

Navis-Besse Nuclear Power Station

Unit No. 1

System Procedure SP 1106.25

Auxiliary Steam System

SUS 85

Record of Approval and Changes

Prepared by	<u>R. Adney, E. Night</u>	<u>9/15/73</u>
		Date
Submitted by	<u>Terry D. Murray</u>	<u>11/14/73</u>
	Section Head	Date
Recommended by	<u>NA</u>	
	SRB Chairman	Date
QA Approved	<u>NA</u>	
	Manager of Quality Assurance	Date
Approved by	<u>Jack Evans</u>	<u>11/15/73</u>
	Station Superintendent	Date

Revision No.	SRB Recommendation	Date	QA Approved	Date	Sta. Supt. Approved	Date
1	NA		NA		<i>TD Murray</i>	<i>4/20/78</i>
2	NA		NA		<i>TD Murray</i>	<i>2/20/81</i>
3	NA		NA		<i>TD Murray</i>	<i>12/3/82</i>
					Plant Manager Approval/Date	
4	NA		NA		<i>TD Murray</i>	<i>2/28/85</i>

1. PURPOSE

The auxiliary steam operating procedure directs the operator in the conduct of the following operations.

	<u>SECTION</u>
Start up from a Cold Condition	4
Shifting from the Auxiliary Boiler to the Main Steam Reducing Station	5
Normal Operations	6
Shifting from the Main Steam Reducing Station to the Auxiliary Boiler	7
Abnormal Operations	8

The basic function of the Auxiliary Steam System is to supply steam to the 235 PSIG, 50 PSIG, 15 PSIG, and 5 PSIG headers which in turn supply the station support and auxiliary components.

The 235 PSIG header has two (2) steam supplies, the Auxiliary Boiler and the Main Steam System reducing station.

Components supplied from the 235 PSIG header are:

1. Turbine steam seal regulator
2. Moisture separator and reheater steam blanketing
3. Deaerator pegging steam
4. Auxiliary feed pump turbine
5. Main feed pump turbines
6. Steam jet air ejector
7. Steam hogger
8. Auxiliary boiler mud drum warming coil
9. Atomizing steam, auxiliary boiler
10. 235/50 PSIG reducing station
11. 235/15 PSIG reducing station

The 50 PSIG header has two (2) supplies, the 235/50 PSIG auxiliary steam reducing station and when the stage pressure is sufficient from the third extraction of the main turbine generator

Components supplied from the 50 PSIG header are:

1. Generator stator liquid coolers
2. Station heating water heat exchangers 1-1 and 1-2
3. Condenser hotwell heating spargers
4. Main turbine lube oil heating eductors
5. 50/5 PSIG reducing station
6. Domestic water heater
7. 50/15 PSIG reducing station
8. Neutralizing tank heat exchanger 1-1
9. Fire water storage tank heat exchanger 1-1
10. Demineralized water storage tank heat exchanger 1-1

11. Caustic dilution water heat exchanger 1-1
12. Boric acid evaporator package 1-1 and 1-2
13. Waste evaporator package 1-1
14. Degasifier package 1-1

2 | The 15 PSIG header has two (2) supplies, the 235/15 PSIG and 50/15 PSIG reducing stations. Both reducers are normally used to meet system demand.

Components supplied from the 15 PSIG header are:

1. Auxiliary boiler deaerator heater 1-1
2. 15/5 PSIG reducing station
3. Primary water storage tank heat exchanger 1-1
4. Cask wash area
5. Borated water storage tank heat exchanger 1-1

2 | The 5 PSIG header has two (2) supplies, the 50/5 PSIG and the 15/5 PSIG reducing stations. Both reducers are required to supply separate 5 PSIG header sections.

Components supplied from the 5 PSIG header are:

1. Auxiliary boiler room unit heaters 1-1 and 1-2
2. Auxiliary boiler combustion air heating coils
3. Intake structure unit headers 1-1, 1-2, 1-3, and 1-4
4. Water treatment building unit heaters 1-1, 1-2, 1-3, 1-4, 1-1, 1-1, 1-1, and 1-2
5. Water treatment building heating coils

The 5 and 10 PSIG condensate tanks, flash tank and station heating condensate tank 1-2 have pumps which are actuated automatically by the high level switch in each tank to start the pre-selected pump on a High level and start the standby pump on a High-High level. Both pumps automatically stop when the level reaches a point where the low level switch is actuated.

