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*none*DAVIS-RESSE NUCLEAR POWER STATION - UNIT 1
TEMPORARY MODIFICATION REQUEST

ED 6926

SECTION 1

PROCEDURE TITLE AND NUMBER

*Main Steam System Operating Procedure**SP 1106.24.5*

REASON FOR CHANGE

Typo's + missing information

CHANGE

- on valve verif list, sheet 6 of 15 and sheet 7 of 15, put an * next to MS 875 and MS 876 and put the following note at the bottom of each page:
" * controlled per AD 1839.02 "
- on valve verif. list, sheet 7 of 15, change MS 100 description to read:
"MS Line 2 main Steam Los Vlv"
and change MS 100 A description to read:
"MS Line 2 main Steam Los Vlv Bypass Vlv"
- on valve verif. list, sheet 11 of 15, move the line for SS607 lower on the page and change S/g 1-2 To S/g 1-1 in the valve description.

IS PROCEDURE REVISION REQUIRED

Yes ☒No ☐

If no, this modification is valid until _____

PREPARED BY

T K Wagner

DATE

1/6/85

APPROVED BY

T K Wagner

DATE

1/6/85

APPROVED BY

[Signature]

DATE

1/6/85

SUBMITTED BY (Section Head)

[Signature]

DATE

1-10-85

RECOMMENDED BY (SRB Chairman)

[Signature]

DATE

JAN 16 1985

QA APPROVED BY (Manager of Quality Assurance)

[Signature]

DATE

JAN 16 1985

APPROVED BY (Station Superintendent)

[Signature]

DATE

JAN 16 1985

8507300221 850116
PDR ADOCK 05000346
P PDR

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1 - SS
1 - ~~SS~~
1 - CTM
3 - CTM FILE

SECTION 1

PROCEDURE TITLE AND NUMBER

MAIN STEAM SYSTEM

SP 1106.24

REASON FOR CHANGE

MS 874 IS THE DRAIN TO THE
MWD T NOT A ISO VALVE AND SHOULD
BE LEFT CLOSED - THE OTHER 3 VALVES
WERE REMOVED DURING S-C DRAIN LINE
FCR

CHANGE

VALVE VERIFICATION LIST

SG 1-1 DRAIN TO MWD T - MS874 - CLOSED
PAGE 22

DELETE MS 867

DELETE MS 872

DELETE MS 893

IS PROCEDURE REVISION REQUIRED

Yes ☒No ☐

If no, this modification is valid until

PREPARED BY

W. Klyst

DATE

1/6/85

APPROVED BY

S. Wise

DATE

1/6/85

APPROVED BY

W. Klyst

DATE

1/6/85

SUBMITTED BY (Section Head)

W. Klyst

DATE

1-1-85

RECOMMENDED BY (SRB Chairman)

S. Wise

DATE

JAN 16 1985

QA APPROVED BY (Manager of Quality Assurance)

N/A

DATE

APPROVED BY (Station Superintendent)

S. Wise

DATE

JAN 16 1985

DBAB

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SECTION 1

PROCEDURE TITLE AND NUMBER

Main Steam System

SP 1106.24

REASON FOR CHANGE

Valves ~~are~~ No longer exist

CHANGE

VALVE VERIFICATION LIST (PROCEDURE PAGE 22)
SHEET 11 OF 15
DELETE MS 603A AND MS 611A.

IS PROCEDURE REVISION REQUIRED

Yes ☒No ☐

If no, this modification is valid until _____

PREPARED BY

L. H. Hagen

DATE

1/5/85

APPROVED BY

L. H. Hagen

DATE

1/5/85

APPROVED BY

L. H. Hagen

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SUBMITTED BY (Section Head)

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DATE

1-5-85

RECOMMENDED BY (SRB Chairman)

L. H. Hagen

DATE

JAN 16 1985

QA APPROVED BY (Manager of Quality Assurance)

L. H. Hagen

DATE

JAN 16 1985

APPROVED BY (Station Superintendent)

L. H. Hagen

DATE

JAN 16 1985

Davis-Besse Nuclear Power Station

Unit No. 1

SYSTEMS PROCEDURE SP 1106.24

MAIN STEAM SYSTEM OPERATING PROCEDURE

NUCLEAR SAFETY RELATED

Record of Approval and Changes

Prepared by Jim Zell 2-6-75
Date

Submitted by Terry D Murray 3/7/75
Section Head Date

Recommended by [Signature] 3/5/75
SRB Chairman Date

QA Approved NA 3/25/75
Manager of Quality Assurance Date

Approved by [Signature] 3/25/75
Station Superintendent Date

Revision No.	SRB Recommendation	Date	QA Approved	Date	Sta. Supt. Approved	Date
1	Terry D Murray	5/16/72	NA		T D Murray	7/15/78
2	AM Murray	9/25/81	NA		T D Murray	9/30/81
3	BAK Bay	2/6/82	NA		T D Murray	2/22/82
4	AM Murray	7/8/82	NA		T D Murray	7/16/82
5	AM Murray	2/18/84	NA		T D Murray	6/5/84

1. PURPOSE

To provide procedures for the operation of the steam generators and the Main Steam System in the following modes:

<u>Mode</u>	<u>Section</u>
Main Steam System Heatup	4.0
Hot Shutdown and Cooldown	5.0
Abnormal Operation	6.0
Turbine Bypass Valve Isolation	7.0
Main Steam Isolation Valve Operation	8.0

NOTE: Section 4.0 and 5.0 provide a general description of the Main Steam System in these operations. The actual procedural steps are contained in Station Startup Procedure PP 1102.02, and Station Shutdown and Cooldown, PP 1102.04.

System Description

The S/G's are once through vertical tube to shell heat exchangers which produce superheated steam at constant pressure. The shell, outside of the tubes and tube sheets form the boundary of the S/G secondary side (steam producing region). The pressurized water side has reactor coolant entering the steam generator through the inlet nozzle in the upper head, flows through the tubes into the lower plenum and out the two nozzles to the reactor coolant pumps.

Feedwater enters through 32 spray nozzles, flows down the annulus between the circular baffles (surrounding the tube bundle) and shell (see Enclosure D). As feedwater is sprayed into the lower annulus, it is heated to saturation temperature by mixing with and condensing steam from the bleed port between the upper and lower baffles. This prevents thermal shock to the shell and excessive tube-to-shell temperature differentials.

Water at saturation temperature flows through the adjustable orifice plates between the baffle and the shell, through ports at the lower end of the baffle and into the tube bundle at the lower tube sheet. Boiling begins immediately upon contact with the hot generating tubes and steam increases in steam quality as it flows upward and becomes superheated in the upper section of the S/G.

Steam leaves the steam generator steam annulus in two 26" headers which feed their respective 36" main steam line. S/G 1-1 is the source of steam for main steam line 1 while S/G 1-2 supplies main steam line 2. Six inch connections are then made to the auxiliary feedpump turbines (AFPT) with main steam line 1 supplying AFPT 1-1 and main steam line 2 supplying AFPT 1-2. Next, nine main steam safety valves are connected to each main steam line.

