C         1       A/C         1       A/C         1       A/C         2       C         2       C         2       C         2       C         2       C         2       C         2       C         2       C         2       B         2       C         2       C         2       C         2       B	Class           1 $A/C$ 2           Valve         I           2         C         1.500           Valve         I           2         C         1.500           Valve         I           2         C         1.500           Valve         I         I           2         C         1.500           Valve         I         I           2         C         1.500           Valve         I         I           2         C         4.000           Valve         I         I           2         C         4.000           Valve         I         I           2         B         6.000           Valve         I         I           2         I	Class         Type           1 $A/C$ 2 $CK$ Valve Name $A/C$ 2 $CK$ 1 $A/C$ 2 $CK$ Valve Name $A/C$ 2 $CK$ 1 $A/C$ 2 $CK$ Valve Name $A/C$ 2 $CK$ 1 $A/C$ 2 $CK$ Valve Name $A/C$ 2 $CK$ 1 $A/C$ 2 $CK$ Valve Name $A/C$ $CK$ $Valve$ 2         C $1.500$ $CK$ Valve Name $A/C$ $CK$ $Valve$ 2         C $4.000$ $CK$ $Valve$ $Valve$ $Valve$ $Valve$ 2         C $4.000$ $CK$ $Valve$ $Valve$ $Valve$ $Valve$ 2         C $4.000$ $CK$ $Valve$ $Valve$ $Valve$ 2         B </td <td>ClassTypeType1A/C2CKSAValve Name1A/C2CKSAValve Name1A/C2CKSAValve Name1A/C2CKSAValve Name2C1.500CKSAValve Name2C1.500CKSA2C1.500CKSA2C1.500CKSA2B1.5GLMO2C4.000CKSA2C4.000CKSA2C4.000CKSA2C4.000CKSA2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO</td> <td>ClassTypeTypePass1<math>A/C</math>2<math>CK</math><math>SA</math><math>Active</math>ValveNameLOOPHd1<math>A/C</math>2<math>CK</math><math>SA</math><math>Active</math>ValveNameLOOPHd1<math>A/C</math>2<math>CK</math><math>SA</math><math>Active</math>ValveNameLOOPHd1<math>A/C</math>2<math>CK</math><math>SA</math><math>Active</math>ValveNameLOOPHd1<math>A/C</math>2<math>CK</math><math>SA</math><math>Active</math>ValveNameLOOPHd2C<math>1.500</math><math>CK</math><math>SA</math><math>Active</math>ValveNameSAFETY<math>3.200</math><math>3.200</math><math>3.200</math>2C<math>1.500</math>CK<math>SA</math><math>Active</math>ValveNameSAFETY<math>3.200</math><math>3.200</math><math>3.200</math>2C<math>4.000</math>CK<math>SA</math><math>Active</math>ValveNameSI<pump< th=""><math>2.200</math>C<math>3.000</math><math>3.2000</math>2C<math>4.000</math>CK<math>SA</math><math>Active</math>ValveNameSI<math>5.1000</math><math>2.2000</math><math>2.2000</math><math>2.2000</math><math>2.2000</math>2B<math>6.0000</math>GAMOPassiveValveName<math>SAFETY</math><math>2.2000</math><math>2.2000</math><math>2.20000</math><math>2.20000</math>2B<math>6.0000</math>GAMOPassiveValveName<math>SIPUMP</math><math>2.20000000</math><math>2.200000000000000000000000000000000000</math></pump<></td> <td>ClassType TypePassPos1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYSValve NameLOOP HOT LEG1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2C1.500CKSAActive2C1.500CKSAActiveSYS1Valve NameSAFETY INJECTI2B1.5GLMOActive2C4.000CKSAActiveSYSSYSSYS1Valve NameSAFETY INJECTI2C4.000CKSAActiveSYS1Valve NameSAFETY INJECTI2C4.000CKSAActiveSYS1<td>Class         Type Type         Pass         Pos         Pos           1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         2         C         1.500         CK         SA         Active         SYS         O           2         C         1.500         CK         SA         Active         SYS         O           2</td><td>Class         Type         Type         Type         Pass         Pos           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           2         C         1.500         CK         SA         Active         SYS         O         M-61-1A           Valve Name         SAFETY         INJECTION</td><td>ClassType Type TypePassPosPosCoor.1A/C2CKSAActiveSYSO/CM-61-3E-4Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3D-7Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3C-7Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3E-4Valve NameLOOP HOT LEG SI CHK VLV2C1.500CKSAActiveSYSOM-61-1AF-7Valve NameLOOP HOT LEG SI CHK VLV2C1.500CKSAActiveSYSOM-61-1AF-7Valve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VAL2C1.500CKSAActiveSYSOM-61-1AE-6Valve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VAL2C4.000CKSAActiveSYSO/CM-61-1AE-7Valve NameSAFETY INJECTION PUMP DISCHARGE CHECK VALVE2C4.000CKSAActiveSYSO/CM-61-1AE-7Valve NameSAFETY INJECTION PUMP DISCHARGE CHECK VALVE2C4.000<t< td=""><td>ClassTypeTypePasPasPosCoor.Type1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6SC2C1.500CKSAActiveSYSO/C<td< td=""><td>ClassTypeTypePassPosCoor.TypePreq.1A/C2CKSAActiveSYSO/CM-61-3E-4CCCSValve NameLOOP HOT LEG SI CHK VLVVVVN-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-1AF-7CCCM2C1.500CKSAActiveSYSOM-61-1AE-6CCQValve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VALVEVVNIBSOMIB2C1.500CKSAActiveSYSO/CM-61-1AE-6CC<!--</td--><td>ClassTypeTypeTypeTypePosPosCaor.TypeTypePosCaor.TypePreq.Just.1A/C2CKSAActiveSYS0/CM-61-3E-4CCCCR3R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCSCSC-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCCSCS-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3C-7CCCCCSCS-13COR8R3-4LTY2Y21A/C2CKSAActiveSYS0/CM-61-3E-4CCCSCS-13COR8R3-4LTY2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2</td></td></td<></td></t<></td></td>	ClassTypeType1A/C2CKSAValve Name1A/C2CKSAValve Name1A/C2CKSAValve Name1A/C2CKSAValve Name2C1.500CKSAValve Name2C1.500CKSA2C1.500CKSA2C1.500CKSA2B1.5GLMO2C4.000CKSA2C4.000CKSA2C4.000CKSA2C4.000CKSA2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO2B6.000GAMO	ClassTypeTypePass1 $A/C$ 2 $CK$ $SA$ $Active$ ValveNameLOOPHd1 $A/C$ 2 $CK$ $SA$ $Active$ ValveNameLOOPHd2C $1.500$ $CK$ $SA$ $Active$ ValveNameSAFETY $3.200$ $3.200$ $3.200$ 2C $1.500$ CK $SA$ $Active$ ValveNameSAFETY $3.200$ $3.200$ $3.200$ 2C $4.000$ CK $SA$ $Active$ ValveNameSI <pump< th=""><math>2.200</math>C<math>3.000</math><math>3.2000</math>2C<math>4.000</math>CK<math>SA</math><math>Active</math>ValveNameSI<math>5.1000</math><math>2.2000</math><math>2.2000</math><math>2.2000</math><math>2.2000</math>2B<math>6.0000</math>GAMOPassiveValveName<math>SAFETY</math><math>2.2000</math><math>2.2000</math><math>2.20000</math><math>2.20000</math>2B<math>6.0000</math>GAMOPassiveValveName<math>SIPUMP</math><math>2.20000000</math><math>2.200000000000000000000000000000000000</math></pump<>	ClassType TypePassPos1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYSValve NameLOOP HOT LEG1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2CKSAActiveSYS1A/C2C1.500CKSAActive2C1.500CKSAActiveSYS1Valve NameSAFETY INJECTI2B1.5GLMOActive2C4.000CKSAActiveSYSSYSSYS1Valve NameSAFETY INJECTI2C4.000CKSAActiveSYS1Valve NameSAFETY INJECTI2C4.000CKSAActiveSYS1 <td>Class         Type Type         Pass         Pos         Pos           1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         2         C         1.500         CK         SA         Active         SYS         O           2         C         1.500         CK         SA         Active         SYS         O           2</td> <td>Class         Type         Type         Type         Pass         Pos           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           2         C         1.500         CK         SA         Active         SYS         O         M-61-1A           Valve Name         SAFETY         INJECTION</td> <td>ClassType Type TypePassPosPosCoor.1A/C2CKSAActiveSYSO/CM-61-3E-4Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3D-7Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3C-7Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3E-4Valve NameLOOP HOT LEG SI CHK VLV2C1.500CKSAActiveSYSOM-61-1AF-7Valve NameLOOP HOT LEG SI CHK VLV2C1.500CKSAActiveSYSOM-61-1AF-7Valve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VAL2C1.500CKSAActiveSYSOM-61-1AE-6Valve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VAL2C4.000CKSAActiveSYSO/CM-61-1AE-7Valve NameSAFETY INJECTION PUMP DISCHARGE CHECK VALVE2C4.000CKSAActiveSYSO/CM-61-1AE-7Valve NameSAFETY INJECTION PUMP DISCHARGE CHECK VALVE2C4.000<t< td=""><td>ClassTypeTypePasPasPosCoor.Type1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6SC2C1.500CKSAActiveSYSO/C<td< td=""><td>ClassTypeTypePassPosCoor.TypePreq.1A/C2CKSAActiveSYSO/CM-61-3E-4CCCSValve NameLOOP HOT LEG SI CHK VLVVVVN-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-1AF-7CCCM2C1.500CKSAActiveSYSOM-61-1AE-6CCQValve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VALVEVVNIBSOMIB2C1.500CKSAActiveSYSO/CM-61-1AE-6CC<!--</td--><td>ClassTypeTypeTypeTypePosPosCaor.TypeTypePosCaor.TypePreq.Just.1A/C2CKSAActiveSYS0/CM-61-3E-4CCCCR3R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCSCSC-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCCSCS-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3C-7CCCCCSCS-13COR8R3-4LTY2Y21A/C2CKSAActiveSYS0/CM-61-3E-4CCCSCS-13COR8R3-4LTY2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2</td></td></td<></td></t<></td>	Class         Type Type         Pass         Pos         Pos           1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         1         A/C         2         CK         SA         Active         SYS         O/C           Valve Name         LOOP HOT LEG SI CHK VL         2         C         1.500         CK         SA         Active         SYS         O           2         C         1.500         CK         SA         Active         SYS         O           2	Class         Type         Type         Type         Pass         Pos           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           1         A/C         2         CK         SA         Active         SYS         O/C         M-61-3           Valve Name         LOOP         HOT         LEG         SI         CHK         VLV           2         C         1.500         CK         SA         Active         SYS         O         M-61-1A           Valve Name         SAFETY         INJECTION	ClassType Type TypePassPosPosCoor.1A/C2CKSAActiveSYSO/CM-61-3E-4Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3D-7Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3C-7Valve NameLOOP HOT LEG SI CHK VLV1A/C2CKSAActiveSYSO/CM-61-3E-4Valve NameLOOP HOT LEG SI CHK VLV2C1.500CKSAActiveSYSOM-61-1AF-7Valve NameLOOP HOT LEG SI CHK VLV2C1.500CKSAActiveSYSOM-61-1AF-7Valve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VAL2C1.500CKSAActiveSYSOM-61-1AE-6Valve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VAL2C4.000CKSAActiveSYSO/CM-61-1AE-7Valve NameSAFETY INJECTION PUMP DISCHARGE CHECK VALVE2C4.000CKSAActiveSYSO/CM-61-1AE-7Valve NameSAFETY INJECTION PUMP DISCHARGE CHECK VALVE2C4.000 <t< td=""><td>ClassTypeTypePasPasPosCoor.Type1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6SC2C1.500CKSAActiveSYSO/C<td< td=""><td>ClassTypeTypePassPosCoor.TypePreq.1A/C2CKSAActiveSYSO/CM-61-3E-4CCCSValve NameLOOP HOT LEG SI CHK VLVVVVN-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-1AF-7CCCM2C1.500CKSAActiveSYSOM-61-1AE-6CCQValve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VALVEVVNIBSOMIB2C1.500CKSAActiveSYSO/CM-61-1AE-6CC<!--</td--><td>ClassTypeTypeTypeTypePosPosCaor.TypeTypePosCaor.TypePreq.Just.1A/C2CKSAActiveSYS0/CM-61-3E-4CCCCR3R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCSCSC-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCCSCS-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3C-7CCCCCSCS-13COR8R3-4LTY2Y21A/C2CKSAActiveSYS0/CM-61-3E-4CCCSCS-13COR8R3-4LTY2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2</td></td></td<></td></t<>	ClassTypeTypePasPasPosCoor.Type1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3D-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3C-7CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-3E-4CC1A/C2CKSAActiveSYSO/CM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6CC2C1.500CKSAActiveSYSOM-61-1AE-6SC2C1.500CKSAActiveSYSO/C <td< td=""><td>ClassTypeTypePassPosCoor.TypePreq.1A/C2CKSAActiveSYSO/CM-61-3E-4CCCSValve NameLOOP HOT LEG SI CHK VLVVVVN-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-1AF-7CCCM2C1.500CKSAActiveSYSOM-61-1AE-6CCQValve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VALVEVVNIBSOMIB2C1.500CKSAActiveSYSO/CM-61-1AE-6CC<!--</td--><td>ClassTypeTypeTypeTypePosPosCaor.TypeTypePosCaor.TypePreq.Just.1A/C2CKSAActiveSYS0/CM-61-3E-4CCCCR3R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCSCSC-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCCSCS-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3C-7CCCCCSCS-13COR8R3-4LTY2Y21A/C2CKSAActiveSYS0/CM-61-3E-4CCCSCS-13COR8R3-4LTY2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2</td></td></td<>	ClassTypeTypePassPosCoor.TypePreq.1A/C2CKSAActiveSYSO/CM-61-3E-4CCCSValve NameLOOP HOT LEG SI CHK VLVVVVN-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3D-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3C-7CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-3E-4CCCS1A/C2CKSAActiveSYSO/CM-61-1AF-7CCCM2C1.500CKSAActiveSYSOM-61-1AE-6CCQValve NameSAFETY INJECTION PUMP MINIMUM FLOW CHECK VALVEVVNIBSOMIB2C1.500CKSAActiveSYSO/CM-61-1AE-6CC </td <td>ClassTypeTypeTypeTypePosPosCaor.TypeTypePosCaor.TypePreq.Just.1A/C2CKSAActiveSYS0/CM-61-3E-4CCCCR3R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCSCSC-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCCSCS-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3C-7CCCCCSCS-13COR8R3-4LTY2Y21A/C2CKSAActiveSYS0/CM-61-3E-4CCCSCS-13COR8R3-4LTY2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2</td>	ClassTypeTypeTypeTypePosPosCaor.TypeTypePosCaor.TypePreq.Just.1A/C2CKSAActiveSYS0/CM-61-3E-4CCCCR3R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCSCSC-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3D-7CCCCCSCS-13COR8R3-41A/C2CKSAActiveSYS0/CM-61-3C-7CCCCCSCS-13COR8R3-4LTY2Y21A/C2CKSAActiveSYS0/CM-61-3E-4CCCSCS-13COR8R3-4LTY2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2Y2