The steam traps drain into the station heating condensate tanks, the 5 PSIG condensate tank and the 10 PSIG condensate tank. These tanks are level controlled and when the associated pumps are running, the discharge is to the trap header into the flash tank, or to the auxiliary boiler deaerator.

The flash tank pumps 1-1 and 1-2 control the flash tank level by discharging to the main deaerating heaters 1-1 and 1-2.

## 2. PRECAUTIONS AND LIMITATIONS

- 2.1 Do not exceed a steam temperature of 401°F on the outlet of the 235 PSIG header desuperheater.

- 2.2 Caution must be exercised whenever a reducing station is being bypassed to prevent exceeding the normal header operating pressure.
- 2.3 When pressurizing any steam header, allow sufficient time to slowly warm the header. Ensure that the header is checked for steam leaks and water hammer.
- 2.4 When using the auxiliary boiler for steam supply to the MFPT's, the auxiliary boiler master must be set so that the header pressure at the LP stop valve of the MFPT's is maintained at less than 197 PSIG.
- 2.5 Whenever the flash tank vent to the LP feedwater heaters (AS 958) is shut, an alternate vent path must be provided to the 5 PSIG header through AS 3748.
- 2.6 Whenever the turbine is reset, the Condensate Flash Tank Vent to LP heaters 1-1-2 and 1-2-2 (AS 958) may open allowing the flash tank to vent to the heaters. To avoid premature venting to these LP heaters, the flash tank vent to LP feedwater heaters isolation valves (AS 261 and AS 262) should be closed. AS 261 and AS 262 can be opened at Shift Supervisor's discretion if venting to the LP heaters is desirable.

NOTE: The turbine must be reset before AS 958 can be opened.

### 3. REFERENCES

- 3.1 P&ID M-020 Auxiliary Steam System (Bechtel)
- 3.2 Auxiliary Boiler Operating Procedure, SP 1106.04
- 3.3 Auxiliary Steam System Description, SP 1106.25

### 4. STARTUP FROM A COLD CONDITION

This section covers the operation necessary to place the auxiliary steam system in service from a cold condition. The 235 PSIG steam header and deaerator heater will be heated and pressurized as the auxiliary boiler is fired to operating temperature and pressure.

#### 4.1 Prerequisites

- 4.1.1 Valve Verification List "A" completed
- 4.1.2 Service water available to the steam vent mixing condenser

#### 4.2 Procedure

- 4.2.1 Place the pump control switches for the 5 and 10 PSIG

condensate tanks, flash tank, and the station heating condensate tanks in automatic.

- 4.2.2 When the header is warmed and clear of water, put the following traps in service by closing the bypass valve.

ST 4 Aux Feedpump Inlet  
ST 12 235 PSIG Relief Valve Header  
ST 30 Steam Jet Inlet  
ST 75 Steam Hogger Inlet  
ST 89 Inlet to 235/50 PSIG Reducing Station  
ST 91 Gland Steam Supply  
ST 129 Aux Boiler Stop Valve

- 4.2.3 When the 235 PSIG header is approximately 20 PSIG, place the 235/15 PSIG reducing station on the line by opening the 235/ 15 PSIG pressure reducing valve outlet isolation valve (AS 50), and crack open the 235/15 PSIG pressure reducing valve bypass (AS 51). Allow the header to slowly, over one hours time, reach 15 PSIG, then open the 235/15 PSIG pressure reducing valve inlet isolation valve (AS 49), close AS 51.

- 4.2.4 When this section of the 15 PSIG header warms up, place the following steam trap in service:

ST 123 235/15 PSIG Reducing Station Outlet

- 4.2.5 When the 235 PSIG header is approximately 60 PSIG, place the 50 PSIG reducing station on the line by opening the 235/50 PSIG steam pressure reducing valve outlet isolation valve (AS 72), crack open the 235/50 PSIG steam pressure reducing valve bypass (AS 71), allow header slowly, over an hours time, to reach 50 PSIG, then open the 235/50 PSIG steam pressure reducing valve inlet isolation (AS 70), close AS 71.