The main steam safety valve setpoints and capacities are as follows:

Valve	Valve	Setpoint	Capacity
SP17A8	SP17B8	1100 psig	845,759 lb/hr
SP17A9	SP17B9	1100 psig	845,759 lb/hr
SP17A3	SP17B3	1070 psig	845,759 lb/hr
SP17A4	SP17B4	1070 psig	845,759 lb/hr
SP17A5	SP17B5	1090 psig	845,759 lb/hr
SP17A6	SP17B6	1090 psig	583,574 lb/hr
SP17A7	SP17B7	1090 psig	583,574 lb/hr
SP17A1	SP17B1	1050 psig	845,759 lb/hr
SP17A2	SP17B2	1050 psig	845,759 lb/hr

Downstream of the main steam safety valves, an 8" connection is made for the atmospheric vent valve on each main steam line. As steam progresses down the main steam line, it next passes through the main steam isolation valves and then the main steam non-return valves. The main steam isolation valves are air operated, balanced disc stop valves set in opposition to the normal flow direction and serve to limit an excessive reactor coolant system cooldown rate and resultant reactivity insertion following a main steam line break downstream of the valve. The main steam non-return valves are air operated, swing disc stop check valves which are provided to prevent reverse flow of steam out of a rupture upstream of their position.

Downstream of the non-return valves, main steam line 1 has a 6" connection to Main Feed Pump Turbine (MFPT) 1-1, then a ten inch connection to the auxiliary steam system 235 psig main steam reducing station. Next, main steam line 1 supplies second stage reheat steam to MSR 1-1 through a 10" header. Finally, 24" connections are made to turbine stop valves 3 and 4. Main steam line 1, then reduces down to a 12" header which leads to three turbine bypass valves connections. The 6" turbine bypass valves are used during Main Steam System operation to pass excess steam to the condenser during plant transients and during plant heatup and cooldown to control the heatup and cooldown rates.

After main steam line 2 leaves its non-return valve, a 6 inch connection to Main Feed Pump Turbine 1-2 is made. Main steam line 2 then passes steam to turbine stop valves 1 and 2 through two 24 inch connections. The line to turbine stop valve 1 also has a 4 inch connection to the Gland Steam Seal System. Downstream of the connection to the turbine stop valve, main steam line 2 reduces to a 12" header. This header then supplies second stage reheat steam for MSR 1-2 through a 10" connection and finally feeds the three turbine bypass valves connected at its end.

2. PRECAUTIONS AND LIMITATIONS

- 2.1 The ICS has interlocks which prevent the turbine bypass valves from passing flow to the condenser when condenser pressure is

greater than 10" HgA and/or total circulating water flow is less than 210 KGPM. During these conditions, steam pressure control will be provided by the atmospheric vent valves.

- 2.2 Turbine bypass valve desuperheating water from the condensate system must be spraying from the desuperheating spray headers whenever the turbine bypass valves are in service.
- 2.3 Before transferring the turbine bypass valve H/A selector station to "AUTO", set the pressure setpoint at the position corresponding to existing pressure to prevent a sudden maneuvering of the turbine bypass valves after the transfer.
- 2.4 The turbine bypass valves provide main line pressure control at the indicated pressure for the following conditions:

<u>Condition</u>	<u>Turbine Bypass Control Pressure</u>
Reactor Trip	*Setpoint +145 psig
Turbine Trip	Setpoint +0
Unit Load Demand >15%	Setpoint +50 psig

*Turbine bypass valve pressure setpoint

- 2.5 Even if the turbine bypass valves H/A selector stations are on "HAND", the turbine bypass valves will open when S/G exit pressure (taps located on the 26" S/G discharge headers) exceeds 1050 psig for that main steam line. If the turbine bypass valves fail to open due to the conditions of Step 2.1, the atmospheric vent valves will automatically provide pressure control at 1050 psig.
- 2.6 The minimum required instrument air supply is 85 psig for use with the turbine bypass valve high speed valve actuator. If air pressure decreases to 75 psig, the turbine bypass valves will close. If air pressure is restored, they will return to normal operation.
- 2.7 On a loss of electrical signal (± 24 VDC) or a loss of power (118VAC) to a turbine bypass valve electro-to-pneumatic (E/P) converter, that turbine bypass valve will fail closed.
- (TS 3.4.5) 2.8 Each steam generator shall be OPERABLE with a water level between 18 and 348 inches during HOT SHUTDOWN, HOT STANDBY, STARTUP, and POWER OPERATION. With one or more steam generators inoperable due to steam generator tube imperfections, restore the inoperable generator(s) to OPERABLE status prior to increasing Tavg above 200°F. With one or more steam generators inoperable due to the water level being outside the limits, be in at least HOT STANDBY within six hours and in COLD SHUTDOWN within the next 30 hours.

- (TS 2.9 All main steam line code safety valves shall be OPERABLE for HOT
3.7.1.1) STANDBY, STARTUP and POWER OPERATION. With one or more main steam line code safety valves inoperable, operation in HOT STANDBY, STARTUP and POWER OPERATION may proceed provided that within four hours either the inoperable valve is restored to OPERABLE status or the High Flux Trip setpoint is reduced per Table 3.7-1 (of Technical Specifications); otherwise be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable.
- (TS 2.10 Each main steam line isolation valve shall be OPERABLE during
3.7.1.6) HOT STANDBY, STARTUP and POWER OPERATION. While in POWER OPERATION, with one main steam line isolation valve inoperable, POWER OPERATION may continue provided that the inoperable valve is either restored to OPERABLE status or closed within four hours. Otherwise, be in HOT SHUTDOWN within the next 12 hours. While in HOT STANDBY or STARTUP with one main steam line isolation valve inoperable, subsequent operation in HOT STANDBY, STARTUP or POWER OPERATION may proceed provided: a. the inoperable isolation valve is maintained closed. Otherwise, be in HOT SHUTDOWN within the next 12 hours. b. The provisions of Specification 3.0.4 are not applicable.
- 2.11 Main steam isolation valves MS100 and MS101 must have their trip logic blocked for operation below 600 psig. On a depressurization, the trip logic should be blocked between 650 and 600 psig.
- (TS 2.12 The temperature of the secondary coolant in the steam generators
3.7.2.1) shall be $>110^{\circ}\text{F}$ when the pressure of the secondary coolant in the steam generator is >237 psig. This applies at all times. With the requirements of the above specification not satisfied: a. reduce the steam generator pressure to ≤ 237 psig within 30 minutes, and b. perform an engineering evaluation to determine the effect of overpressurization on the structural integrity of the steam generator. Determine that the steam generator remains acceptable for continued operation prior to increasing its pressure above 237 psig.
- 2.13 The discharge of the S/G drain header can be routed to either the condenser or the Miscellaneous Waste Drain Tank. Prior to discharge, Chem & HP personnel should determine where to drain and, if to the Miscellaneous Waste Drain Tank, that adequate volume is available.
- 3 2.14 FW minimum bypass flow of >32 gpm should be maintained when RCS temperature is $\geq 180^{\circ}\text{F}$. This flow must be maintained until 5% power is exceeded. FW temperature must be maintained greater than 90°F . This prevents thermal shocking of the S/G nozzles due to an excessive temperature differential across the nozzles and precludes hot-cold cycling of the nozzles. See Enclosure A.

2.15 The low temperature limits of the main and auxiliary feedwater nozzles are 90°F and 40°F, respectively, at hot shutdown limits.

3 |

2.16 Deleted

2.17 S/G feedwater chemistry will be within the limits specified by PP 1101.04, Operational Chemical Control Limits.

2.18 When a vacuum is drawn in the S/G, the reference legs for level instrumentation may flash giving erroneous level indication.

2.19 A S/G level of 100% on the operate range (388 inches full range) will allow water to enter the steam annulus through the operate and startup range level penetration through the steam annulus baffle. At 416 inches on full range instrumentation the water level will be at the bottom of the steam outlet nozzle. Extreme caution must be used during startup and hot shutdown and cooldown to avoid approaching these levels.