Valve EPN         Safety         Cat         Size         Viv         Act./         Norm         Safety         P&ID         Test         Test         Deferred         Just.           1518926         2         C         8         CK         SA         Active         SYS         O/C         M-61-1A         D-2         CCU         CM         Just.           Valve Name         SI PPS SUCT CHK VLV         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V	Tech.
1518926         2         C         8         CK         SA         Active         SYS         O/C         M-61-1A         D-2         CCU         CM           Valve Name         SI PPS SUCT CHK VLV           1518948A         1         A/C         10         CK         SA         Active         C         O/C         M-61-1A         D-2         CCU         CM           Valve Name         SI PPS SUCT CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP         2ND CHK VLV           Valve Name         Accum OUTLET TO RC LOOP <td< th=""><th></th></td<>	
Valve Name         SI PPS SUCT CHK VLV         O/C         M-61-5         B-8         COF         CM           1518948A         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-8         COF         CM           1518948A         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-8         COF         CM           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           To RE LOOP         2ND CHK VLV           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCT CHK VLV           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCT OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCT OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCT OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCT OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCT OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCT OUTLET TO RC LOOP         2ND CHK VLV           SI PPS SUCH NUM         RCUM OUTLET	Pos.
Valve Name         SI PPS SUCT CHK VLV           1S18948A         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-8         COF         CM           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U         U	
1S18948A       1       A/C       10       CK       SA       Active       C       O/C       M-61-5       B-8       COF       CM         Valve Name       ACCUM OUTLET TO RC LOOP       2ND CHK VLV       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U <td></td>	
Valve Name         ACCUM OUTLET TO RC LOOP 2ND CHK VLV         CC         CS         CS-13           1S18948B         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-5         COF         CM           1S18948B         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-5         COF         CM           1S18948B         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-5         COF         CM           1S18948C         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-8         COF         CM           1S18948C         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-8         COF         CM           1S18948D         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           1S18949A         1         A/C         6         CK <td></td>	
Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           1SI8948B         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-5         COF         CM           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         IT         Y2         CS-13         IT         Y2           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CG         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CG         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CG         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK V	
1518948B         1         A/C         10         CK         SA         Active         C         O/C         M-61-5         B-5         COF         CM           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         CT         Y2         Y2	
Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13           1518948C         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-8         COF         CM           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CS         CS-13         LT         Y2         CS-13           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         C         CS         CS-13         LT         Y2         CS-13           1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           1518948D         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           LT         Y2         Y2         Y2         Y2         Y2         Y2         Y2           1518949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           LT<	
IT Y2           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           1518948C         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-8         COF         CM           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         CC         CS         CS-13         CC         CS-13         LT         Y2         Valve         Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         Valve         Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V         V <td></td>	
Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           15I8948C         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-8         COF         CM           15I8948C         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-8         COF         CM           Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         LT         Y2         Y2           15I8948D         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           15I8948D         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           15I8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           15I8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8	
1518948C       1       A/C       10       CK       SA       Active       C       O/C       M-61-6       B-8       COF       CM         Valve Name       ACCUM OUTLET TO RC LOOP       2ND CHK VLV       LT       Y2         1518948D       1       A/C       10       CK       SA       Active       C       O/C       M-61-6       B-5       COF       CM         1518948D       1       A/C       10       CK       SA       Active       C       O/C       M-61-6       B-5       COF       CM         Valve Name       ACCUM OUTLET TO RC LOOP       2ND CHK VLV       LT       Y2       V2       C       CS-13       LT       Y2       CS-13         LT       Y2       Valve Name       ACCUM OUTLET TO RC LOOP       2ND CHK VLV       LT       Y2       C       CS-13       LT       Y2       Y2         Valve Name       ACCUM OUTLET TO RC LOOP       2ND CHK VLV       E-8       CC       CS       CS-13       CO       RR       R1-6       LT       Y2       Y2       Y2         Valve Name       HOT LEG RECIRCULATION CHECK VALVE       Valve Name       HOT LEG RECIRCULATION CHECK VALVE       V2       V2       CS       CS	
Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         COF         CM         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13         LT         Y2         Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         VI         VI <th< td=""><td></td></th<>	
Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         LT         Y2           15I8948D         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13           1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           15I8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           15I8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           15I8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13 <td></td>	
Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           1SI8948D         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           1SI8948D         1         A/C         10         CK         SA         Active         C         O/C         M-61-6         B-5         COF         CM           Vaive Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         IT         Y2         V2           1SI8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           1SI8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C <t< td=""><td></td></t<>	
1518948D       1       A/C       10       CK       SA       Active       C       O/C       M-61-6       B-5       COF       CM         CC       CS       CS-13       LT       Y2       Y2       Valve Name       ACCUM OUTLET TO RC LOOP       2ND CHK VLV       LT       Y2         1518949A       1       A/C       6       CK       SA       Active       SYS       O/C       M-61-3       E-8       CC       CS       CS-13         LT       Y2       Y2       Valve Name       Active       SYS       O/C       M-61-3       E-8       CC       CS       CS-13         LT       Y2       Y2       Valve Name       HOT LEG RECIRCULATION CHECK VALVE       CO       RR       RJ-6         LT       Y2       Y2       Valve Name       HOT LEG RECIRCULATION CHECK VALVE       CC       CS       CS-13         ISI8949B       1       A/C       6       CK       SA       Active       C       O/C       M-61-3       D-8       CC       CS       CS-13         LT       Y2       Valve Name       CK       SA       Active       C       O/C       M-61-3       D-8       CC       CS       CS-13	
Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         CC         CS         CS-13           1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           CO         RR         RJ-6         LT         Y2         Y2         Y2         Y2           Valve Name         HOT LEG RECIRCULATION CHECK VALVE         Valve Name         HOT LEG RECIRCULATION CHECK VALVE         Y2         Y2           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8	
Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV         LT         Y2           1SI8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           CO         RR         RJ-6         LT         Y2         Valve Name         HOT LEG RECIRCULATION CHECK VALVE         CO         RR         RJ-6           ISI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           ISI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           ISI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           ISI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13	
Valve Name         ACCUM OUTLET TO RC LOOP         2ND CHK VLV           1SI8949A         1         A/C         6         CK         SA         Active         SYS         O/C         M-61-3         E-8         CC         CS         CS-13           CO         RR         RJ-6         LT         Y2         Valve Name         HOT LEG RECIRCULATION CHECK VALVE         UN-61-3         D-8         CC         CS         CS-13           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           CO         R         RJ-4         CO         R         RJ-4         CO         RR         RJ-4	
1SI8949A       1       A/C       6       CK       SA       Active       SYS       O/C       M-61-3       E-8       CC       CS       CS-13         CO       RR       RJ-6       LT       Y2       Valve Name       HOT LEG RECIRCULATION CHECK VALVE       E-8       CC       CS       CS-13         1SI8949B       1       A/C       6       CK       SA       Active       C       O/C       M-61-3       D-8       CC       CS       CS-13         1SI8949B       1       A/C       6       CK       SA       Active       C       O/C       M-61-3       D-8       CC       CS       CS-13         CO       RR       RJ-4       K       K       SA       Active       C       O/C       M-61-3       D-8       CC       CS       CS-13	
Valve Name         HOT LEG RECIRCULATION CHECK VALVE         CC         RR         RJ-6           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           CO         RR         RJ-4         CO         RR         RJ-4         RJ-4	
Valve Name         HOT LEG RECIRCULATION CHECK VALVE         LT         Y2           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS         CS-13           CO         RR         RJ-4         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K         K	
Valve Name         HOT LEG RECIRCULATION CHECK VALVE           1SI8949B         1         A/C         6         CK         SA         Active         C         O/C         M-61-3         D-8         CC         CS -13           CO         RR         RJ-4         CO         RC         RJ-4         RJ-4	
1SI8949B 1 A/C 6 CK SA Active C O/C M-61-3 D-8 CC CS CS-13 CO RR RJ-4	
CO RR RJ-4	
Valve Name HOT LEG RECIRCULATION CHECK VALVE	
1SI8949C 1 A/C 6 CK SA Active SYS O/C M-61-3 C-8 CC CS CS-13	
CO RR RJ-6 LT Y2	
Valve Name HOT LEG RECIRCULATION CHECK VALVE	
1SI8949D 1 A/C 6 CK SA Active C O/C M-61-3 E-8 CC CS CS-13 CO RR RJ-4	
LT Y2	
1SI8956A 1 A/C 10.000 CK SA Active SYS O/C M-61-5 B-7 COF CM CC CS CS-13	
LT Y2	
Valve Name ACCUM OUTLET TO RC LOOP 1ST CHK VLV	
1SI8956B 1 A/C CK SA Active SYS O/C M-61-5 B-4 COF CM	
13139306 I A/C CK SA ACTIVE STS O/C M-01-5 B-4 COP CM 10.000	
CC CS CS-13	
LT Y2	
LI 12	
Valve Name ACCUM OUTLET TO RC LOOP 1ST CHK VLV	

								ty Injec						
Valve EPN	Safety Class	Cat	Size			-	Norm Pos	Safety Pos	P&ID	P&ID Coor.	Test Type	Test Freq.	Deferred Just.	Tech. Pos.
LSI8956C	1	A/C	10.000		Type SA	Active	SYS	0/C	M-61-6	 B-7	COF	CM		FU3.
		•									СС	CS	CS-13	
											LT	Y2		
			Valve N	lame		ACCUM C	UTLET -	FO RC LO	OP 1ST CHK VLV	v				
1SI8956D	1	A/C		СК	SA	Active	SYS	0/C	M-61-6	B-5	COF	CM		
			10.000									_		
											CC	CS	CS-13	
											LT	Y2		
			Valve N	lame		ACCUM C	OUTLET -	to RC Lo	OP 1ST CHK VL	V				
1SI8958A	2	С	12	CK	SA	Active	SYS	O/C	M-61-4	D-4	CO	CS	CS-8	
											CC	Q		
			Valve N	iame		RH PP SL	ІСТ СНК	VLV						
1SI8958B	2	C	12	СК	SA	Active	SYS	O/C	M-61-4	B-4	CO	CS	CS-8	
											CC	Q		
			Valve M	lame		RH PP SL	ЈСТ СНК	VLV						
1SI8964	2	A	0.750	GL	AO	Active	С	С	M-61-6	D-3	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	lame		AOV ACC	CUM FIL	L/TEST T	O RWST/RECY H	UTS ISO				
1SI8968	2	A/C	1	СК	SA	Active	SYS	С	M-61-6	F-4	נדז	AJ		
											CCL	CM		
											COF	CM		
			Valve I	Vame		N2 SUP I	NSIDE C	NMT CH	< VLV					
2SI101A	2	В	4	GA	М	Active	LO	O/C	M-136-2	D6	SC	Y2		
											SO	Y2		
			Valve I	Vame		2518801/	A UPSTR	M ISOL V	'LV					
2SI101B	2	В	4	GA	М	Active	LO	0/C	M-136-2	C6	SC	Y2	<u></u>	*****
											SO	Y2		
			Valve I	Vame		2518801	3 UPSTR	M ISOL V	'LV					
2SI121A	2	C	0.75x1		SA	Active	C	0	M-136-4	C-5	RT	Y10		
	-	-	0			,	-							
			Valve I	Name		CONTAIN	IMENT S	UMP ISO	LATION VALVE R	ELIEF VALVE	Ξ			
2SI121B	2	C		RV	SA	Active	С	0	M-136-4	A-5	RT	Y10	Dantas (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999) (1999)	
			0.75x1 0	•										
						CONTATA					_			
20100014	~ ~		Valve I						LATION VALVE R			N410		·····
2SI8801A	2	В	4.000	GA	MO	Active	С	O/C	M-136-2	D-6	SC SO	M18		
											SU STO	M18 M18		TP-VA-1
											210			11.44.1
												MUN		
											DIAG PI	MOV MOV		