- 4.2.6 After the 50 psig steam header warms up, place the following steam traps in service:

ST 1 Inlet to Cond 1-1 Hotwell Heating  
ST 2 Inlet to Cond 1-2 Hotwell Heating  
ST 5 Intake structure 50# Header to Wtr Tk HX's  
ST 10 Hot Water Heater Inlet  
ST 11 Inlet to Neutralizing Tank Heat Exchanger  
ST 31 50 PSIG Reducing Station Outlet  
ST 37 Inlet to Station Heating Heat Exchanger 1-1  
ST 38 Inlet to Station Heating Heat Exchanger 1-2  
ST 49 Inlet to Evap Package 1-1



ST 50 Inlet to Evap Package 1-2  
ST 84 Intake Structure 50/5 PSIG Reducing Station Inlet  
ST 85 Demin Water Strg Tank Inlet  
ST 86 Fire Water Strg Tank Inlet  
ST 104 Caustic Dil Water HX Inlet  
ST 124 50/15 PSIG Reducing Station Inlet  
ST 53 50 PSIG Header Before Pipe Tunnel

4.2.7 When the 50 PSIG header is approximately 20 PSIG, place the 50/15 PSIG reducing station on the line by opening the 50/15 PSIG Auxiliary Steam pressure reducing valve outlet isolation valve (AS 83), crack open the 50/15 PSIG Auxiliary Steam pressure reducing valve bypass (AS 82), allow header to slowly, over an hours time, reach 15 PSIG, then open the 50/15 PSIG Auxiliary Steam pressure reducing valve inlet isolation (AS 81), close AS 82.

4.2.8 After this section of the 15 PSIG steam header warms up, place the following steam traps in service:

ST 52 50/15 PSIG Reducing Station Outlet  
ST 126 Inlet Line to the BWST

4.2.9 When the 15 PSIG header is thoroughly warmed up and pressurized, open the Auxiliary Building 15 PSIG header alternate feed valve (AS 3710B).

4.2.10 If necessary to supply auxiliary boiler combustion air heating or room heat, place the 15/5 PSIG reducing station on the line by opening the 15/5 PSIG auxiliary steam pressure reducing valve outlet isolation (AS 55), crack open 15/5 PSIG auxiliary steam pressure reducing valve bypass (AS 54), allow header to slowly, over an hours time, reach 5 PSIG, then open the 15/5 PSIG auxiliary steam pressure reducing valve inlet isolation (AS 53), close AS 54.

4.2.11 After the header warms up, place steam trap ST 87 in service.

ST 87, Inlet to Aux Boiler Room Heaters

4.2.12 Place the Intake Structure/Water Treatment Bldg 50/5 PSIG reducing station on the line, if desired, by opening the 50/5 PSIG steam pressure reducing valve outlet isolation (AS 130), crack open the 50/5 PSIG steam pressure reducing valve bypass (AS 129) allow header to slowly, over an hours time, reach 5 PSIG, then open the 50/5 PSIG steam pressure reducing valve inlet isolation (AS 128), close AS 129.

- 4.2.13 After the 5 PSIG heater warms up, place steam trap ST 80 in service.

ST 80, 50/5 PSIG Reducing Station Outlet

## 5. SHIFTING FROM THE AUXILIARY BOILER TO THE MAIN STEAM REDUCING STATION

### 5.1 Prerequisites

Plant Startup Procedure has directed placing Main Steam reducing station in service.

- 5.1.1 Auxiliary steam header is at normal pressure approximately 235 PSIG.
- 5.1.2 Main Steam System pressure is at approximately 870 PSIG.
- 5.1.3 Desuperheating water available from combined MFP discharge header.
- 5.1.4 When the Main Turbine is reset, the Flash Tank will vent to No. 2 LP FW heaters. When the Main Turbine is tripped, the Flash Tank will vent to the 5 PSIG header. See Note after Step 5.2.4.
- 5.1.5 Flash Tank is lined up per Valve Verification List B - Flash Tank Startup Lineup.