3. REFERENCES

(TS) 3.1 Technical Specifications, Section 3.1.2, (Heatup, Cooldown and Pressurizer Limits) and Section 3.4 (Turbine cycle equipment).

3.2 Plant Limits and Precautions, PP 1101.01, Section 1.3 (Once Through Steam Generator) and Section 6.3 (Integrated Control System).

3.3 Plant Set Points, PP 1101.02, Section 1.3 (Once Through Steam Generator) and Section 6.3 (Integrated Control System).

3.4 Operational Chemical Control Limits, PP 1101.04

3.5 Station Startup Procedure, PP 1102.02

3.6 Station Shutdown and Cooldown, PP 1102.04

3.7 Station Operation Administrative Procedure AD 1839.00

3.8 Bechtel P&ID's

3.8.1 Main Steam and Reheat Steam, M-003

3.8.2 Steam Generator Secondary Side, M-007

3.8.3 Turbine Drains and Seals System, M-022

3.9 Elementary wiring diagram E-46B, Sheets 1A, 1B, 1C and 1D, "Steam and Condensate Main Steam Isolation Valves" (TECo File #1945)

- 3.10 Bailey ICS Analog and Digital Logic Diagrams (TECo File #1381)
- 3.11 Dresser Industrial Valve and Instrument Division, Main Steam Safety Valves (TECo File #6)
- 3.12 System Description Startup System 83, Main Steam System
- 3.13 Functional Description FD 1106.24 (Rev. 0) Main Steam System

4. MAIN STEAM SYSTEM HEATUP

General Description:

During initial stages of plant heatup, S/G level is established between 97 to 99% operate range with level being regulated by adjusting feedwater flow and the S/G lower tube sheet drains. The turbine bypass valves are then opened to the condenser to draw a vacuum in the S/G which will flash the hot water in the S/G to steam, warming the upper portion of the S/G shell. Initially, the S/G steam annulus drains and all main steam line drains are open and are closed as steam becomes superheated up to their taps.

NOTE: The actual procedural steps to be executed for Main Steam System Startup are contained in Station Startup Procedure, PP 1102.02.

5. HOT SHUTDOWN AND COOLDOWN

General Description

Prior to hot shutdown, the turbine is taken off line and reactor power is reduced to zero. A hot shutdown condition exists when the reactor is subcritical by at least $1\Delta k/k$ and T_{avg} is at or greater than 525°F .

4 | As the Main Steam System is cooled down, 870 psig main steam line pressure will be maintained by the turbine bypass valves. FW minimum bypass flow of ≥ 32 gpm should be maintained when RCS temperature is $\geq 180^{\circ}\text{F}$. After reactor power is reduced to zero, the turbine bypass valves will be used to reduce T_{avg} to 532°F by controlling the turbine bypass valve pressure setpoint.

As main steam line pressure is reduced and steam conditions become saturated, the S/G steam annulus drain valves and the main steam line drains are then opened. Once T_{avg} drops to 280°F , the Decay Heat Removal System will be used to cooldown the RCS and the turbine bypass valves will be positioned 5% open to cooldown the S/G shells. Once RCS cold leg temperature reaches 200°F , the main steam isolation valves will be shut and the S/G's will be flooded to their upper tube sheet.

NOTE: The actual procedural steps to be executed for Main Steam System hot shutdown and cooldown are contained in Station Shutdown and Cooldown Procedure, PP 1102.04.

6. ABNORMAL OPERATION

- 4 | 6.1 In the event of a sudden large decrease in turbine generator load, observe that the turbine bypass valves or atmospheric vent valves open to maintain main steam line pressure below 920 psig. If the load decrease is due to a malfunction of the turbine EHC, take immediate action to repair and/or tune up the EHC.
- 6.2 On a turbine trip without a reactor trip (<20% RTP), verify that the turbine bypass valves are maintaining main steam line pressure at 870 psig.
- 6.3 On a reactor trip, observe that the turbine bypass valves or atmospheric vent valves are maintaining the main steam line pressure at 1015 psig. Main steam line pressure may rise above 1015 psig immediately following the reactor trip due to the decreased heat load on the steam generator resulting from turbine trip.
- 6.4 If the turbine bypass valve H/A selector stations are in "HAND" or "AUTO" and S/G pressure increases to 1050 psig, verify that the turbine bypass valves or atmospheric vent valves maintain main steam line pressure at or below 1050 psig.

7. ISOLATION OF TURBINE BYPASS VALVE

Isolation of one turbine bypass valve requires isolation of all turbine bypass valves on the respective main steam line. The numbers not in parenthesis refer to equipment for the isolation of main steam line 1 turbine bypass valves while the numbers in parenthesis refer to main steam line 2 turbine bypass valves.

- ____ 7.1 Place the H/A selector station for turbine bypass valves SP 13B1, SP 13B2 and SP 13B3 (SP 13A1, SP 13A2, and SP 13A3) on "HAND" to prevent unexpected stroking of the valve.

NOTE: If the turbine bypass valves were being used for pressure control, place the H/A selector station for atmospheric vent valve ICS 11B (ICS 11A) on "HAND" and control manually. Main steam line pressure is indicated by computer points P481 (HPT SIDE 1 IN PRESS) and P482 (HPT SIDE 2 IN PRESS).

- ____ 7.2 Close turbine bypass valves SP13B1, SP13B2, and SP13B3 (SP13A1, SP13A2 and SP13A3).

- ____ 7.3 Close turbine bypass valve downstream isolation valves MS714, MS715, and MS716 (MS711, MS712, and MS713).
- ____ 7.4 Close turbine bypass valves isolation valve MS710 (MS709).
- ____ 7.5 After allowing five minutes to depressurize the turbine bypass valve header downstream of MS710 (MS709), ensure startup drain valve MS 2572 (MS 2575) is closed and take steam traps ST28 (ST3) and ST28A (ST3A) out of service according to Steam Trap Operation (Enclosure B).

NOTE: The turbine bypass valves are now isolated to return the isolated turbine bypass valves to service, follow the next steps.

Steps 7.1 - 7.5 Completed by _____ Date _____

- ____ 7.6 Ensure that turbine bypass valves SP13B1, SP13B2 and SP13B3 (SP13A1, SP13A2, and SP13A3) are closed. If not, close them.
- ____ 7.7 Open turbine bypass valve downstream isolation valves MS714, MS715, and MS716 (MS711, MS712 and MS713).
- ____ 7.8 Open turbine bypass valve MS710 (MS709) internal isolation valve and allow 10 minutes for pressure to equalize.
- ____ 7.9 Open turbine bypass valve isolation valve MS710 (MS709) then close its internal bypass valve.
- ____ 7.10 Place steam traps ST28 (ST3) and ST28A (ST3A) in service according to Steam Trap Operation (Enclosure B).
- ____ 7.11 The turbine bypass valves are now ready for operation.

Steps 7.6 - 7.11 Completed by _____ Date _____

8. MAIN STEAM ISOLATION VALVE OPERATION

The numbers in parenthesis refer to main steam isolation valve MS101.

- 4 | 8.1 Operation below 612 psig main steam line pressure
- 4 | 8.1.1 To operate below 612 psig, main steam isolation valve MS100 (MS101) trip logic must be defeated by depressing both "BLOCK" switches HIS 100B and HIS 100C (HIS 101B and HIS 101C) located on Control Room Panel C 5717. This may be done below 650 psig main steam line pressure.
- 8.1.2 Main steam isolation valve MS100 (MS101) may be opened

or closed using HIS100 (HIS101) located on Control Room Panel C5717.