							Safe	ty Inje	ction					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2SI8801B	2	В	4.000	GA	MO	Active	С	O/C	M-136-2	C-6	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Varne		CHARGIN	G TO CO	DLD LEG	INJECTION MOV					
25I8802A	2	В	4	GA	MO	Active	С	O/C	M-136-3	E-6	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV SI P	P DSCH	OUTSID	E CNMT ISOL VLV	,				
2SI8802B	2	В	4	GA	МО	Active	С	0/C	M-136-3	D-6	SC	M18	011	
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		MOV SI P	P DSCH	OUTSID	E CNMT ISOL VLV	,				
2SI8804B	2	В	8	GA	MO	Active	С	0/C	M-136-1	B-5	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1,
														TP-VA-6
											DIAG	MOV		
											PI	MOV		
												1101		
2010006			Valve I						SUCT HDR ISOL					
2SI8806	2	В	Valve I 8	Marne GA	MO	MOV B RI Active	н нх тс 0	) B SI PP O/C	SUCT HDR ISOL M-136-1	VLV C-6	SC	M18		
2510000	2	В									SC SO	M18 M18		
2318800	2	В									SC	M18		TP-VA-1, TP-VA-6
2310000	2	В									SC SO STC	M18 M18 M18		TP-VA-1, TP-VA-6
2318800	2	В									SC SO STC DIAG	M18 M18 M18 M0V		
2310000	2	В	8	GA	MO	Active	0	O/C	M-136-1	C-6	SC SO STC	M18 M18 M18		
			8 Valve I	GA Name	MO	Active	0 /ST TO 5	O/C 5I PPS SL	M-136-1 JCT HDR ISOL VL	C-6	SC SO STC DIAG PI	M18 M18 M0V MOV		
2518800 2518807A	2	B	8	GA Name	MO	Active	0	O/C	M-136-1	C-6	SC SO STC DIAG PI SC	M18 M18 M0V MOV M0V		
			8 Valve I	GA Name	MO	Active	0 /ST TO 5	O/C 5I PPS SL	M-136-1 JCT HDR ISOL VL	C-6	SC SO STC DIAG PI SC SO	M18 M18 MOV MOV MOV M18 M18		TP-VA-6
			8 Valve I	GA Name	MO	Active	0 /ST TO 5	O/C 5I PPS SL	M-136-1 JCT HDR ISOL VL	C-6	SC SO STC DIAG PI SC	M18 M18 M0V MOV M0V		TP-VA-6 TP-VA-1,
			8 Valve I	GA Name	MO	Active	0 /ST TO 5	O/C 5I PPS SL	M-136-1 JCT HDR ISOL VL	C-6	SC SO STC DIAG PI SC SO STO	M18 M18 MOV MOV MOV M18 M18 M18		TP-VA-6
			8 Valve I	GA Name	MO	Active	0 /ST TO 5	O/C 5I PPS SL	M-136-1 JCT HDR ISOL VL	C-6	SC SO STC DIAG PI SC SO STO DIAG	M18 M18 MOV MOV MOV M18 M18 M18 M0V		TP-VA-6 TP-VA-1,
			8 <b>Valve</b> i 6.000	GA Name GA	MO	Active	O /ST TO S C	O/C 5I PPS SU O/C	M-136-1 JCT HDR ISOL VL M-136-1	C-6 V D-6	SC SO STC DIAG PI SC SO STO	M18 M18 MOV MOV MOV M18 M18 M18		TP-VA-6 TP-VA-1,
2SI8807A	2	В	8 Valve 1 6.000	GA Name GA	MO	Active MOV RM Active	O /ST TO S C	O/C 5I PPS SU O/C	M-136-1 JCT HDR ISOL VL M-136-1 HDR XTIE ISOL	C-6 V D-6 VL	SC SO STC DIAG PI SC SO STO DIAG PI	M18 M18 MOV MOV MI8 M18 M18 M0V MOV		TP-VA-6 TP-VA-1,
			8 Valve 1 6.000	GA Name GA	MO	Active	0 /ST TO 9 C	O/C 5I PPS SU O/C	M-136-1 JCT HDR ISOL VL M-136-1	C-6 V D-6	SC SO STC DIAG PI SC SO STO DIAG PI SC	M18 M18 MOV MOV M18 M18 M18 MOV MOV		TP-VA-6 TP-VA-1,
2SI8807A	2	В	8 Valve 1 6.000	GA Name GA	MO	Active MOV RM Active	0 /ST TO 9 C	O/C 5I PPS SU O/C	M-136-1 JCT HDR ISOL VL M-136-1 HDR XTIE ISOL	C-6 V D-6 VL	SC SO STC DIAG PI SC SO STO DIAG PI SC SO	M18 M18 MOV MOV M18 M18 M18 M0V MOV M0V		TP-VA-6 TP-VA-1, TP-VA-6
2SI8807A	2	В	8 Valve 1 6.000	GA Name GA	MO	Active MOV RM Active	0 /ST TO 9 C	O/C 5I PPS SU O/C	M-136-1 JCT HDR ISOL VL M-136-1 HDR XTIE ISOL	C-6 V D-6 VL	SC SO STC DIAG PI SC SO STO DIAG PI SC	M18 M18 MOV MOV M18 M18 M18 MOV MOV		TP-VA-6 TP-VA-1,
2SI8807A	2	В	8 Valve 1 6.000	GA Name GA	MO	Active MOV RM Active	0 /ST TO 9 C	O/C 5I PPS SU O/C	M-136-1 JCT HDR ISOL VL M-136-1 HDR XTIE ISOL	C-6 V D-6 VL	SC SO STC DIAG PI SC SO STO DIAG PI SC SO	M18 M18 MOV MOV M18 M18 M18 M0V MOV M0V		TP-VA-6 TP-VA-1, TP-VA-6 TP-VA-1,
2SI8807A	2	В	8 Valve 1 6.000	GA Name GA	MO	Active MOV RM Active	0 /ST TO 9 C	O/C 5I PPS SU O/C	M-136-1 JCT HDR ISOL VL M-136-1 HDR XTIE ISOL	C-6 V D-6 VL	SC SO STC DIAG PI SC SO STO DIAG PI SC SO STO	M18 M18 MOV MOV M18 M18 M18 M0V MOV M0V		TP-VA-6 TP-VA-1, TP-VA-6 TP-VA-1,

							Safe	ety Injec	tion					
Valve EPN	Safety Class	Cat	Size	Viv Type	Act. Type	Act/ Pass	Norm Pos	Safety Pos	P&ID	P&ID Coor.	Test Type	Test Freq.	Deferred Just.	Tech. Pos.
2SI8808A	1	В	10	GA	MO	Passive	0	0/C	M-136-5	C-3	STC	M18		TP-VA-1,
											PI	Y2		TP-VA-6
			Valve I	Name			ATOR [	DISCHARG	E ISOLATION V	ALVE - MOV	• •	12		
2SI8808B	1	В	10	GA	мо	Passive		0/C	M-136-5	C-6	STC	M18		TP-VA-1,
	-	_					-	-1-						TP-VA-6
											PI	Y2		
			Valve I						SE ISOLATION V					
2SI8808C	1	В	10	GA	MO	Passive	0	O/C	M-136-6	D-2	STC	M18		TP-VA-1, TP-VA-6
											PI	Y2		
			Valve I	Name		ACCUMU	LATOR I	DISCHARC	SE ISOLATION V	ALVE - MOV				
2SI8808D	1	В	10	GA	MO	Passive	0	0/C	M-136-6	D-5	STC	M18		TP-VA-1,
											PI	Y2		TP-VA-6
											PI	٢Z		
2010000			Valve					O/C	SE ISOLATION V		<u> </u>	M18		
2SI8809A	2	В	8	GA	MO	Active	0	0/0	M-136-4	E-5	SC SO	M18 M18		
											STC	M18		TP-VA-1
											DIAG	MOV		11 1/11
											PI	MOV		
			Valve	Nama	ł	MOV RH			WST ISOL VLV					
25I8809B	2	В	8	GA	MO	Active		0/C	M-136-4	D-5	SC	M18		
23100070	4	U	0	Un	110	Active	U	0/0	11 150 1	05	SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name	1	MOV RH	HX SI		WST ISOL VLV					
	2	В	24	GA	МО	Active	C	0/C	M-136-4	C-5	DIAG	MOV		
											PI	MOV		
											SC	RR	RJ-2	
											SO	RR	RJ-2	
											STO	RR	RJ-2	TP-VA-1
			Valve	Name	•	MOV CN	IMT REC	CIRC SUM	P OUTLET ISOL	VLV				
2SI8811B	2	В	24	GA	MO	Active	С	O/C	M-136-4	A-5	DIAG	MOV		
											PI	MOV		
											SC	RR	RJ-2	
											SO	RR	RJ-2	
											STO	RR	RJ-2	TP-VA-1
			Valve	Name	•	MOV CN	IMT REC	CIRC SUM	P OUTLET ISOL	VLV				
2SI8812A	2	В	12	GA	MO	Active	0	0/C	M-136-4	D-7	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1, TP-VA-6
											DIAG	MOV		IF' VA-0
											PI	MOV		
			Valve	Namo		MUN Dr	{ pp p\//	ST SUCT						
			*aive		•			51 5001	130L VLV				****	

							Safe	ty Injec	tion					
Valve EPN	Safety Class	Cat	Sīze		Act. Type	-	Norm Pos	Safety Pos	P&ID	P&ID Coor.	Test Type	Test Freg.	Deferred Just.	Tech. Pos.
2SI8812B	2	В	12	GA	MO	Active	0	0/C	M-136-4	B-7	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1,
											DIAG	MOV		TP-VA-6
											PI	MOV		
			** * *								11	1101		
	-		Valve I					T SUCT I						
2SI8813	2	В	2	GL	MO	Active	0	0/C	M-136-1	E-4	SC	M18		
											SO STC	M18 M18		
											510	M19		TP-VA-1, TP-VA-6
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		SAFETY I	NJECTIO	ON PUMP	MIN FLOW ISOL	ATION VALV	E			
2518814	2	В	1.5	GL	MO	Active	0	O/C	M-136-1	D-4	SC	M18		
	-	-					-	-/-		- /	SO	M18		
											STC	M18		TP-VA-1,
														TP-VA-6
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		SI PUMP	MINIMU	M FLOW	ISOLATION VAL	/E				
2SI8815	1	A/C	3	CK	SA	Active	SYS	O/C	M-136-2	D-4	CC	CS	CS-13	
											CO	RR	RJ-5	
											LT	Y2		
			Valve I	Name		COLD LE	G HDR S	I SUP CH	IK VLV					
2SI8818A	1	A/C	6.000	) CK	SA	Active	С	O/C	M-136-4	F-2	CC	CS	CS-13	
											CO	CS	CS-8	
											LT	Y2		
			Valve I	Name		LOOP _ C	COLD LE	G ACCUM	INJ CHK VLV					
2SI8818B	1	A/C	6.000	СК	SA	Active	C	O/C	M-136-4	D-2	СС	CS	CS-13	
		,						·			со	CS	CS-8	
											LT	Y2		
			Valve I	Name		LOOP (	COLD LE	G ACCUM	INJ CHK VLV					
2SI8818C	1		6.000			Active		0/C	M-136-4	E-2	СС	CS	CS-13	
	-	.,.	0.000					0,0		<b>Jun 6</b> .	СО	CS	CS-8	
											LT	Y2		
			Valve	Namo			י חור		I INJ CHK VLV					
20100100			6.000							<b>E</b> 7			CC 12	
2SI8818D	1	A/C	0.000	UK CK	SA	Active	С	O/C	M-136-4	E-2	CC CO	CS CS	CS-13 CS-8	
											LT	Y2	C3-0	
						1005		C 1 C C !!!			h I	14		
			Valve						I INJ CHK VLV					······
2SI8819A	1	A/C	2	СК	SA	Active	SYS	0/C	M-136-3	B-4	CC	CS	CS-13	
											CO	RR	RJ-4	
											LT	Y2		
			Valve					g si chk						