### 5.2 Procedure

- 5.2.1 Place Flash Tank Pump's local switches HIS NP 1661 and HIS NP 1662, in the not locked out position.
- 5.2.2 Open the trap header isolation valve to the flash tank (AS 2067).
- 5.2.3 Close the trap header supply to the auxiliary boiler deaerator heater (AS 2071). Monitor 5 PSIG header pressure on local PIC and open trap bypasses on combustion heating coils if necessary to reduce pressure.

NOTE: If #2 LP feed heater pressure is too high during operation to allow proper venting of the flash tank, it may be necessary to vent the flash tank to the 5 PSIG header and use the auxiliary boiler combustion air heaters as condensers.

- 3
- 5.2.4 Open the auxiliary steam desuperheater feedwater outlet isolation (FW 210), slowly open the auxiliary steam desuperheater feedwater inlet isolation (FW 208).
  - 5.2.5 Open main steam/auxiliary steam reducing station isolation (MS 708).
  - 5.2.6 Open main steam/auxiliary steam pressure reducing valve outlet isolation (MS 852).
  - 5.2.7 Crack open main steam/auxiliary steam pressure reducing valve bypass (MS 851), allow PIC 1650 to reach 235 PSIG and observe that MS 1650 starts to close off.
  - 5.2.8 Slowly open main steam/auxiliary steam pressure reducing valve inlet isolation (MS 850), and close MS 851.
  - 5.2.9 Check temperature indication on TIC 1651 to verify that the auxiliary steam desuperheater control valve (FW 1651) is controlling the steam temperature at 400°F (maximum pipe temperature allowable is 413°F).

NOTE: Caution should be exercised when using the bypass to prevent transferring load from the auxiliary boiler to the bypass and inadvertently backing the auxiliary boiler off the line.

- 5.2.10 As directed by Plant Startup Procedure, transfer the steam load from the auxiliary boiler to the main steam/auxiliary steam pressure reducing station by placing the auxiliary boiler master in hand and reducing the firing rate to a minimum while checking that the main steam system is picking up on the load.
- 5.2.11 Once the steam load has been transferred from the auxiliary boiler to the main steam/auxiliary steam reducer, the auxiliary boiler may be shutdown as per Auxiliary Boiler Operating Procedure, SP 1106.04.

## 6. NORMAL OPERATION

### 6.1 Prerequisites

- 6.1.1 Auxiliary Steam System is being supplied from the Main Steam Header through the main steam/auxiliary steam reducing station.

### 6.2 Procedure

- 6.2.1 The 50 PSIG auxiliary steam header is maintained by



235 PSIG steam header and/or the third extraction which floats in and out of service as load changes.

- 6.2.2 The 5 PSIG condensate pumps 1-1 and 1-2, flash tank pumps 1-1 and 1-2, and the 10 PSIG condensate pumps 1-1 and 1-2 will be rotated to equalize running time by placing the standby pump in auto (preferred) and placing the auto (preferred) pump in standby once a month (per the Monthly Log).

## 7. SHIFTING FROM THE MAIN STEAM REDUCING STATION TO THE AUXILIARY BOILER

### 7.1 Procedure

- 7.1.1 Lite off the aux. boiler and bring it up to pressure in accordance with SP 1106.04.
- 7.1.2 Open the flash tank vent to 5 PSIG header (AS 3748).
- 7.1.3 Close the flash tank vent to feedwater heater 1-1-2 and 1-2-2, (AS 194).
- 7.1.4 Open the trap header supply to the auxiliary boiler deaerator (AS 2071).
- 7.1.5 Close the trap header isolation valve to the flash tank (AS 2067),
- 7.1.6 Transfer the steam load from the main steam system to the auxiliary boiler by slowly closing the main steam/auxiliary steam pressure reducing valve outlet (MS 852).
- 7.1.7 Once the load has been shifted from the main steam system to the auxiliary boiler, close the main steam/auxiliary reducer inlet (MS 850).
- 7.1.8 Close the main steam/auxiliary steam isolation valve (MS 181).
- 7.1.9 Close the outlet to the desuperheater controller FW 210, and the inlet to the desuperheater controller FW 208.