4 | 8.2 Operation above 612 psig main steam line pressure

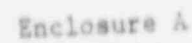
8.2.1 Main steam isolation valve MS100 (MS 101) may be opened or closed using HIS100 (HIS101) located on Control Room Panel C5717. (It is not necessary to defeat the trip logic to do this.)

NOTE: The following conditions will cause a trip:

1. SF/S - Level 4
- 4 | 2. S/G 1-1 pressure exceeds feedwater pressure by 177 psid
- 4 | 3. Main steam line pressure drops below 612 psig
- 4 | 4. S/G level decreases to 26.5" indicated on S/G startup range instrumentation.

NOTE: Steps 2, 3 and 4 are actuated by the Steam and Feedwater Rupture Control System.

Section 8 Completed by _____ Date _____



STEAM TRAP OPERATION ATTACHMENT B

NOTE: This is a generic steam trap procedure to be attached to all procedures involving steam trap operation.

1. Place steam trap in startup mode.
 - 1.1 Open steam trap bypass, inlet, and outlet valves, close the strainer blow down valve.
2. Place steam trap "In Service".
 - 2.1 Shut the steam trap bypass valve.
3. Place steam trap in "Shutdown" mode.
 - 3.1 Open the steam trap bypass valve.
4. Take steam trap "Out of Service".
 - 4.1 Crack open steam trap bypass valve.
 - 4.2 Close steam trap inlet and outlet valves.
 - 4.3 The steam trap can be repaired or replaced in this mode.

NOTE: Do not close the bypass on any trap in pressure-vacuum service until the trap has several pounds pressure on inlet.

Sheet No. 1
of 15

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SP 1106.24.5

VALVE VERIFICATION LIST

Main Steam System Heatup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-1 PT SP12B1 Source Valve	M-007 B-11	SP 12B1	Open	
S/G 1-1 Vent Line Vent Valve	M-007 B-12	MS 757	Closed	
S/G 1-1 PT SP12B2 Source Valve	M-007 B-11	SP 12B2	Open	
S/G 1-1 Full Range LT SP9B5 Tap Source Valve	M-007 B-12	SP 9B5B	Open	
S/G 1-2 PT SP12A1 Source Valve	M-007 B-3	SP 12A1	Open	
S/G 1-2 PT SP12A2 Source Valve	M-007 B-3	SP 12A2	Open	
S/G 1-2 Full Range LT SP9A5 Top Source Valve	M-007 B-2	SP 9A5B	Open	
S/G 1-2 Full Range Xmtr SP9A5 Vent Valve	M-007 B-2	MS 36	Closed	
S/G 1-2 Vent Line Vent Valve	M-007 B-2	MS 756	Closed	
S/G 1-1 SU and Oper Range Upper Level Sensing Root Valve	M-007 C-11	SP 9B6B	Open	
S/G 1-1 Steam Annulus Drain Valve	M-007 C-12	MS 860	Open	
S/G 1-1 Operate Range LTSP9B2 Low Source Vlv	M-007 D-11	SP 9B2A	Open	
S/G 1-1 Operate Range LTSP9B2 Top Source Vlv	M-007 D-12	SP 9B2B	Open	
S/G 1-1 Startup Range LT SP9B4 Top Source Vlv	M-007 C-11	SP 9B4B	Open	
S/G 1-1 Steam Line Drain Valve	M-007 B-11	MS 855	Closed	
S/G 1-1 Steam Annulus Drain Valve	M-007 C-12	MS 859	Open	
S/G 1-1 SU and Oper Range Upper Level Sensing Root Valve	M-007 C-11	SP 9B6D	Open	
S/G 1-1 S/U Range LT SP9B3 Top Source Valve	M-007 C-11	SP 9B3B	Open	
S/G 1-1 Operate Range LT SP9B1 Top Source Vlv	M-007 D-12	SP 9B1B	Open	
N ₂ Supply to S/G 1-1 Main Steam Iso Vlv	M-007 B-11	NN 70	Closed	
S/G 1-1 Steam Line Drain Valve	M-007 A-11	MS 856	Closed	
S/G 1-1 Lower Tube Sheet Drain	M-007 E-12	MS 864	Open	

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Sheet No. 2
of 15

VALVE VERIFICATION LIST

Main Steam System Heatup

2 | Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-2 SU and Oper Range Upper Level Sensing Root Valve	M-007 C-2	SP 9A6D	Open	
S/G 1-2 Operate Range LT SP9A2 Top Source Vlv	M-007 D-3	SP 9A2B	Open	
S/G 1-2 S/U Range LTSP9A4 Top Source Valve	M-007 C-3	SP 9A4B	Open	
N ₂ Supply to S/G 1-2 Main Steam Iso Valve	M-007 B-2	NN 72	Closed	
S/G 1-2 Steam Line Drain Valve	M-007 A-2	MS 879	Closed	
S/G 1-2 Steam Annulus Drain Valve	M-007 C-2	MS 883	Open	
S/G 1-2 SU and Oper Range Upper Level Sensing Root Valve	M-007 C-2	SP 9A6B	Open	
S/G 1-2 Operate Range LTSP9A2 Low Source Vlv	M-007 D-3	SP 9A2A	Open	
S/G 1-2 Operate Range LTSP9A1 Top Source Vlv	M-007 D-3	SP 9A1B	Open	
S/G 1-2 S/U Range LTSP0A3 Top Source Valve	M-007 C-3	SP 9A3B	Open	
S/G 1-2 Steam Line Drain Valve	M-007 B-3	MS 880	Closed	
S/G 1-2 Steam Annulus Drain Valve	M-007 C-2	MS 884	Open	
S/G 1-1 Feedwater Nozzle Press Transmitter	M-007 C-13	PT 616	In Service	
S/G 1-2 FW Nozzle Press Transmitter	M-007 C-1	PT 618	In Service	
S/G 1-2 Steam Press Transmitter	M-007 B-3	PTSP12A1	In Service	
S/G 1-2 Steam Press Transmitter	M-007 B-3	PTSP12A2	In Service	
S/G 1-1 Feedwater Nozzle Drain Valve	M-007 C-12	FW 149	Closed	
S/G 1-1 Feedwater Nozzle Drain Valve	M-007 C-12	FW 150	Closed	
S/G 1-1 Feedwater Nozzle Vent Valve	M-007 C-12	FW 148	Closed	
S/G 1-1 Feedwater Nozzle PT 616 Source Valve	M-007 C-12	FW 616	Open	
S/G 1-2 Feedwater Nozzle Drain Valve	M-007 C-2	FW 159	Closed	
S/G 1-2 Feedwater Nozzle Drain Valve	M-007 C-2	FW 160	Closed	