							Jait	ty Injec						
Valve EPN	Safety	Cat	Size				Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
SI8819B	1	A/C	2	CK	SA	Active	SYS	O/C	M-136-3	B-2	CC	CS	CS-13	
											CO	RR	RJ-4	
											LT	Y2		
			Valve I	Name	1		COLD LE	g si chk	VLV					
2SI8819C	1	A/C	2	СК	SA	Active	SYS	O/C	M-136-3	B-2	СС	CS	CS-13	
											CO	RR	RJ-4	
											LT	Y2		
			Valve I	Name	1	LOOP (	OLD LE	g si chk	VLV					
2SI8819D	1	A/C	2	СК	SA	Active		O/C	M-136-3	B-3	CC	CS	CS-13	
	-	.,.	-	U.V.	0, (	ricare	010	0,0	11 200 0	20	CO	RR	RJ-4	
											LT	Y2		
			**.*											
CT00214	~	~	Valve					G SI CHK			~~	844.0	**************************************	
2SI8821A	2	В	4	GA	МО	Active	0	O/C	M-136-3	D-6	SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		MOV SI	PP DSCI	Η ΧΤΙΕ ΤΟ	CL ISOL VLV					
2SI8821B	2	В	4	GA	MO	Active	0	O/C	M-136-3	D-6	SC	M18	A	
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		MOV SI	PP DSCI	Η ΧΤΙΕ ΤΟ	CL ISOL VLV					
2518835	2	В	4	GA	MO			O/C	M-136-3	C-5	SO	M18		
	-	-	·	0.1		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•	0, 2			STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
												1101		
	~		Valve						CL ISOL VLV		~ ~		ABARDARI M	
2518840	2	В	12	GA	MO	Active	С	O/C	M-136-3	B-5	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		MOV RH	I HXS TO	D 1A/1C LO	DOP HL ISOL VL	/				
2SI8841A	1	A/C	8	CK	SA	Active	SYS	O/C	M-136-3	E-4	CC	CS	CS-13	
											со	RR	RJ-6	
											LT	Y2		
			Valve	Name		RHR HO	T LEG IN	JECTION	1ST CHECK VAL	٧E				
2SI8841B	1	A/C		СК	SA	Active		0/C	M-136-3	C-2	СС	CS	CS-13	
-0100 110	÷	.,.	Ū	U.	511	100140	0,0	0,0		~ 2	СС	RR	RJ-6	
													10-0	
											LT	Y2		

							ty Inje						
Valve EPN		Cat	Size Viv					P&ID	P&ID	Test	Test	Deferred	Tech.
010040	Class				Pass	Pos	Pos		Coor.		Freq.	Just.	Pos.
2SI8842	2	С	RV 0.75x1. 0	SA	Passive	С	O/C	M-136-3	B-6	RT	Y10		
			Valve Name		RHR HX C	DUTLET	RELIEF \	/ALVE					
2518851	2	С	0.75x1. RV 0	SA	Passive	С	0/C	M-136-3	C-5	RT	Y10		
			Valve Name		SI TO CO	LD LEG	RELIEF V						
2SI8853A	2	С	RV 0.75x1. 0	SA	Passive	С	O/C	M-136-3	F-6	RT	Y10		
			Valve Name		SI PUMP	DISCHA	RGE REL	IEF VALVE TO HO	T LEG				
2SI8853B	2	С	0.75x1. RV 0	SA	Passive	С	0/C	M-136-3	B-6	RT	Y10		
			Valve Name		SI PUMP	DISCHA	RGE REL	IEF VALVE TO HC	T LEG				
2SI8855A	2	С	RV 1.0x2.0	SA	Passive	С	0/C	M-136-5	E-4	RT	Y10		
			Valve Name		ACCUMUI	LATOR F	RELIEF VA	ALVE					
2SI8855B	2	С	1.0x2.0 RV	SA	Passive	С	0/C	M-136-5	E-6	RT	Y10		
			Valve Name		ACCUMU	LATOR F	RELIEF VA	ALVE					
2SI8855C	2	С	RV 1.0x2.0	SA	Passive	С	0/C	M-136-6	E-2	RT	Y10		
			Valve Name		ACCUMU	LATOR F	RELIEF VA	ALVE					
2SI8855D	2	С	1.0x2.0 RV	SA	Passive	С	O/C	M-136-6	E-5	RT	Y10		
			Valve Name		ACCUMU	LATOR F	RELIEF VA	ALVE					
2SI8856A	2	С	RV 2.0x3.0	SA	Passive	С	0/C	M-136-4	F-5	RT	Y10		
			Valve Name		RHR HX (	OUTLET		RELIEF VALVE					
2SI8856B	2	С	2.0x3.0 RV	SA	Passive	С	0/C	M-136-4	E-5	RT	Y10		
			Valve Name		RHR HX (	OUTLET	HEADER	RELIEF VALVE					
2518858	2	C	RV 1.0x0.7 5	SA	Passive	С	0/C	M-136-1	D-5	RT	Y10		
			Valve Name		SAFETY I	NJECTI	ON SUCT	ION RELIEF VALV	E				
2SI8871	2	A	0.750 GL	AO	Active	С	С	M-136-6	B-6	LTJ	LA		
										FC	Q		TP-VA-2
										STC	Q		TP-VA-1
										PI	Y2		TP-VA-4
			Valve Name		AOV ACC	CUM FIL	L/TEST I	NSIDE CNMT ISO	L VLV				
2SI8875A	2	В	1.000 GL	AO	Passive	С	С	M-136-5	F-3	PI	Y2		
			Valve Name		SAFETY I	NJECTI	ON TANK	N2 SUPPLY/VENT	r ISO VALVE				
2SI8875B	2	В	1.000 GL	AO	Passive	С	С	M-136-5	F-6	PI	Y2		
			Valve Name		SAFETY I	NJECTI	ON TANK	N2 SUPPLY/VENT	ISO VALVE				
2SI8875C	2	В	1.000 GL	AO	Passive		C	M-136-6	E-2	PI	Y2		
	_	-	Valve Name					N2 SUPPLY/VENT					
	2	В		10									
2SI8875D	2	D	1.000 GL	AU	Passive		С	M-136-6	E-5	PI	Y2		
-			Valve Name	·······	SAFETY I	NJECTI	ON TANK	N2 SUPPLY/VENT	ISO VALVE			A	

Valve EPN	Safety	<u></u>	Cina	Mar	8	Act/		ty Inje Safety	P&ID	P&ID	Test	Tort	Deferred	Tech.
VOIVE LEIN	Class	LGE		туре		_	Pos	Pos	Fait	Coor.		Freq.	Just.	Pos.
2SI8877A	2	В	0.750		AO	Passive	<u>C - C - C - C - C - C - C - C - C - C -</u>	C	M-136-5	C-3	PI	Y2	3636	F U3.
			Vaive N						ND DRAIN ISOLA					
SI8877B	2	В	0.750			Passive	C	C	M-136-5	C-6	PI	Y2		
5100770	2	U									LT.	12		
			Valve N						ND DRAIN ISOLA					
2SI8877C	2	В	0.750			Passive	С	С	M-136-6	C-2	PI	Y2		
			Valve N				IULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
2SI8877D	2	В	0.750	GL	AO	Passive	С	С	M-136-6	C-5	PI	Y2		
			Valve N	farne		SI ACCUM	IULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
2SI8878A	2	В	1.000	GL	AO	Passive	С	С	M-136-5	C-4	PI	Y2		
			Valve N	lame		SI ACCUM	IULATO	R FILL LI	NE ISOLATION VA	LVE				
2SI8878B	2	В	1.000	GL	AO	Passive	С	С	M-136-5	D-7	PI	Y2		
			Valve N	lame		ST ACCUM		R FTI I I	NE ISOLATION VA	NVF				
2SI8878C	2	В	1.000			Passive	C	C	M-136-6	D-3	PI	Y2		
.0100/00	-	2	Valve N				-	_			11	14		
									NE ISOLATION V					
2SI8878D	2	В	1.000			Passive	С	С	M-136-6	D-5	PI	Y2		
			Valve N	lame		SI ACCUM	IULATOI	R FILL LI	NE ISOLATION VA	LVE				
2SI8879A	2	В	0.750	GL	AO	Passive	С	С	M-136-5	B-3	PI	Y2		
			Valve N	lame		SI ACCUM	IULATOI	R TEST A	ND DRAIN ISOLA	TION VALVE				
2SI8879B	2	В	0.750	GL	AO	Passive	С	С	M-136-5	B-6	PI	Y2		
			Valve N	lame		SI ACCUN	1ULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
2SI8879C	2	В	0.750	GL	AO	Passive	С	С	M-136-6	B-2	PI	Y2		
			Valve N	lame		SI ACCUN	IULATO	R TEST A	ND DRAIN ISOLA	TION VALVE				
2SI8879D	2	В	0.750			Passive	C	C	M-136-6	B-5	PI	Y2		
201007.90	-	2					-					12		
			Valve N						ND DRAIN ISOLA					
2518880	2	A	1.000	GL	AO	Active	С	С	M-136-6	F-6		۲A)		TD 1/4 0
											FC STC	Q Q		TP-VA-2 TP-VA-1
											PI	Y2		TP-VA-4
			Valve N	lamo					rside cnmt isol	VIN				
10001	2	В									10			·····
2SI8882	2	D	0.750		AU	Passive	С	С	M-136-2	B-4	PI	Y2		
			Valve N					ON TEST	LINE ISOLATION	VALVE				
2SI8888	2	Α	0.75	GL	AO	Active	С	С	M-136-3	E-6	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve M			AOV SI F	PPS TO /	ACCUM F	ILL OUTSIDE CN	1T ISO				
2SI8889A	2	В	0.750	GL	AO	Passive	С	С	M-136-3	F-3	PI	Y2		
			Valve N	lame		SAFETY I	NJECTIO	ON TEST	LINE AOV					
2SI8889B	2	В	0.750	GL	AO	Passive	С	С	M-136-3	F-2	PI	Y2		**************
			Valve N	lame		SAFETY I	NJECTIO	ON TEST	LINE AOV					
2SI8889C	2	В	0.750		AO	Passive	C	C	M-136-3	F-2	PI	Y2		
	_	-					-	-			• •			