## 8. ABNORMAL CONDITIONS

- 8.1 Procedure for taking the main steam/auxiliary steam pressure reducing station off the line without the auxiliary boiler.
  - 8.1.1 Crack open the main steam/auxiliary steam pressure

reducing Bypass (MS 851) to start picking up the load on the bypass.

- 8.1.2 Slowly close the main steam/auxiliary steam pressure reducing outlet isolation (MS 852) while cautiously opening the bypass MS 851 to pick up the steam load.

NOTE: Extreme caution must be taken in order to prevent over pressurization of the Auxiliary steam system from the main steam system.

- 8.1.3 When MS 852 is closed, close the main steam/auxiliary steam pressure reducing inlet isolation (MS 850).

- 8.1.4 As the 235 PSIG steam demand changes, the bypass must be repositioned as necessary to maintain the proper pressure.

- 8.2 If it is necessary to take the desuperheater flow controller out of service, proceed as follows:

- 8.2.1 Crack open the bypass for the auxiliary steam desuperheater flow controller (FW 209) to start picking up the load on the bypass.

- 8.2.2 Steam temperature must be maintained between 390°F and 405°F nominally at 400°F.

- 8.2.3 Slowly close the outlet to the auxiliary steam desuperheater flow controller (FW 210) while opening the bypass FW 209 to pick up the desuperheater load.

- 8.2.4 Once the outlet to the auxiliary steam desuperheater controller FW 210 is closed, close FW 208, the inlet to the auxiliary steam desuperheater controller.

- 8.3 If it is necessary to isolate any steam pressure reducing station, follow these guidelines:

- 8.3.1 Crack open the bypass if it is desired or necessary to maintain header pressure. Slowly close the outlet of the steam pressure reducing valve while picking up the load on the bypass. Once the outlet is closed, close the inlet to the steam pressure reducing valve.

NOTE: An operator should remain at the bypass valve any time a control valve is isolated and transient operation is expected.

Sheet No. 1  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
LEVEL 603' VICINITY OF FLASH TANK 1-1				
Flash Tank 1-1 Vent	M-020 D-8	AS 195	Closed	
Flash Tank 1-1 Vent to Feedwater Heater 1-1-2 and 1-2-2 Iso	M-020 C-8	AS 194	Closed	
Flash Tank 1-1 Press Relief	M-020 D-8	AS 2081	In Service	
Flash Tank 1-1 Press Relief Drain	M-020 D-8	AS 243	Closed	
Flash Tank 1-1 Drain	M-020 E-8	AS 197	Closed	
Flash Tank 1-1 Lvl Switch Source Bottom Iso	M-020 E-8	AS 2082A	Open	
Flash Tank 1-1 Lvl Switch Source Top Iso	M-020 D-8	AS 2082B	Open	
Flash Tank 1-1 Lvl Low Instrument	M-020 E-9	LSL 2082	In Service	
Flash Tank 1-1 Lvl High Instrument	M-020 D-9	LSH 2082	In Service	
Flash Tank 1-1 Lvl High High Instrument	M-020 D-9	LSHH2082	In Service	
Flash Tank Lvl Gauge Source Bottom	M-020 E-8	AS 2712A	Open	
Flash Tank Lvl Gauge Source Top	M-020 D-8	AS 2712B	Open	
Flash Tank Pump 1-1 Minimum Recirc Iso Valve	M-020 E-8	AS 404	Open	
Flash Tank Pump 1-2 Minimum Recirc Iso Valve	M-020 E-7	AS 408	Open	
Flash Tank Pumps Recirc Line Drain	M-020 E-8	AS 244	Closed	
Flash Tank Pumps Recirc Ctrl Vlv	M-020 E-8	AS 2080	In Service	
Aux Blr Dear Htr 1-1 Vent Iso to Flash Tank	M-020 E-7	AS 196	Open	
Aux Blr Dear Operating Vent Cont Vlv Bypass	M-020 F-7	AS 14	Closed	
Trap Hdr to Flash Tank Isol Vlv	M-020 D-7	AS 2067	Closed	
Aux Blr Deaer Vent to Flash Tank Control Vlv	M-020 E-7	AS 2086	In Service	
Aux Blr Dear Htr 1-1 Vent Line Drain	M-020 F-7	AS 245	Closed	