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VALVE VERIFICATION LIST

Main Steam System Heatup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-2 Feedwater Nozzle Vent Valve	M-007 C-1	FW 158	Closed	
S/G 1-2 FW Nozzle PT 618 Source Valve	M-007 C-1	FW 618	Open	
S/G 1-1 Steam Press Transmitter	M-007 B-11	PTSP12B1	In Service	
S/G 1-1 Steam Press Transmitter	M-007 B-11	PTSP12B2	In Service	
S/G 1-1 Lower Tube Sheet Drain	M-007 D-12	MS 863	Open	
S/G 1-2 Lower Tube Sheet Drain	M-007 E-2	MS 889	Open	
S/G 1-2 Vent Vlv to Containment Vent	M-007 B-2	MS 881	Closed	
S/G 1-2 Vent Line Iso Vlv	M-007 B-2	MS 882	Closed	
S/G 1-2 Vent Line Vent Valve	M-007 B-1	MS 911	Closed	
S/G 1-1 Lower Shell Drain Valve	M-007 C-12	MS 861	Closed	
S/G 1-1 Second Side Level Switch/Top Source Valve	M-007 C-10	SP 9B3D	Closed	
S/G 1-1 Second Side Level Switch	M-007 C-10	LSLL SP 9B3	Out of Service	
S/G 1-1 Second Side LSLSP9B3 Low Source Vlv	M-007 C-10	SP 9B3C	Closed	
S/G 1-1 Second Side LSLSP9B4 Top Source Vlv	M-007 C-10	SP 9B4D	Closed	
S/G 1-1 Second Side Level Switch	M-007 C-10	LSLL SP 9B4	Out of Service	
S/G 1-1 Second Side LSLSP9B4 Low Source Vlv	M-007 C-10	SP 9B4C	Closed	
S/G 1-1 Lower Tube Sheet Drain	M-007 E-12	MS 865	Open	
S/G 1-1 SU and Full Range Lo Level Sensing Root Valve	M-007 D-11	SP 9B6C	Open	
S/G 1-1 Operate Range LTSP9B1 Low Source Vlv	M-007 D-12	SP 9B1A	Open	
S/G 1-1 Full Range LTSP9B5 Low Source Vlv	M-007 C-12	SP 9B5A	Open	
S/G 1-1 S/U Range LTSP9B3 Low Source Vlv	M-007 C-12	SP 9B3A	Open	
S/G 1-1 Lower Shell Drain Valve	M-007 C-12	MS 862	Closed	

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VALVE VERIFICATION LIST

Main Steam System Heatup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-1 Shell Sample Valve	M-007 D-12	SS 84	Open	
S/G 1-1 Shell Sample Valve	M-007 D-11	SS 86	Closed	
S/G 1-1 Shell Sample Line Vent	M-007 D-12	SS 686	Closed	
S/G 1-1 Shell Sample Valve	M-007 D-11	SS 87	Open	
S/G 1-1 Shell Sample Valve	M-007 D-11	SS 85	Open	
S/G 1-1 Lower Tube Sheet Drain	M-007 E-12	MS 866	Open	
S/G 1-1 S/U Range Lo Level Sensing Root Root Valve	M-007 D-11	SP 9B6A	Open	
S/G 1-1 S/U Range LTSP9B4 Low Source Vlv	M-007 C-12	SP 9B4A	Open	
S/G 1-1 Secondary Side LSLSP9B2 Top Src Vlv	M-007 C-10	SP 9B2D	Closed	
S/G 1-1 Secondary Side Level Switch	M-007 C-10	LSLL SP 9B2	Out of Service	
S/G 1-1 Second Side LSLSP0B2 Low Source Vlv	M-007 C-10	SP 9B2C	Closed	
S/G 1-1 Secondary Side LSLSP9B1 Top Source Valve	M-007 C-10	SP 9B1D	Closed	
S/G 1-1 Secondary Side Level Switch	M-007 C-10	LSLL SP 9B1	Out of Service	
S/G 1-1 Second Side LSLSP9B1 Low Source Vlv	M-007 C-10	SP 9B1C	Closed	
S/G 1-2 Lower Tube Sheet Drain	M-007 D-2	MS 887	Open	
S/G 1-2 Lower Shell Drain Valve	M-007 D-2	MS 886	Closed	
S/G 1-2 Shell Sample Valve	M-007 D-2	SS 79	Open	
S/G 1-2 Shell Sample Valve	M-007 D-2	SS 81	Closed	
S/G 1-2 Shell Sample Line Vent	M-007 D-2	SS 685	Closed	
S/G 1-2 Shell Sample Valve	M-007 D-2	SS 82	Open	
S/G 1-2 Shell Sample Valve	M-007 D-2	SS 80	Open	
S/G 1-2 Lower Tube Sheet Drain	M-007 E-2	MS 888	Open	

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VALVE VERIFICATION LIST

Main Steam System Heatup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-2 S/U and Full Range Lo Level Sensing Root Valve	M-007 D-2	SP 9A6C	Open	
S/G 1-2 Second Side LSLSP9B1 Top Source Vlv	M-007 C-4	SP 9A1D	Closed	
S/G 1-2 Second Side Level Switch	M-007 C-3	LSLL SP 9A1	Out of Service	
S/G 1-2 Second Side LSLSP9A1 Low Source Vlv	M-007 C-4	SP 9A1C	Closed	
S/G 1-2 Second Side LSLSP9B2 Top Source Vlv	M-007 C-4	SP 9A2D	Closed	
S/G 1-2 Second Side Level Switch	M-007 C-4	LSLL SP 9A2	Out of Service	
S/G 1-2 Second Side LSLSP9A2 Low Source Vlv	M-007 C-4	SP 9A2C	Closed	
S/G 1-2 S/U Range LTSP9A4 Low Source Valve	M-007 C-3	SP 9A4A	Open	
S/G 1-2 Range Lo Level Sensing Root Valve	M-007 D-2	SP 9A6A	Open	
S/G 1-2 Operate Range LTSP9A1 Low Source Vlv	M-007 D-3	SP 9A1A	Open	
S/G 1-2 Full Range LTSP9A5 Lower Source Vlv	M-007 C-4	SP 9A5A	Open	
S/G 1-2 S/U Range LTSP9A3 Lower Source Vlv	M-007 C-3	SP 9A3A	Open	
S/G 1-2 Second Side LSLSP9A4 Low Source Vlv	M-007 C-4	SP 9A4C	Closed	
S/G 1-2 Second Side Level Switch	M-007 C-4	LSLL SP 9A4	Out of Service	
S/G 1-2 Second Side LSLSP9A4 Top Source Vlv	M-007 C-4	SP 9A4D	Closed	
S/G 1-2 Second Side LSLSP9A3 Low Source Vlv	M-007 C-4	SP 9A3C	Closed	
S/G 1-2 Second Side Level Switch	M-007 C-4	LSLL SP 9A3	Out of Service	
S/G 1-2 Second Side LSLSP9A3 Top Source Vlv	M-007 C-4	SP 9A3D	Closed	
S/G 1-2 Lower Tube Sheet Drain	M-007 E-2	MS 890	Open	
S/G 1-2 Lower Shell Drain Valve	M-007 D-2	MS 885	Closed	
S/G 1-1 Vent Line Vent Valve	M-007 B-12	MS 752	Closed	
S/G 1-1 Vent Line Vent Valve	M-007 B-12	MS 753	Closed	

VALVE VERIFICATION LIST

Main Steam System Heatup

2 | Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-1 Vent Line Vent Valve	M-007 B-12	MS 754	Closed	
S/G 1-1 Vent Vlv to Containment Vent	M-007 B-12	MS 857	Closed	
S/G 1-1 Vent Line Iso Valve	M-007 B-12	MS 858	Closed	
S/G 1-1 Vent Line Vent Valve	M-007 B-12	MS 910	Closed	
S/G 1-1 Startup Range Level Transmitter	M-007 C-12	LT SP9B4	In Service	
S/G 1-1 Full Range Level Transmitter	M-007 B-12	LT SP9B5	In Service	
S/G 1-1 Operate Range Level Transmitter	M-007 D-12	LT SP9B2	In Service	
S/G 1-1 S/U Range Level Transmitter	M-007 C-12	LT SP9B3	In Service	
S/G 1-1 Operate Range Level Transmitter	M-007 D-12	LT SP9B1	In Service	
S/G 1-2 S/U Range Level Transmitter	M-007 C-3	LT SP9A4	In Service	
S/G 1-2 Operate Range Level Transmitter	M-007 D-3	LT SP9A2	In Service	
S/G 1-2 Operate Range Level Transmitter	M-007 D-3	LT SP9A1	In Service	
S/G 1-2 S/U Range Level Transmitter	M-007 C-3	LT SP9A3	In Service	
S/G 1-2 Full Range Level Transmitter	M-007 B-2	LT SP9A5	In Service	
MS Line 1 Press Test Connection Source Vlv	M-007 B-10	MS 2847	Closed	
MS Line 1 Vent Valve	M-007 B-10	MS 853	Closed	
MS Line 1 Atmospheric Vent Valve	M-007 B-8	ICS 11B	In Serv. & Closed	
MS Line 1 Atmospheric Vent Vlv Iso Vlv	M-007 B-8	MS 875	Closed	
Main Steam Line 1 Drain Valve	M-003 B-11	MS 26	Closed	
MS Line 1 Warmup Drain Iso Vlv	M-003 A-11	MS 703	Open	
MS Line 1 Warmup Drain Vlv	M-003 A-11	MS 394	In Serv. & Closed	
MS Line 1 Warmup Drain Iso Vlv	M-003 A-11	MS 705	Open	