		-			-	-		ty Injec		_				
Valve EPN		Cat						-	P&ID	P&ID			Deferred	Tech.
	Class					Pass	Pos	Pos		Coor.	Туре		Just.	Pos.
SI8889D	2	В	0.750	GL	AO	Passive	С	С	M-136-3	F-3	PI	Y2		
			Valve N	lame	9	SAFETY I	NJECTI	ON TEST L	INE AOV					
SI8900A	1	A/C	1.5	CK	SA	Active	С	O/C	M-136-2	F-2	CC	CS	CS-13	
											CO	RR	RJ-5	
											LT	Y2		
			Valve N	Vame	1	OOP CC	)LD I FG	SI SUP CI	нк угу					
SI8900B	1	A/C	1.5	СК	SA	Active	C	O/C	M-136-2	D-2	CC	CS	CS-13	
510,000	+	7,0	1.5	CR	54	Active	C	0/0	11 150 2	02	со	RR	RJ-5	
											LT	Y2	KJ-2	
											LI	12		
			Valve I			LOOP CO	DLD LEG	SI SUP C	HK VLV					
2SI8900C	1	A/C	1.5	CK	SA	Active	С	O/C	M-136-2	C-2	CC	CS	CS-13	
											CO	RR	RJ-5	
											LT	Y2		
			Valve I	Name	1	LOOP CO	DLD LEG	SI SUP C	HK VLV					
2SI8900D	1	A/C		СК	SA	Active	C	O/C	M-136-2	B-2	CC	CS	CS-13	
	_	.,=					-	-/-			CO	Q		
											LT	Y2		
												12		
			Valve I					SI SUP C						
2SI8905A	1	A/C	2	CK	SA	Active	SYS	O/C	M-136-3	E-5	CC	CS	CS-13	
											CO	RR	RJ-4	
											LT	Y2		
			Valve I	Name		LOOP HO	OT LEG	SI CHK VL	V					
2SI8905B	1	A/C	2	СК	SA	Active	SYS	O/C	M-136-3	D-2	СС	CS	CS-13	
								-, -			CO	RR	RJ-4	
											LT	Y2		
											<b>L</b> 1	14		
			Valve I					SI CHK VL						
2SI8905C	1	A/C	2	CK	SA	Active	SYS	O/C	M-136-3	C-2	CC	CS	CS-13	
											CO	RR	RJ-4	
											LT	Y2		
			Valve I	Name		LOOP HO	OT LEG	SI CHK VL	V					
2SI8905D	1	A/C	2	СК	SA	Active		0/C	M-136-3	E-5	СС	CS	CS-13	
···· <b>···</b>	-	.,_	-				2.0	-, -			CO	RR	RJ-4	
											LT	Y2	10 1	
									.,			1 4.		
			Valve I					SI CHK VL						
2SI8919A	2	С	1.500	CK	SA	Active	SYS	0	M-136-1	D-4	CC	Q		
											CO	Q		
			Valve I	Name		SAFETY I	NJECTI	ON PUMP	MINIMUM FLOW	V CHECK VAL	.VE			
2SI8919B	2	С	1.500	СК	SA	Active	SYS	0	M-136-1	C-4	CC	Q		
	£		1.000	. ur	57	1100100	5,5	U	1, 100 1		co	Q		
											0	ų		

							Safe	ty Inje	ction					
Valve EPN	Safety	Cat	Size	Viv	Act.			Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
2010000	Class				Type		Pos	Pos	M 106 1	Coor.	Туре	Freq.	Just.	Pos.
2518920	2	В	1.5	GL	МО	Active	0	O/C	M-136-1	C-4	SC	M18		
											SO STC	M18 M18		
											310	MIO		TP-VA-1, TP-VA-6
											DIAG	MOV		
											PI	MOV		
			Valve N	lame		MOV B S	I PP DSC	H RECIR	C ISOL VLV					
25I8922A	2	С	4.000	СК	SA	Active	SYS	O/C	M-136-1	D-3	CC	Q		
20107227	-	Ŭ	11000	en	0,1	Theore	0.0	0/0	11 200 2	23	co	RR	RJ-4	
										CK MALVE				
			Valve I						DISCHARGE CHE			-		
2SI8922B	2	С	4.000	CK	SA	Active	SYS	O/C	M-136-1	B-3	CC	Q		
											CO	RR	RJ-4	
			Valve I	lame		SAFETY I	INJECTIO	on pump	DISCHARGE CHE	CK VALVE				
2SI8923A	2	В	6.000	GA	MO	Passive	e O	0	M-136-1	C-5	PI	Y2		TP-VA-4
			Valve N	Vame		SI PUMP	SUCTIO	n from	RWST ISOLATION	VALVE				
2SI8923B	2	В	6.000	GA	MO	Passive	0	0	M-136-1	B-5	PI	Y2		TP-VA-4
	-													
			Valve I						RWST ISOLATION					
2SI8924	2	В	6	GA	MO	Active	0	0	M-136-1	D-6	SC	M18		
											SO	M18		
											STO	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	lame		MOV SI/	/CV PPS	SUCT HE	R XTIE ISOL VLV					
2518926	2	С	8	СК	SA	Active	SYS	O/C	M-136-1	C-6	CCU	CM		
											COF	CM		
			Valve I	Vame		SI PPS S	UCT CHK	K VLV						
2SI8948A	1	A/C	10	СК	SA	Active	С	O/C	M-136-5	B-2	COF	CM		
											CC	CS	CS-13	
											LT	Y2		
			Valve I	Vame		ACCUM (	OUTLET .	TO RC I (	oop 2ND CHK VL	v				
2SI8948B	1	A/C	10	СК	SA	Active		0/C	M-136-5	B-5	COF	CM		
20109 100	т	, y C	10		37	ACUVE	C	0/0	11 130 5		CC	CS	CS-13	
											LT	Y2	CJ-15	
											L1	12		
			Valve I						DOP 2ND CHK VL					
2SI8948C	1	A/C	10	CK	SA	Active	C	O/C	M-136-6	B-1	COF	CM		
											CC	CS	CS-13	
											LT	Y2		
			Valve I	Vame		ACCUM (	OUTLET	to RC LO	DOP 2ND CHK VL	V				
2518948D	1	A/C	Valve I	Mame CK	SA	ACCUM ( Active		TO RC LO	DOP 2ND CHK VL M-136-6	V B-4	COF	СМ		
2518948D	1	A/C									COF CC		CS-13	
25I8948D	1	A/C										СМ	CS-13	

							Safe	ty Injec	tion					
Valve EPN	Safety	Cat	Sîze	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
SI8949A	1	A/C	6	CK	SA	Active	SYS	O/C	M-136-3	E-1	CC	CS	CS-13	
											CO	RR	RJ-6	
											LT	Y2		
			Valve N	lame	ł	HOT LEG	RECIRC	ULATION	CHECK VALVE					
SI8949B	1	A/C	6	СК	SA	Active	С	O/C	M-136-3	D-1	CC	CS	CS-13	
											CO	RR	RJ-4	
											LT	Y2		
			Valve N	lame	1	HOT LEG	RECIRC	ULATION	CHECK VALVE					
SI8949C	1	A/C	6	CK	SA	Active	SYS	O/C	M-136-3	C-1	CC	CS	CS-13	
											СО	RR	RJ-6	
											LT	Y2		
			Valve N	lame	I	HOT LEG	RECIRC		CHECK VALVE					
SI8949D	1	A/C	6	СК	SA	Active	C	0/C	M-136-3	E-1	CC	CS	CS-13	
	-	.,.	J				~	2, 3			СО	RR	RJ-4	
											LT	Y2		
			×				DECIDO					14		
<u></u>			Valve N						CHECK VALVE	<b>D</b> D				
SI8956A	1	A/C	10.000	CK	SA	Active	SYS	O/C	M-136-5	B-3	COF	СМ		
			10.000								CC	CS	CS-13	
											LT	Y2		
			¥7-1 8											
			Valve N						OP 1ST CHK VLV					
SI8956B	1	A/C	10.000	i CK	SA	Active	SYS	O/C	M-136-5	B-6	COF	CM		
											CC	CS	CS-13	
											LT	Y2		
			Valve N	lame		ACCUM C	OUTLET .	to RC LO	OP 1ST CHK VLV	,				
SI8956C	1	A/C		CK	SA	Active	SYS	O/C	M-136-6	B-2	COF	CM	****	
			10.000	1							66	66	<b>CC</b> 43	
											CC	CS	CS-13	
											LT	Y2		
			Valve M	Vame			OUTLET .	TO RC LO	OP 1ST CHK VLV	,				
2SI8956D	1	A/C	10.000	) CK	SA	Active	SYS	O/C	M-136-6	B-4	COF	CM		
											CC	CS	CS-13	
											LT	Y2		
			Valve M	Name			DUTLET '	TO RC LO	OP 1ST CHK VLV	,				
2SI8958A	2	С	12	СК	SA	Active		0/C	M-136-4	C-7	СО	CS	CS-8	
-910330N	۷.	C	**		54	neuve		0,0	11 130 1	27	cc	Q	23.0	
			Nr. 1 -				10T C					ų		
			Valve N			RH PP SL								
2SI8958B	2	С	12	СК	SA	Active	SYS	0/C	M-136-4	B-7	CO	CS	CS-8	
											CC	Q		
			Valve N			RH PP SU								

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							Safe	ety Injec	tion					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2SI8964	2	Α	0.750	GL	AO	Active	С	С	M-136-6	D-6	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	łame	/	AOV ACC	CUM FIL	L/TEST TO	D RWST/RECY H	IUTS ISO				
2SI8968	2	A/C	1	СК	SA	Active	SYS	С	M-136-6	F-5	LTJ	AJ		
											CCL	CM		
											COF	CM		
			Valve I	lame		V2 SUP I	NSIDE (	СИМТ СНК	. VLV					

						E	ssentia	al Servic	e Water					
Valve EPN	Safety	Cat	Size	Viv		Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class		74		Туре		Pos	Pos	NA 47 74	Coor.	Туре	Freq.	Just.	Pos.
)SX007	3	В	24	BTF	МО	Active	0	0	M-42-2A	E-4	SC	M18		
											SO	M18		
											DIAG PI	MOV		
											P1	MOV		
			Valve I						T ISOLATION VA					
DSX063A	3	В	8	GA	MO	Active	0/C	0	M-42-4	E-8	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CONTRO	l room	CHILLER	CONDENSER IN	LET ISO VAL	VE			
)SX063B	3	В	8	GA	MO	Active	0/C	0	M-42-4	B-7	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		CONTRO			CONDENSER IN					
)SX146	3	В	30	BTF	МО	Active	0	0	M-42-2A	D-3	SC	M18		
UTTAC	J	U	50	דוס	MU	ALUVE	U.	0	M-TZ-ZA	נ-ט	SO	M18 M18		
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		COMMON	I COMPO	DNENT CO	DOLING HX OUT	LET ISOLATI	ON			
DSX147	3	В	30	BTF	MO	Active	С	0	M-42-2A	D-3	SC	M18		·····
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		COMMON		ONENT CO	DOLING HX OUT	LET ISOLATI	ON			
LSX002A	3	С	36	СК	SA	Active	SYS	0/C	M-42-1B	E-6	CC	Q		
10/(002)1	5	C	50	CIX	0/1	neave	515	0,0	11 12 10	20	СО	Q		
												ų		
			Valve						HECK VALVE				(	
1SX002B	3	Ċ	36	CK	SA	Active	SYS	O/C	M-42-1A	E-6	CC	Q		
											CO	Q		
			Valve	Name		ESW PUN	1P DISC	HARGE C	HECK VALVE					
1SX004	3	В	30	BTF	MO	Passive	0	0	M-42-1B	E-2	PI	Y2		
			Valve	Name		COMPON	ENT CO	OLING W	ATER HX INLET	ISOLATION V	VALVE			
LSX005	3	В	30	BTF	MO	Active	0/C	0	M-42-1A	E-2	SC	M18	948 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 949 - 94	
	-	-					-, -	-			SO	M18		
											DIAG	MOV		
											PI	MOV		
											11	1101		
			Valve						HE COMMON CC					
1SX007	3	В	24	BTF	MO	Active	0	0	M-42-2B	D-4	DIAG	MOV		
											PI	MOV		
											SC	RR	RJ-1	
											SO	RR	RJ-1	
			Valve	Namo		UNIT 1 C	CW HX	OUTLET	SOLATION VALV	'E				
			YOIYC	Rennic										
1SX010	3	В	42			Passive		0	M-42-2B	E-1	PI	Y2		

			- o -				0		ce Water					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/			P&ID	P&ID	Test	Test	Deferred	Tech.
	Class					Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1SX011	3	В	42	BTF		Passive	0	0	M-42-2B	C-1	PI	Y2		
			Valve I	Name		ESW TRA	IN CROS	S TIE IS	OLATION VALVE					
1SX016A	2	В	16	BTF		Active	0	0/C	M-42-5B	F-7	SC	M18		
								-,-			SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		RCFC SX	SI IPPI Y		ON VALVE					
1SX016B	2	В	16	BTF	мо	Active	0	0/C	M-42-5A	F-2	SC	M18		
1370100	2	D	10	DII	110	Active	0	0/0	M 12 JA	12	SO	M18		
											DIAG	MOV		
											PI	MOV		
			1 fm 8	Mana								1101		
400074			Valve						ON VALVE 	~ ~ ~		1410		
1SX027A	2	В	16	DIF	MO	Active	0	O/C	M-42-2D	C-7	SC SO	M18 M18		
											DIAG	MOV		
											PI	MOV		
							-				FI	MOV		
			Valve				-		R ISOLATION VAL					
1SX027B	2	В	16	BTF	МО	Active	0	O/C	M-42-5A	C-2	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve						R ISOLATION VAL					
1SX033	3	В	36	BTF	MO	Passive	0	0	M-42-1B	D-2	PI	Y2		
			Valve			ESW TRA	IN B CR	OSS TIE	ISOLATION VALVI					
1SX034	3	В	36	BTF	МО	Passive	0	0	M-42-1A	F-2	PI	Y2		
			Valve	Name		ESW TRA	IN A CR	OSS TIE	ISOLATION VALV	E				
1SX112A	3	В	12	BTF	AO	Active	0	С	M-42-3	E-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		CONTAIN	IMENT C	HILLER	SX SUPPLY VALVE					
1SX112B	3	В	12	BTF	AO	Active	0	С	M-42-3	C-5	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		CONTAIN	IMENT C	HILLER	SX SUPPLY VALVE					
1SX114A	3	В	12	BTF	AO	Active	0	С	M-42-3	E-4	FC	Q		TP-VA-2
*											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name	ł	CONTAIN		HILLER	SX RETURN VALVE	=				
1SX114B	3	В	12	BTF		Active	0	C	M-42-3	 C-4	FC	Q		TP-VA-2
10/11/10		D	**	511	10	1.0040	5	~	11 12 3	<u> </u>	STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			1/_!··	N/		CONTAT				-	. 1	1 4		11 111 1
			Valve						SX RETURN VALVE			+		
1SX136	3	В	42	BTF	МО	Passive	0	0	M-42-2A	C-1	PI	Y2		
			Valve	Name	:	TRAIN B	ESW RE	TRUN HI	EADER ISOLATION	I VALVE				
													************	