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VALVE VERIFICATION LIST

Main Steam System Heatup

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VALVE DESCRIPTION	PS&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
MS Line 1 Break Instrumentation Source Vlv	M-003 B-10	MS 916	Open	
MS Line 1 Break Instrumentation Source Vlv	M-003 B-10	MS 917	Open	
MS Line 1 Main Steam Iso Vlv	M-003 B-9	MS 101	Operable	
MS Line 1 Main Steam Iso Vlv Bypass Vlv	M-003 B-9	MS 101A	Operable	
MS Line 1 Break Instrumentation Source Vlv	M-003 B-9	MS 913	Open	
MS Line 1 Break Instrumentation Source Vlv	M-003 B-9	MS 912	Open	
MS Line 2 Press Test Connection Source Vlv	M-007 B-3	MS 2848	Closed	
MS Line 2 Vent Valve	M-007 A-4	MS 877	Closed	
MS Line 2 Atmospheric Vent Valves	M-007 B-6	ICS 11A	In Serv. & Closed	
MS Line 2 Atmospheric Vent Vlv Iso Vlv	M-007 B-6	MS 876	Closed	
Main Steam Line 2 Drain Valve	M-003 C-14	MS 29	Closed	
MS Line 2 Warmup Drain Iso Vlv	M-003 B-14	MS 700	Open	
MS Line 2 Warmup Drain Valve	M-003 B-14	MS 375	In Serv. & Closed	
MS Line 2 Warmup Drain Iso Vlv	M-003 B-14	MS 702	Open	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-13	MS 919	Open	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-12	MS 918	Open	
MS Line 2 Main Steam Iso Vlv Bypass Vlv	M-003 B-11	MS 100	Operable	
MS Line 2 Main Steam Iso Vlv	M-003 B-11	MS 100A	Operable	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-12	MS 914	Open	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-13	MS 915	Open	
Steam Trap 132 Stub Header Drain Valve	M-003 D-12	MS 34	Closed	
MS Line 1 to AFPT 1-2 Iso Vlv	M-003 E-12	MS 107A	Closed	

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VALVE VERIFICATION LIST

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VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Steam Trap 90 Stub Header Drain Valve	M-003 G-2	MS 27	Closed	
MS Line 2 to AFPT 1-1 Iso Valve	M-003 F-2	MS 106	Closed	
Steam Trap 39 Stub Header Drain Valve	M-003 F-2	MS 39	Closed	
MS Line 1 to AFPT 1-1 Iso Vlv	M-003 F-2	ST 39	Out of Service	
MS Line 1 Press Switch	M-003 B-9	PS 3687D	In Service	
PS3687D Iso Valve	M-003 B-9	MS 3687D	Open	
MS Line 1 Press Switch	M-003 B-9	PS 3689N	In Service	
PS3689N Iso Vlv	M-003 B-9	MS 3689N	Open	
MS Line 1 Press Switch	M-003 B-9	PS 3689F	In Service	
PS3689F Iso Vlv	M-003 B-9	MS 3689F	Open	
MS Line 1 Break Instrumentation Source Vlv	M-003 B-10	MS 923	Open	
MS Line 1 Press Switch	M-003 B-9	PS 3687C	In Service	
PS3687C Press Switch	M-003 B-9	MS 3687C	Open	
MS Line 1 Press Switch	M-003 B-9	PS 3689M	In Service	
PS3689M Iso Valve	M-003 B-9	MS 3689M	Open	
MS Line 1 Press Switch	M-003 B-8	PS 3689E	In Service	
PS3689E Iso Valve	M-003 B-8	MS 3689E	Open	
MS Line 1 Break Instrumentation Source Vlv	M-003 B-10	MS 922	Open	
MS Line 1 Break Instrumentation Source Vlv	M-003 B-10	MS 920	Open	
MS Line 1 Break Instrumentation Source Vlv	M-003 B-10	MS 921	Open	
MS Line 1 Press Switch	M-003 B-8	PS 3687H	In Service	
PS3687H Iso Vlv	M-003 B-8	MS 3687H	Open	

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VALVE VERIFICATION LIST

Main Steam System Heatup

2 | Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
MS Line 1 Press Switch	M-003 B-8	PS 3689L	In Service	
PS3689L Iso Vlv	M-003 B-8	MS 3689L	Open	
MS Line 1 Press Switch	M-003 B-7	PS 3689B	In Service	
PS3689B Iso Vlv	M-003 B-7	MS 3689B	Open	
MS Line 1 Press Switch	M-003 B-7	PS 3687G	In Service	
PS3687G Iso Valve	M-003 B-7	MS 3687G	Open	
MS Line 1 Press Switch	M-003 B-7	PS 3689K	In Service	
PS3689K Iso Valve	M-003 B-7	MS 3689K	Open	
MS Line 1 Press Switch	M-003 B-7	PS 3689A	In Service	
PS3689A Iso Valve	M-003 B-7	MS 3689A	Open	
MS Line 2 AFPT 1-1 Iso Valve	M-003 G-3	MS 106A	Closed	
MS Line 2 to AFPT 1-1 Steam Line Drain	M-003 G-3	MS 121	Closed	
MS Line 2 Press Switch	M-003 B-12	PS 3687B	In Service	
PS3687B Press Switch	M-003 B-12	MS 3687B	Open	
MS Line 2 Press Switch	M-003 B-12	PS 3687L	In Service	
PS3687L Iso Valve	M-003 B-12	MS 3687L	Open	
MS Line 2 Press Switch	M-003 B-12	PS 3689H	In Service	
PS3689H Iso Valve	M-003 B-12	MS 3689H	Open	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-12	MS 925	Open	
MS Line 2 Press Switch	M-003 B-13	PS 3687F	In Service	
PS3687F Iso Valve	M-003 B-13	MS 3687F	Open	
MS Line 2 Press Switch	M-003 B-13	PS 3687N	In Service	

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VALVE VERIFICATION LIST

Main Steam System Heatup

2 | Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
PS 3687N Iso Valve	M-003 B-13	MS 3687N	Open	
MS Line 2 Press Switch	M-003 B-13	PS 3689D	In Service	
PS3689D Iso Valve	M-003 B-13	MS 3689D	Open	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-13	MS 927	Open	
MS Line 2 Press Switch	M-003 B-12	PS 3687A	In Service	
PS3687A Iso Valve	M-003 B-12	MS 3687A	Open	
MS Line 2 Press Switch	M-003 B-11	PS 3687K	In Service	
PS3687K Iso Valve	M-003 B-11	MS 3687K	Open	
MS Line 2 Press Switch	M-003 B-12	PS 3689G	In Service	
PS3689G Iso Valve	M-003 B-12	MS 3689G	Open	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-11	MS 924	Open	
MS Line 2 Press Switch	M-003 B-13	PS 3687E	In Service	
PS3687E Iso Valve	M-003 B-13	MS 3687E	Open	
MS Line 2 Press Switch	M-003 B-12	PS 3687M	In Service	
PS3687M Iso Valve	M-003 B-12	MS 3687M	Open	
MS Line 2 Break Instrumentation Source Vlv	M-003 B-13	MS 926	Open	
MS Line 2 Press Switch	M-003 B-11	PS 3689C	In Service	
PS3689C Iso Valve	M-003 B-11	MS 3689C	Open	
Steam Trap 125 Stub Header Drain Valve	M-003 B-13	MS 125	Closed	
AFPT 1-2 Steam Header Steam Trap	M-003 D-13	ST 125	Out of Service	
MS Line 2 to AFPT 1-2 Iso Valve	M-003 D-13	MS 107	Closed	
S/G 1-2 Sample Line Iso Valve	M-007 F-12	SS 88	Open	

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VALVE VERIFICATION LIST

Main Steam System Heatup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-2 Sample Line Containment Iso Valve	M-007 F-12	SS 607	In Serv. & Open	
S/G 1-2 Sample Line Iso Valve	M-007 F-2	SS 83	Open	
S/G 1-2 Sample Line Containment Iso Valve	M-007 F-2	SS 598	In Serv. & Open	
S/G 1-1 Drain Line Iso Valve	M-007 G-12	MS 611	*	
S/G 1-1 Drain Line Iso Vlv Bypass Valve	M-007 G-12	MS 611A	*	
S/G 1-1 Recirculation Line Iso Valve	M-007 K-9	MS 214	Closed	
S/G 1-1 Drain Line Drain Valve	M-007 J-9	MS 867	Closed	
S/G 1-1 Drain Line Vent Valve	M-007 K-9	MS 868	Closed	
S/G 1-1 Drain Line Drain Valve	M-007 K-8	MS 869	Closed	
S/G 1-1 Drain Line Vent Valve	M-007 K-8	MS 870	Closed	
S/G 1-1 Drain Line Iso Valve	M-007 K-6	MS 874	Open	
S/G 1-2 Drain Line Vent Valve	M-007 H-1	MS 896	Closed	
S/G 1-2 Drain Line Iso Valve	M-007 H-1	MS 897	Closed	
S/G 1-2 Drain Line Iso Valve	M-007 G-1	MS 603	*	
S/G 1-2 Drain Line Iso Vlv Bypass Valve	M-007 G-1	MS 603A	*	
S/G 1-2 Drain Line Drain Valve	M-007 J-1	MS 891	Closed	
S/G 1-2 Drain Line Drain Valve	M-007 J-1	MS 891A	Closed	
S/G 1-2 Drain Line Vent Valve	M-007 J-1	MS 892	Closed	
S/G 1-2 Recirculation Line Iso Valve	M-007 K-2	MS 211	Closed	
MS Line 2 Turb Bypass Vlv Stud Hdr Drn Vlv	M-003 J-11	MS 751	Closed	
S/G 1-1 Drain Line Drain Valve	M-007 K-8	MS 872	Closed	

*Throttle as required per PP 1102.02 and Shift Supervisor

VALVE VERIFICATION LIST

Main Steam System Heatup

2 | Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
S/G 1-2 Drain Line Drain Valve	M-007 J-1	MS 893	Closed	
MS Line 1 Non-Return Valve	M-003 B-6	MS 210	Operable	
MS Line 1 to Sampling System Iso Valve	M-003 A-8	SS 89	Open	
MS Line 2 Non-Return Valve	M-003 G-10	MS 209	Operable	
MS Line 2 Sampling System Iso Valve	M-003 B-8	SS 90	Open	
MS Line 2 Warmup Valve Outlet	M-022 C-2	MS 844	Closed	
Main Steam Line 2 Warmup Valve	M-022 C-2	MS 1299A	Closed	
MS Line 2 Warmup Valve Inlet	M-022 C-2	MS 843	Closed	
MS Line 1 Warmup Valve Outlet	M-022 D-2	MS 846	Closed	
Main Steam Line 1 Warmup Valve	M-022 D-2	MS 1299B	Closed	
MS Line 1 Warmup Valve Inlet	M-022 D-2	MS 845	Closed	
MSR 1-1 Reheating Steam Source Valve	M-003 D-7	MS 199	Closed	
MSR 1-1 Reheating Steam Warmup Valve	M-003 D-7	MS 199A	Closed	
MSR 1-2 Reheating Steam Source Valve	M-003 E-4	MS 314	Closed	
MSR 1-2 Reheating Steam Warmup Valve	M-003 E-4	MS 314A	Closed	
Vent on 1 Turbine Bypass Line	M-003 E-3	MS 377	Closed	
MS Line 1 Turbine Bypass Hdr Iso Valve	M-003 D-3	MS 710	Open	
Main Steam Line 1 Warmup Bypass Valve	M-003 D-4	MS 710A	Closed	
Turbine Bypass Valve SP13B1 Iso Valve	M-003 C-6	MS 716	Open	
Turbine Bypass Valve SP13B2 Iso Valve	M-003 C-5	MS 715	Open	
Turbine Bypass Valve SP13B3 Iso Valve	M-003 C-4	MS 714	Open	
Turbine Bypass Valve	M-003 C-4	SP 13B3	In Serv. & Closed	

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VALVE VERIFICATION LIST

Main Steam System Heatup

2 Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Turbine Bypass Valve	M-003 C-5	SP 13B2	In Serv. & Closed	
Turbine Bypass Valve	M-003 C-6	SP 13B1	In Serv. & Closed	
MS Line 1 S/U Drain Iso Valve	M-003 D-6	MS 736	Open	
MS Line 1 Turbine Bypass Steam Trap	M-003 D-6	ST 28	Startup Mode	
MS Line 1 Turbine Bypass Steam Trap	M-003 D-6	ST 28A	Startup Mode	
MS Line 1 S/U Drain Valve	M-003 D-6	MS 2572	Open	
MS Line 1 S/U Drain Iso Valve	M-003 D-6	MS 738	Open	
Stub Header Drain for ST 28	M-003 D-6	MS 755	Closed	
Vent on 2 Turbine Bypass Line	M-003 E-3	MS 376	Closed	
MS Line 2 Turbine Bypass Hdr Iso	M-003 B-3	MS 709	Open	
Main Steam Line 2 Warmup Bypass Valve	M-003 D-3	MS 709A	Closed	
Turbine Bypass Vlv SP13A3 Iso Valve	M-003 C-3	MS 713	Open	
Turbine Bypass Valve SP13A2 Iso Valve	M-003 C-2	MS 712	Open	
Turbine Bypass Valve SP13A1 Iso Valve	M-003 C-1	MS 711	Open	
Turbine Bypass Valve	M-003 C-3	SP 13A3	In Serv. & Closed	
Turbine Bypass Valve	M-003 C-2	SP 13A2	In Serv. & Closed	
Turbine Bypass Valve	M-003 C-1	SP 13A1	In Serv. & Closed	
MS Line S/U Drain Iso Valve	M-003 D-2	MS 737	Open	
MS Line 2 Turbine Bypass Steam Trap	M-003 D-2	ST 3	Startup Mode	
MS Line 2 Turbine Bypass Steam Trap	M-003 D-2	ST 3A	Startup Mode	
MS Line 2 S/U Drain Valve	M-003 D-2	MS 2575	In Serv. & Open	
MEPT 1-1 Steam Header Steam Trap	M-003 C-10	ST 66	Startup Mode	