							33°C3 IILI O	18 JC2 4 FL	e Water					
Valve EPN	Safety Class	Cat	Size	Vlv Type		Act/ Pass	Norm Pos	Safety Pos	P&ID	P&ID Coor.	Test Type	Test Freq.	Deferred Just.	Tech. Pos.
1SX147A	3	В	16	BTF	AO	Active	0	0	M-42-3	E-4	FO	Q		TP-VA-2
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Vame		ESW RCF	C RETUR	RN PRESS	URE CONTROL	VALVE				
1SX147B	3	В	16	BTF	AO	Active	0	0	M-42-3	B-4	FO	Q		TP-VA-2
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Vame		ESW/ RCE		N PRESS	URE CONTROL					
1SX150A	3	В	3	BTF	MO	Active	C	0/C	M-42-1B	D-4	SC	M18		
IDVIDOV	5	U	J	DII	MO	Active	C	0,0	11-12 10		SO	M18		
											DIAG	MOV		
											DIAG	MOV		
			Valve						E TREATMENT		~~~			
1SX150B	3	В	3	BTF	MO	Active	С	0/C	M-42-1A	D-4	SC	M18		
											50	M18		
											DIAG	MOV		
			Valve	Name		ESW STR	AINER 1	LB - WAST	E TREATMENT	ISO VALVE				
1SX168	3	В	3	GL	AO	Active	SYS	0	M-42-3	B-3	FO	Q		TP-VA-2
			Valve	Name		AFW PUN	1P 1B CL	JBICLE CO	DOLER ESW TEM	1P. CONTROL	VALVE			
15X169A	3	В	10	BTF	AO	Active	С	0	M-42-3	F-8	FO	Q		TP-VA-2
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		ESW RET	URN HE	ADER FR	OM DG JACKET	WATER ISOL	VALVE			
1SX169B	3	В	10	BTF	AO	Active	С	0	M-42-3	D-8	FO	Q		TP-VA-2
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		ESW RET	URN HE	ADER FR	OM DG JACKET	WATER ISOL	VALVE			
1SX173	3	В	Valve 6	Name GA	M	ESW RET		ADER FRO	OM DG JACKET	WATER ISOL	VALVE	NR		
1SX173	3	В		GA		Passive	0	0		C-3	NTR	NR		
			6 <b>Vaive</b>	GA Name	М	Passive ENGINE	e O DRIVEN	O COOLING	M-42-3 WATER PUMP S	C-3 5X04P SUPPL	NTR Y VLV			
	3	B	6	GA		Passive	0	0	M-42-3	C-3	NTR Y VLV CCD	СМ		
15X173 15X174			6 <b>Vaive</b>	GA Name	М	Passive ENGINE	e O DRIVEN	O COOLING	M-42-3 WATER PUMP S	C-3 5X04P SUPPL	NTR Y VLV CCD CO	CM CM		
			6 <b>Valve</b> 6	GA Name CK	M	Passive ENGINE Active	e O DRIVEN SYS	O COOLING O	M-42-3 5 WATER PUMP 5 M-42-3	C-3 5x04p SUppl C-2	NTR Y VLV CCD CO COD	СМ		
15X174	3	С	6 Valve 6 Valve	GA Name CK Name	M	Passive ENGINE Active ENGINE	e O DRIVEN SYS DRIVEN	O COOLING O CLG WTR	M-42-3 5 WATER PUMP 5 M-42-3 8 PP SX04P OUT	C-3 5X04P SUPPL C-2 LET CHECK V	NTR Y VLV CCD CO COD YALVE	CM CM CM		
			6 <b>Valve</b> 6	GA Name CK	M	Passive ENGINE Active	e O DRIVEN SYS DRIVEN	O COOLING O	M-42-3 5 WATER PUMP 5 M-42-3	C-3 5x04p SUppl C-2	NTR Y VLV CCD CO COD YALVE FO	CM CM CM		TP-VA-1
15X174	3	С	6 Valve 6 Valve 6	GA Name CK Name GA	M SA AO	Passive ENGINE Active ENGINE Active	e O DRIVEN SYS DRIVEN C	O COOLING O CLG WTR O	M-42-3 5 WATER PUMP 5 M-42-3 8 PP SX04P OUT M-42-3	C-3 5X04P SUPPL C-2 LET CHECK V B-3	NTR Y VLV CCD CO COD YALVE	CM CM CM		TP-VA-1
1SX174 1SX178	3	C	6 Valve 6 Valve 6 Valve	GA Name CK Name GA	M SA AO	Passive ENGINE Active ENGINE Active	e o Driven Sys Driven C 4P b est	O COOLING O CLG WTR O	M-42-3 6 WATER PUMP 9 M-42-3 8 PP SX04P OUT M-42-3 N ISOLATION VA	C-3 5X04P SUPPL C-2 LET CHECK V B-3	NTR Y VLV CCD COD COD YALVE FO STO	CM CM CM Q Q		TP-VA-1
15X174	3	С	6 Valve 6 Valve 6	GA Name CK Name GA	M SA AO	Passive ENGINE Active ENGINE Active	e O DRIVEN SYS DRIVEN C	O COOLING O CLG WTR O	M-42-3 5 WATER PUMP 5 M-42-3 8 PP SX04P OUT M-42-3	C-3 5X04P SUPPL C-2 LET CHECK V B-3	NTR Y VLV CCD COD COD YALVE FO STO	CM CM CM Q Q Q		TP-VA-1
15X174 15X178	3	C	6 Valve 6 Valve 6 Valve	GA Name CK Name GA	M SA AO	Passive ENGINE Active ENGINE Active	e o Driven Sys Driven C 4P b est	O COOLING O CLG WTR O	M-42-3 6 WATER PUMP 9 M-42-3 8 PP SX04P OUT M-42-3 N ISOLATION VA	C-3 5X04P SUPPL C-2 LET CHECK V B-3	NTR Y VLV CCD COD COD YALVE FO STO	CM CM CM Q Q		TP-VA-1
15X174 15X178	3	C	6 Valve 6 Valve 6 Valve	GA Name CK Name GA Name CK	M SA AO SA	Passive ENGINE Active ENGINE Active AFW PUI Active	e o DRIVEN SYS DRIVEN C 4P B ESV SYS	O COOLING O CLG WTR O W RETURI O/C	M-42-3 6 WATER PUMP 9 M-42-3 8 PP SX04P OUT M-42-3 N ISOLATION VA	C-3 5X04P SUPPL C-2 LET CHECK V B-3	NTR Y VLV CCD COD COD YALVE FO STO	CM CM CM Q Q Q		TP-VA-1
15X174 15X178	3	C	6 <b>Valve</b> 6 <b>Valve</b> 36	GA Name CK Name GA Name CK	M SA AO SA	Passive ENGINE Active ENGINE Active AFW PUI Active	E O DRIVEN SYS DRIVEN C 4P B ESV SYS 4P DISC	O COOLING O CLG WTR O W RETURI O/C	M-42-3 5 WATER PUMP 5 M-42-3 8 PP SX04P OUT M-42-3 N ISOLATION VA M-42-1B	C-3 5X04P SUPPL C-2 LET CHECK V B-3	NTR Y VLV CCD COD COD YALVE FO STO	CM CM CM Q Q Q		TP-VA-1
15X174 15X178 25X002A	3	C B C	6 Valve 6 Valve 36 Valve	GA Name CK Name GA Name CK	M SA AO SA	Passive ENGINE Active ENGINE Active AFW PUI Active ESW PUI	E O DRIVEN SYS DRIVEN C 4P B ESV SYS 4P DISC	O COOLING O CLG WTR O W RETURI O/C HARGE CI	M-42-3 5 WATER PUMP 5 M-42-3 4 PP SX04P OUT M-42-3 N ISOLATION VA M-42-1B HECK VALVE	C-3 5X04P SUPPL C-2 LET CHECK V B-3 ALVE B-6	NTR Y VLV CCD COD COD ALVE FO STO CC CO	CM CM CM Q Q Q Q		TP-VA-1
15X174 15X178 25X002A	3	C B C	6 Valve 6 Valve 36 Valve 36	GA Name CK GA Name CK Name CK	M SA AO SA	Passive ENGINE Active ENGINE Active AFW PUI Active ESW PUI Active	E O DRIVEN SYS DRIVEN C 4P B ESV SYS 4P DISC SYS	O COOLING O CLG WTR O W RETURI O/C HARGE CI O/C	M-42-3 5 WATER PUMP 5 M-42-3 4 PP SX04P OUT M-42-3 N ISOLATION VA M-42-1B HECK VALVE M-42-1A	C-3 5X04P SUPPL C-2 LET CHECK V B-3 ALVE B-6	NTR Y VLV CCD COD YALVE FO STO CC CO	CM CM CM Q Q Q Q Q Q Q		TP-VA-1
1SX174 1SX178 2SX002A	3	C B C	6 Valve 6 Valve 36 Valve	GA Name CK GA Name CK Name CK	M SA AO SA SA	Passive ENGINE Active ENGINE Active AFW PUI Active ESW PUI Active	e O DRIVEN SYS DRIVEN C 4P B ESV SYS 4P DISC SYS 4P DISC	O COOLING O CLG WTR O W RETURI O/C HARGE CI O/C	M-42-3 5 WATER PUMP 5 M-42-3 4 PP SX04P OUT M-42-3 N ISOLATION VA M-42-1B HECK VALVE	C-3 5X04P SUPPL C-2 LET CHECK V B-3 ALVE B-6	NTR Y VLV CCD COD YALVE FO STO CC CO	CM CM CM Q Q Q Q Q Q Q		TP-VA-1

						E	ssenti	al Servic	e Water					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
SX005	3	В	30	BTF	MO	Active	O/C	0	M-42-1A	B-2	DIAG	MOV		
											PI	MOV		
											SC	Q		
											SO	Q		
			Valve I	Name	I	ESW SUF	PLY VAL	VE TO TH	E COMMON CC H	łX				
SX007	3	В	24	BTF	MO	Active	0	0	M-42-2B	B-3	DIAG	MOV		
										-	PI	MOV		
											SC	RR	RJ-1	
											SO	RR	RJ-1	
			Maluna I				~~~~			-	00		.01	
<u>CV010</u>			Valve I		······	······			SOLATION VALVE		זח			
SX010	3	В	42	BTF		Passive		0	M-42-2B	C-1	PI	Y2		
	- 1		Valve						ADER ISOLATION					
SX011	3	В	42	BTF	МО	Passive	0	0	M-42-2A	D-1	PI	Y2		
			Valve	Name	I	ESW TRA	AIN CRO	SS TIE IS	DLATION VALVE					
SX016A	2	В	16	BTF	MO	Active	0	0/C	M-126-3	D-8	SC	M18		*****
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Namo		RCEC SX		ISOLATIO						
SX016B	2	В	16	BTF	MO	Active	0	0/C	M-126-3	D-1	SC	M18		
570105	2	U	10	DII	110	Active	Ŭ	0/0	11 120 5	UI	SO	M18		
											DIAG	MOV		
											PI	MOV		
											FI	MOV		
			Valve					ISOLATIO						
2SX027A	2	В	16	BTF	МО	Active	0	0/C	M-126-3	B-8	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Name		RCFC SX	RETUR	N HEADER	ISOLATION VAL	VE				
SX027B	2	В	16	BTF	MO	Active	0	0/C	M-126-3	C-1	SC	M18		
											SO	M18		
											DIAG	MOV		
											PI	MOV		
			Valve	Noma		DUEU SY	PETIIR		ISOLATION VAL	VE				
00000	3	В	36	BTF		Passive		0	M-42-1B	B-3	PI	Y2		
2SX033	5	Ð									PI	12		
			Valve						ISOLATION VALV					
2SX034	3	В	36	BTF	MO	Passive	0	0	M-42-1A	D-3	PI	Y2		
			Valve	Name		ESW TR/	AIN A CI	ROSS TIE	ISOLATION VALV	Έ				
SX112A	3	В	12	BTF	AO	Active	0	С	M-126-1	E-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4

						E	ssentia	al Servio	e Water					
Valve EPN	Safety	Cat	Size	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2SX112B	3	В	12	BTF	AO	Active	0	С	M-126-1	C-4	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name		CONTAIN	MENT C	HILLER S	SX SUPPLY VALVE					
2SX114A	3	В	12	BTF	AO	Active	0	С	M-126-1	E-6	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve I	Name	1	CONTAIN	MENT C	HILLER S	X RETURN VALVE	E				
2SX114B	3	В	12	BTF	AO	Active	0	C	M-126-1	C-6	FC	Q		TP-VA-2
	-	_					Ŧ	_			STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Nama		CONTAIN			SX RETURN VALVE	=				
201120												Y2		
2SX136	3	В	42	BTF	MO	Passive	0	0	M-42-2A	C-1	PI	٢Z		
			Valve	Name		TRAIN B	ESW RE	TRUN HE	ADER ISOLATION	VALVE				
2SX147A	3	В	16	BTF	AO	Active	0	0	M-126-1	E-5	FO	Q		TP-VA-2
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		ESW RCF	C RETU	RN PRES	SURE CONTROL V	/ALVE				
2SX147B	3	В	16	BTF	AO	Active	0	0	M-126-1	C-5	FO	Q		TP-VA-2
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		ESW RCE	CRETU	RN PRES	SURE CONTROL V	/AI VE				
2SX150A	3	В	3	BTF	МО	Active	C	0/C	M-42-1B	A-4	SC	M18		
ZUXIUA	5	U	5	DH	140	Active	C	0/0	11 12 10		SO	M18		
											DIAG	MOV		
											01110	1101		
			Valve						TE TREATMENT I					
2SX150B	3	В	3	BTF	MO	Active	С	O/C	M-42-1A	A-4	SC	M18		
											SO	M18		
											DIAG	MOV		
			Valve	Name		ESW STR	RAINER	2B - WAS	TE TREATMENT I	SO VALVE				
2SX168	3	В	3	GL	AO	Active	SYS	0	M-126-1	B-6	FO	Q		TP-VA-2
			Valve	Name		AFW PUN	4P 2B CI	UBICLE C	OOLER ESW TEM	P. CONTROL	VALVE			
25X169A	3	В	10	BTF	AO	Active	С	0	M-126-1		FO	Q		TP-VA-2
	-		20								STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Mamo					OM DG JACKET V					
2SX169B	3	В	10	BTF	AO	Active	С	0	M-126-1	D-1	FO	Q		TP-VA-2
											STO	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name	6-1	ESW RET	FURN HE	EADER FR	OM DG JACKET V	WATER ISOL	VALVE			
2SX173	3	В	6	GA	М	Passive	e C	0	M-126-1	C-6	NTR	NR		
			Valve	Name		ENGINE	DRIVEN	COOLIN	G WATER PUMP S	X04P SUPPL	Y VLV			
							,							

						Ē	ssenti	al Servic	e Water					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2SX174	3	С	6	СК	SA	Active	SYS	0	M-126-1	C-7	CCD	CM		
											CO	CM		
											COD	CM		
			Valve I	Name	E	ENGINE	DRIVEN	CLG WTR	PP SX04P OUTLE	ET CHECK V	ALVE			
2SX178	3	В	6	GA	AO	Active	С	0	M-126-1	A-6	FO	Q	1001-10-00-00-00-00-00-00-00-00-00-00-00	TP-VA-2
											STO	Q		TP-VA-1
			Valve I	Name	/	AFW PUI	4P B ES	W RETURN	ISOLATION VAL	VE				

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Valve EPN	Safety	Cat	<b>C</b> i	Viv	يقدر 🐧	Act/		Safety	ient Purge P&ID	P&ID	Test	Tart	Deferred	Tech.
valve crit	Class	Lat	3120		мсс. Туре		Pos	Pos	raid	Coor.	Type	Freq.	Just.	Pos.
VQ001A	2	A	48	BTF	HO	Passive	<u> </u>	<u> </u>	M-105-1	E-5		AJ		* 432
L			Valve	Name					LATION VALVE					
VQ001B	2	A	48	BTF	НО	Passive	C	<u>C</u>	M-105-1	E-6	LTJ	LA		
VQUUID	2	~								L-0		~		
			Valve	·					DLATION VALVE					
VQ002A	2	A	48	BTF	HO	Passive	С	С	M-105-1	E-4	LTJ	AJ		
			Valve	Name		CONTAIN	MENT P	URGE ISC	DLATION VALVE					
VQ002B	2	Α	48	BTF	HO	Passive	С	С	M-105-1	E-3	LTJ	AJ		
			Valve	Name		CONTAIN	MENT P	URGE ISC	DLATION VALVE					
VQ003	2	A	8	BTF	AO	Active	С	С	M-105-1	C-4	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		POST LO	CA PURC	GE INLET	ISOLATION VALV	E				
.VQ004A	2	A	8	BTF	AO	Active	С	С	M-105-1	D-5		AJ		
L											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		MINIFLO			ISOLATION VAL	/F				
VQ004B	2	A	8	BTF	AO	Active	C	C	M-105-1	D-6	LTJ	AJ		
10010	2	~	U	DI	70	Active	C	C	1105 1	00	FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	8lama					ISOLATION VAL			. –		
		A						C		F-4	1.77.7	<b>F A</b>		
LVQ005A	2	А	8	BTF	AO	Active	C	L	M-105-1	F-4	LTJ FC	لم م		TP-VA-2
											STC	Q Q		TP-VA-2 TP-VA-1
											PI	Y2		TP-VA-1
											11	14		
	-		Valve						ST ISOLATION V					
VQ005B	2	Α	8	BTF	AO	Active	С	С	M-105-1	F-4	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve						ST ISOLATION V		****			
LVQ005C	2	Α	8	BTF	AO	Active	С	С	M-105-1	F-4	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		MINIFLO	w Purg	SE EXHAU	ST ISOLATION V	ALVE .				
LVQ016	2	A	0.5	GL	М	Passive	С	С	M-105-3	C-6	LTJ	AJ		
			Valve	Name		INSTRUM	IENT PE	NETRATI	ON ISOLATION V	ALVE				
1VQ017	2	A	0.5		M	Passive		С	M-105-3	C-6	LTJ	٦		
	-													
			Valve						DN ISOLATION V					
IVQ018	2	А	0.5		М	Passive	С	С	M-105-3	C-5	LTJ	AJ		
			Valve	Name		INSTRUM	IENT PE	NETRATIO	ON ISOLATION V	ALVE				

						Prin	-		nent Purge					
Valve EPN	Safety	Cat	Size	Viv		Act/		Safety	P&ID	P&ID	Test		Deferred	Tech.
	Class				Туре		Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1VQ019	2	А	0.5	GL	М	Passive	С	С	M-105-3	C-5	LTJ	LA		
			Valve	Name		INSTRUM	ENT PE	NETRATI	ON ISOLATION V	ALVE				
2VQ001A	2	Α	48	BTF	HO	Passive	С	С	M-106-1	E-5	LTJ	LA		
			Valve I	Name		CONTAIN	MENT P	URGE IS	OLATION VALVE					
2VQ001B	2	A	48	BTF	НО	Passive	С	С	M-106-1	E-6	LTJ	AJ		
			Valve	Name		CONTAIN	MENT P	URGE IS	DLATION VALVE					
2VQ002A	2	A	48	BTF	НО	Passive	С	С	M-106-1	E-4	LTJ	AJ	0114	
			Valve	Name		CONTAIN	MENT P	URGE IS	OLATION VALVE					
2VQ002B	2	A	48	BTF	НО			C	M-106-1	E-3	LTJ	٦		
2100000	-								OLATION VALVE	20				
21/2002			Valve	-							1			
2VQ003	2	A	8	BTF	AO	Active	С	С	M-106-1	C-4		۲A)		
											FC	Q		TP-VA-2
											STC PI	Q Y2		TP-VA-1 TP-VA-4
											PI	12		IP-VA-4
······			Valve						FLTR INLET VLV					
2VQ004A	2	А	8	BTF	AO	Active	С	С	M-106-1	D-5	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		MINIFLO	W PURG	SE SUPPL	Y ISOLATION VAL	VE				
2VQ004B	2	A	8	BTF	AO	Active	С	С	M-106-1	E-6	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name		MINIFLO	W PURG	SE SUPPL	Y ISOLATION VAL	VE				
2VQ005A	2	A	8	BTF	AO	Active	C	С	M-106-1	F-4	LTJ	٦J		
C											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name				SE EXHAL	IST ISOLATION V	AIVE				
2VQ005B	2	A	8	BTF	AO	Active	C	C	M-106-1	F-4	LTJ	AJ		
240030	2	A	0	DIF	AU	Active	C	C	M-100-1	1-4	FC	Q Q		TP-VA-2
											STC	Q		TP-VA-2 TP-VA-1
											PI	Υ2		TP-VA-1 TP-VA-4
											F1	12		11-44-4
			Valve						JST ISOLATION V					
2VQ005C	2	А	8	BTF	AO	Active	С	С	M-106-1	F-4	LTJ	AJ		
											FC	Q		TP-VA-2
											STC	Q		TP-VA-1
											PI	Y2		TP-VA-4
			Valve	Name	1	MINIFLO	W PURC	GE EXHAU	JST ISOLATION V	ALVE				
2VQ016	2	A	0.5	GL	М	Passive	С	С	M-105-3	C-3	LTJ	AJ		
			Valve	Name	1	INSTRUM	1ENT PF	NETRATI	ON ISOLATION V	ALVE				
2VQ017	2	A	0.5		M	Passive		C	M-105-3	C-3	LTJ	AJ		
~vQU1/	2	А									-17	ru N		
			Valve	Name	1	INSTRUM	1ENT PE	NETRATI	ON ISOLATION V	ALVE				

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						Prin	nary C	ontainm	ent Purge					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Type	Freq.	Just.	Pos.
2VQ018	2	Α	0.5	GL	М	Passive	С	С	M-105-3	C-4	LTJ	٦J		
		,	Valve I	Name	]	(NSTRUM	IENT PE	NETRATIC	N ISOLATION V	/ALVE				
2VQ019	2	Α	0.5	GL	М	Passive	С	С	M-105-3	C-5	LTJ	AJ		
			Valve I	Name	]	INSTRUM	IENT PE	NETRATIC	N ISOLATION V	/ALVE				

						M	lake-U	p Demir	veralizer					
Valve EPN	Safety	Cat	Size	Vlv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1WM190	2	Α	2	GL	М	Passive	LC	С	M-49-1A	E-5	LTJ	٦J		
		1	Valve I	lame	l	MAKE UP	DEMIN	SUPPLY (	CONTAINMENT IS	SOL MANUAI	_ VLV			
1WM191	2	A/C	2	CK	SA	Active	SYS	С	M-49-1A	E-6	LTJ	AJ		
											CCL	CM		
											COF	СМ		
		١	Valve I	Name		MAKE UP	DEMIN	SUPPLY (	CONTAINMENT IS	SOL CHECK	VLV			
2WM190	2	A	2	GL	М	Passive	LC	С	M-49-1B	E-4	LTJ	AJ		
		۲	Valve I	Name		MAKE UP	DEMIN	SUPPLY (	CONTAINMENT I	SOL MANUAI	_ VLV			
2WM191	2	A/C	2	СК	SA	Active	SYS	С	M-49-1B	E-3	LTJ	AJ		
											CCL	CM		
											COF	CM		
		7	Valve I	Name		MAKE UP	DEMIN	SUPPLY (	CONTAINMENT I	SOL CHECK	VLV			