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VALVE VERIFICATION LIST

Main Steam System Heatup

2 | Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
MFPT 1-2 Steam Header Steam Trap	M-003 C-10	ST 67	Startup Mode	
MSR 1-1 2nd Stage Reheat Steam Line Drn Vlv	M-003 D-7	MS 33	Closed	
MS Line 1 to Aux Steam Header	M-003 B-6	MS 708	Closed	
MS Line 1 PI109 Source Valve	M-003 E-5	MS 109	Open	
HPT Side 1 Inlet Press Indicator	M-003 E-5	PI 109	In Service	
HPT Side 1 Inlet Press Transmitter	M-003 E-5	PT SP16B	In Service	
MS Line 2 PI 273 Source Valve	M-003 E-6	MS 273	Open	
HPT Side 1 Inlet Press Indicator	M-003 E-6	PI 273	In Service	
HPT Side 1 Inlet Press Transmitter	M-003 E-6	PT SP16A	In Service	
LSH 2778 Outlet Source Valve	M-022 A-1	MS 2778B	Open	
MS Line 2 Water Level Switch	M-022 A-1	LSH 2778	In Service	
Stub Header Drain for ST-3	M-003 D-1	MS 758	Closed	
LSH 2778 Inlet Source Valve	M-022 A-2	MS 2778A	Open	
MS Line 2 Drain Valve	M-022 A-2	MS 47	Closed	
LSH 2777 Outlet Source Valve	M-022 E-2	MS 2777B	Open	
MS Line 1 Water Level Switch	M-022 F-2	LSH 2777	In Service	
LSH 2777 Inlet Source Valve	M-022 E-2	MS 2777A	Open	
MS Line 1 Drain Valve	M-022 E-2	MS 46	Closed	
MS Line 1 Drain Valve Iso Valve	M-022 E-2	MS 847	Open	
MS Line 1 Drain Valve	M-022 E-2	MS 266	In Serv. & Closed	
MS Line 1 Steam Trap	M-022 E-2	ST 101	Startup Mode	
MS Line 1 Drain Valve Iso Valve	M-022 E-2	MS 848	Open	

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of 15

VALVE VERIFICATION LIST

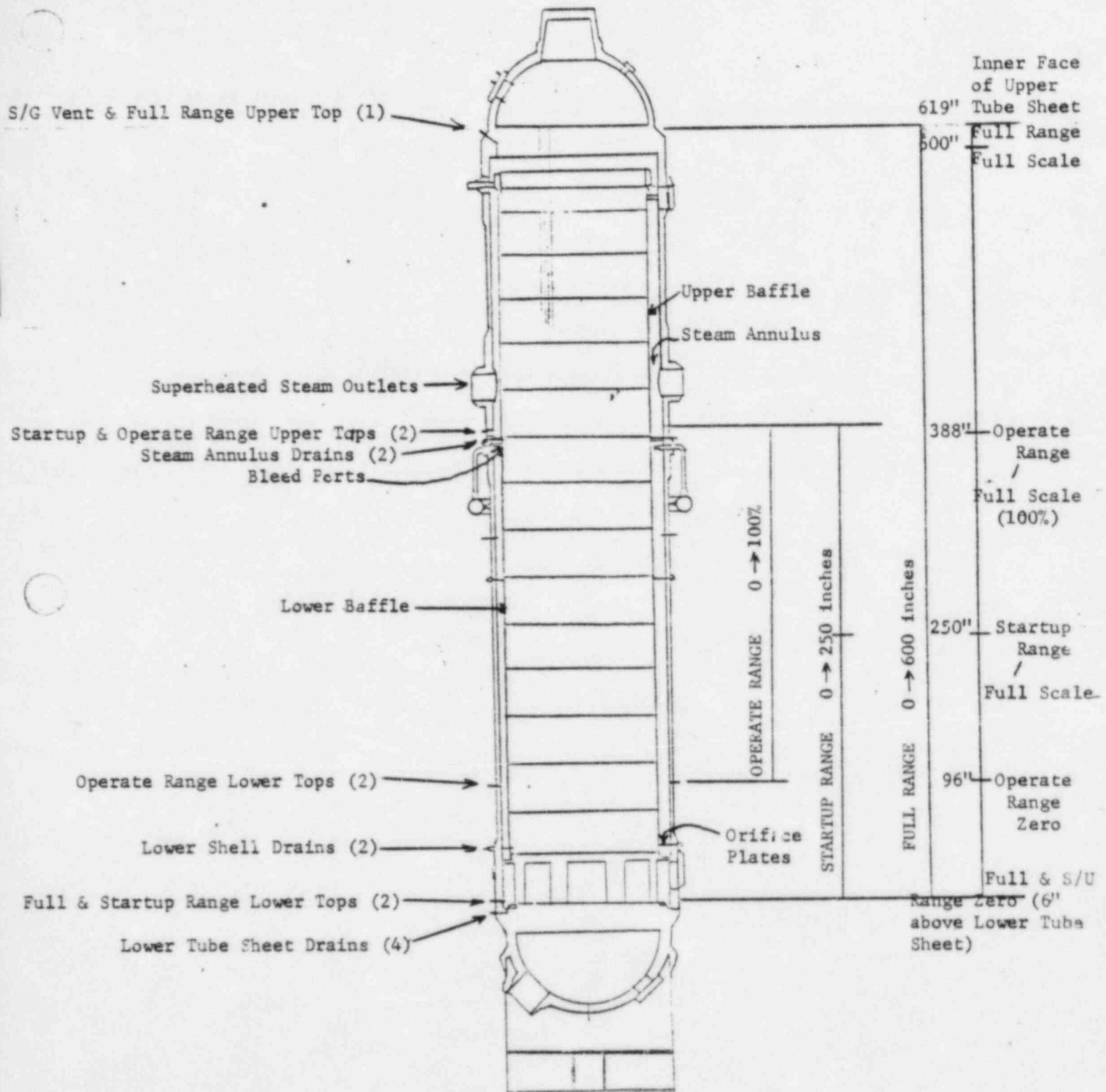
Main Steam System Heatup

2 | Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
MS Line 2 Drain Valve Iso Valve	M-022 A-2	MS 841	Open	
MS Line 2 Drain Valve	M-022 A-2	MS 138	In Serv. & Closed	
MS Line 2 Steam Trap	M-022 A-2	ST 100	Startup Mode	
MS Line 2 Drain Valve Iso Valve	M-022 A-2	MS 842	Open	
MS Line MSR 1-1 Startup Drain Valve	M-003 D-6	MS 2582	In Serv. & Closed	
S/G 1-2 Drain Line to HP Condenser Iso Valve	M-007 K-1	MS 895	Open	
S/G 1-1 Drain Line to LP Condenser Iso Valve	M-007 K-7	MS 873	Open	
S/G 1-2 Drain Line Vent Valve	M-007 J-1	MS 894	Closed	
S/G 1-1 Drain Line Vent Valve	M-007 K-7	MS 871	Closed	
MS Line 2 to MFPT 1-2 Steam Line Drain Valve	M-003 D-10	MS 45	Closed	
MS Line 1 to MFPT 1-1 Steam Line Drain Valve	M-003 D-9	MS 44	Closed	

2 | Reviewed by _____ Date _____
Shift Supervisor

ONCE THROUGH STEAM GENERATOR VERTICAL CROSS SECTION



NOTE: Operate Range is temperature compensated.

END

ENCLOSURE D