			_				Ch	illed Wa	ater					
Valve EPN	Safety	Cat	Sîze	Viv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Туре	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
0WO002A	3	С	6	CK	SA	Active	SYS	0	M-118-1	D-6	CCD	CM	*******	
											COD	CM		
											COF	Q		
			Valve I	Name		CHILLED	WATER	PUMP D	ISCHARGE CHECK	VALVE				
0WO002B	3	С	6	СК	SA	Active	SYS	0	M-118-1	B-6	CCD	CM	******	
											COD	СМ		
											COF	Q		
			Valve	Name		CHILLED	WATER	PUMP D	ISCHARGE CHECK	VALVE				
0WO028A	3	С	1.5x2.	5 RV	SA	Active	C	O/C	M-118-1	E-8	RT	Y10		
			Valve	Name		CONTRO			WATER RELIEF	VALVE				
0WO028B	3	С		RV		Active		0/C	M-118-1	C-8	RT	Y10		
0000200	5	C	1.5x2.		54	Active	C	0/0	11 110 1	CU		110		
			Valve	Name		CONTRO	L ROOM	CHILLE	WATER RELIEF	VALVE				
0WO205A	3	С	1	CK	SA	Active	SYS	С	M-118-1	E-6	CCD	CM		
											COD	CM		
			Valve	Name		DEMIN V		1AKEUP T	O CHILLED WATE	ER CHECK V	ALVE			
0WO205B	3	C	1	СК	SA		SYS	C	M-118-1	C-6	CCD	CM		
	-	-	-					-		•••	COD	CM		
			Valve	Namo			ATER N		O CHILLED WATE					
1WO006A	2	A	10	GA	МО	Active		C	M-118-5	E-5		AJ		
TWOODDA	Z	А	10	GA	MO	Active	0	C	M-110-2	E-2	LTJ SC			
												M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve						G COILS CONTAIN	MENT ISOL	VLV			
1WO006B	2	А	10	GA	МО	Active	0	С	M-118-5	B-4	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve	Name		WO SUP	PLY TO I	RCFC CLC	G COILS CONTAIN	MENT ISOL	VLV			
1WO007A	2	A/C	10	СК	SA	Active	SYS	С	M-118-5	E-5	LTJ	AJ		
											CCL	CM		
											COF	СМ		
			Valve	Name		WO SUP	PLY TO	RCFC CLC	G COILS CONTAIN	MENT ISOL	VLV			
1WO007B	2	A/C	: 10	СК	SA	Active	SYS	C	M-118-5	B-4	LTJ	LA	T Averlan kultuluk merenen menekenseksar	
											CCL	CM		
											COF	CM		
			Valve	Namo					G COILS CONTAIN		VIV			
****			vaive	name		WU 30P				INTENT 130L	v L. V			

			0				ch	illed Wa	ator					
Valve EPN	Safety	Cat	Size	Viv	Act.	Act/		Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class				Туре	-	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
1WO020A	2	A	10	GA	MO	Active	0	С	M-118-5	D-5	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		WO SUPP	PLY TO F	RCFC CLO	COILS CONTAIN	MENT ISOL	VLV			
1WO020B	2	A	10	GA	MO	Active	0	С	M-118-5	A-4	LTJ	AJ	*****	
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name		WO SUPP	PLY TO F	RCFC CLG	COILS CONTAIN	MENT ISOL	VLV			
1WO056A	2	A	10	GA	МО	Active	0	С	M-118-5	D-5	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name	1	WO SUPI	PLY TO F	RCFC CLO	G COILS CONTAIN	MENT ISOL	VLV			
1WO056B	2	A	10	GA	MO	Active	0	С	M-118-5	A-3	LTJ	AJ		
											SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
			Valve I	Name	1	WO SUP	PLY TO F		COILS CONTAIN	MENT ISOL	VLV			
1WO090A	NS	С	1x1.5	RV	SA	Active	С	0	M-118-5 E5	E-5	RT	Y10		
			Valve i	Name	ł	WO Relie	ef Valve							
1WO090B	NS	С	1x1.5	5 RV	SA	Active	С	0	M-118-5 D3	D-3	RT	Y10		
			Valve I	Name	ł	WO Relie	ef Valve							
1WO091A	2	A/C	.75x1	RV	SA	Active	С	0/C	M-118-5	D-5	LTJ	AJ		
		- 4 -					-	-, -			RT	Y10		
			Valve	Name	1	WO Relie	ef Valve							
1WO091B	2	A/C				Active		O/C	M-118-5	B-4	LTJ	LA		
											RT	Y10		
			Valve	Name	•	WO Relie	of Valve							
2WO006A	2	A	10	GA	МО	Active	0	С	M-118-7	E-5	LTJ	AJ		
	-			<i></i>			÷	-			SC	M18		
											SO	M18		
											STC	M18		TP-VA-1
											DIAG	MOV		
											PI	MOV		
												1101		
			Valve	Name	:	WO SUPI	PLY TO I		G COILS CONTAIN	MENT ISOL	VLV			

		0				~~~	, 186-d 186						
Safiativ	Cat	Siza	Wise	Act	Bet!				PRIN	Tect	Tact	Nefarrad	Tech.
-	Lat	-3845			-		•	raip					Pos.
	A	10						M-118-7					
						-							
					<i>'</i>								
													TP-VA-1
										PI			
	,	Valva i	Nama							VIV			
											Δ1		
2	A/C	10	CK	JA	Active	515	C	M-110-7	L-J				
											CM		
2	A/C	10	CK	SA	Active	SYS	С	M-118-7	B-3				
										COF	CM		
		Valve	Name		WO SUPI	PLY TO I	RCFC CLC	G COILS CONTAIN	MENT ISOL	VLV			
2	A	10	GA	MO	Active	0	С	M-118-7	D-5	LTJ	AJ		
										SC	M18		
										SO	M18		
										STC	M18		TP-VA-1
										DIAG	MOV		
										PI	MOV		
		Valve	Name		WO SUPI	PLY TO	RCFC CLO	G COILS CONTAIN	MENT ISOL	VLV			
2	A	10	GA								AJ		
										SC			
													TP-VA-1
		Value											
Z	А	10	GA	MO	Active	U	C	M-110-7	D-3				
													TP-VA-1
											MOA		
		Valve			WO SUP	PLY TO			MENT ISOL	VLV	······		
2	А	10	GA	MO	Active	0	С	M-118-7	B-3	LTJ	AJ		
										SC	M18		
										SO	M18		
										STC	M18		TP-VA-1
										DIAG	MOV		
										DIAG PI	MOV MOV		
		Valve	Name		WO SUP	PLY TO	RCFC CLO	G COILS CONTAIN	MENT ISOL	PI			
NS	C		Name	SA	WO SUP	PLY TO	RCFC CLO	G COILS CONTAIN M-118-7 E5	MENT ISOL	PI			
	2 2 2 2 2 2 2	Class         2       A         2       A/C         2       A/C         2       A/C         2       A/C         2       A         2       A         2       A         2       A         2       A	Class       Valve         2       A       10         Valve       10         2       A/C       10         Valve       10         2       A/C       10         Valve       10	Safety ClassCat SizeSize Type2A10GA2A10CK2A/C10CK2A/C10CK2A/C10CK2A/C10GA2A10GA2A10GA2A10GA2A10GA2A10GA2A10GA2A10GA	Safety ClassCat TypeSize TypeVity Type2A10GAMOVaive Name2A/C10CKSA2A/C10CKSA2A/C10CKSA2A/C10GAMO2A10GAMO2A10GAMO2A10GAMO2A10GAMO2A10GAMO2A10GAMO	Safety         Cat         Size         Viv         Act.         Act/           2         A         10         GA         MO         Active           2         A         10         GA         MO         Active           2         A         10         GA         MO         Active           2         A/C         10         CK         SA         Active           2         A         10         GA         MO         Active	Safety         Cat         Size         Viv         Act.         Act./         Norm           Class         A         10         GA         MO         Active         O           2         A         10         GA         MO         Active         O           2         A         10         GA         MO         Active         O           2         A/C         10         CK         SA         Active         SYS           2         A         10         GA         MO         Active         O           2         A         10	Safety         Cat         Size         Viv         Act.         Act./         Norm         Safety           Class         A         10         GA         MO         Active         Pos         Pos	Safety         Cat         Size         Viv         Act         Normation         Safety         P&ID           Class         A         10         GA         MO         Active         O         C         M-118-7           2         A         10         GA         MO         Active         O         C         M-118-7           2         A         10         GA         MO         Active         SV         V         M-118-7           2         A/C         10         CK         SA         Active         SVS         C         M-118-7           2         A/C         10         CK         SA         Active         SVS         C         M-118-7           2         A/C         10         CK         SA         Active         SVS         C         M-118-7           2         A         10         CK         SA         Active         SVS         C         M-118-7           2         A         10         GA         MO         Active         O         C         M-118-7           2         A         10         GA         MO         Active         O         C         M	Safety         Cat         Size         Viv         Act.         Pass         Pass <th< td=""><td>Solution 10 SizeViceAct/ PaseNormSefety PasePABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABD&lt;</td><td>Safe via constraint of the set of the</td><td>Safety       Factor       Norm       Safety       PRID       PRID       Test       PRID       Test       PRID       Junit       Last       Junit       Juni</td></th<>	Solution 10 SizeViceAct/ PaseNormSefety PasePABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABDPABD<	Safe via constraint of the set of the	Safety       Factor       Norm       Safety       PRID       PRID       Test       PRID       Test       PRID       Junit       Last       Junit       Juni

							Ch	illed Wa	iter					
Valve EPN	Safety	Cat	Síze	Vîv	Act.	Act/	Norm	Safety	P&ID	P&ID	Test	Test	Deferred	Tech.
	Class			Туре	Type	Pass	Pos	Pos		Coor.	Туре	Freq.	Just.	Pos.
2WO090B	NS	С	1x1.5	RV	SA	Active	С	0	M-118-7 D3	D-3	RT	Y10		
			Valve N	lame	١	NO Relie	f Valve							
2WO091A	2	A/C	.75x1	RV	SA	Active	С	0/C	M-118-7	D-5	LTJ	AJ		
											RT	Y10		
			Valve M	lame	١	NO Relie	f Valve							
2WO091B	2	A/C	.75x1	RV	SA	Active	С	O/C	M-118-7	B-4	LTJ	٤		
											RT	Y10		
			Valve I	lame	١	NO Relie	f Valve							

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		ION MONTORING I LAN INDEA
CVCM Plan	Major Rev Date	
Number	(Requires	Title
	Signatures)	
CV01S-1	3/23/2015	1/2AF001A/B
CV02S-1	3/23/2015	1/2AF003A/B
CV02S-2	3/29/2017	1/2AF014 A/B/C/D/E/F/G/H
CV03S-1	3/23/2015	1/2AF029A/B
CV04S-01	4/7/2016	1/2CV8113
CV05S-1	4/24/2020	1/2CC9486
CV07S-1	4/17/2016	1/2IA091
CV07B-1	7/31/2015	1/2CS011A/B
CV08B-1	7/31/2015	1/2CS020A/B
CV08S-01	4/17/2016	1/2PR002G/H
CV08S-2	4/17/2016	1/2PR032
CV09C-1	7/31/2015	1/2CC9495 A/B/C/D
CV09S-01	8/19/2011	1/2PS231A/B
CV10S-1	5/18/2012	1/2SI8956A/B/C/D
CV12S-1	7/3/2013	1/2RY8046
CV12S-2	4/17/2016	1/2RY8047
CV13S-1	8/31/2015	1/2CV8440
CV14R-1	8/31/2015	0WO002A/B
CV14S-6	4/17/2016	1/2518968
CV15R-1	4/24/2020	1/2WM191
CV16R-01	1/29/2015	1/2WO007A/B
CV16S-1	8/31/2015	1/2CV8546
CV18B-1	4/17/2016	1/2FW079A, B, C, D
CV18S-1	5/10/2016	1/2CV8348
CV19S-1	7/31/2015	1/2CV8368A/B/C/D
CV20R-1	10/6/2011	1/2FP345
CV20S-1	8/31/2015	1/2518926
CV21W-1	10/26/2015	0WO205A/B
CV22R-1	3/16/2018	1/2SX174
CV22S-1	7/31/2015	1/2SA181A/B/C/D
CV23R-1	8/19/2011	1/2RY085A/B
CV24R-1	8/19/2011	1/2RY086A/B
CV25R-1	10/18/2013	1/2AF058A/B
CV26R-1	2/8/2017	1/2AF049A-D
CV028	4/13/2020	1/2CV8367A/B/C/D, 1/2CV8372A/B/C/D
CV029	5/15/2019	1/2DG5184A/B, 1/2DG5185A/B
CVB04S-01	8/9/2011	1/2CC070A/B
CVB16-1	8/19/2011	1/2FW036A/B/C/D
CVC5S-1	8/6/2019	1/2CS008A/B
CVC10-1	7/31/2015	1/2CS003A/B
CVD8S-1	5/18/2012	1/2SI8948A/B/C/D
CVE3S-01	6/19/2013	1/2CC9518, 1/2CC9534

### ATTACHMENT 16 CHECK VALVE CONDITION MONITORING PLAN INDEX