VALVE VERIFICATION LIST A

Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Trap Hdr Supply to Aux Blr Deaer	M-020 F-7	AS 2071	Open	
Aux Blr Dear Htr 1-1 to Flash Tk Hdr Drain	M-020 E-7	AS 193	Closed	
LEVEL 603' WEST SIDE OF TURBINE BLDG				
Inlet Iso Valve of Steam Supply to Steam Hogger	M-020 J-7	AS 175	Closed or Open #	
Inlet Iso Valve of Steam Supply to Steam Jet Air Ejector	M-020 J-7	AS 176	Closed or Open #	
Aux Bldg 15 PSIG Alternate Feed Valve	M-020 C-8	AS 3710B	Closed	
15 PSIG Hdr Alternate Feed PSL Source	M-020 C-7	AS 3710A	Open	
50 PSIG Aux Stm Hdr PSL Source	M-020 C-9	AS 2127A	Open	
50 PSIG Aux Stm Hdr PSL	M-020 C-9	PSL 2127	In Service	
50 PSIG Aux Stm Hdr Auto Iso Valve	M-020 C-9	AS 2127B	In Service	
First Iso Valve from 235 PSIG Aux Steam Header to MFPT	M-020 J-7	AS 177	Closed	
First Iso Valve from 235 PSIG Aux Steam Header to AFPT	M-020 J-7	AS 178	Closed	
VICINITY OF MAIN STEAM/235 PSIG REDUCER				
Mn Stm/235 PSIG Reducer Inlet Press Indicating Source	M-020 J-12	MS 2507	Open	
Mn Stm/235 PSIG Reducer Inlet Press Indic	M-020 J-12	PI 2507	In Service	
Mn Stm/Aux Stm Press Reducing Inlet Iso	M-020 J-11	MS 850	Closed	
Mn Stm/Aux Stm Press Reducing Bypass	M-020 J-11	MS 851	Closed	
Mn Stm/Aux Stm Press Reducing Outlet Iso	M-020 J-11	MS 852	Closed	
Mn Stm/Aux Stm Press Reducing Valve	M-020 J-11	MS 1650	In Service	
Mn Stm/Aux Stm Press Reducing Valve Press Sensing Source Valve	M-020 J-11	AS 1650A	Open	
Mn Stm/Aux Stm Press Reducing Vlv Ctrl Instru	M-020 J-11	PIC 1650	In Service	

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

VALVE VERIFICATION LIST A

Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Mn Stm to Aux Stm Reducing Sta Bypass Drain	M-020 J-11	AS 288	Closed	
Desuperheating Water from FW Pump Press Indic Source	M-020 J-12	FW 2537	Open	
Desuperheating Water from FW Pump Press Indic	M-020 J-12	PI 2537	In Service	
Aux cm Desuperheater FW Inlet Iso	M-020 K-11	FW 208	Closed	
Aux Stm Desuperheater FW Bypass	M-020 K-11	FW 209	Closed	
Aux Stm Desuperheater FW Outlet Iso	M-020 K-11	FW 210	Closed	
Aux Stm Desuperheater CTRL Vlv	M-020 K-11	FW 1651	In Service	
235 PSIG Aux Stm Hdr from Main Stm Reducer Iso	M-020 J-10	NOTE 1 AS 181	Closed or Open #	
235 PSIG Aux Stm to MSR Blanketing Stm and Turb Steam Seal Iso	M-020 J-9	NOTE 1 AS 180	Closed or Open #	
235 PSIG Aux Steam Header Press Relief	M-020 J-9	AS 1658A	In Service	
235 PSIG Aux Steam Header Press Relief	M-020 J-8	AS 1658B	In Service	
Deaerator Pegging Stm Shutoff Press Xmtr Source Valve	M-020 J-8	AS 2050	Open	
Deaerator Pegging Stm Shutoff Press Xmtr Instrument	M-020 J-8	PT 2050	In Service	
235 PSIG Aux Stm Hdr Press Xmtr Source	M-020 J-7	AS 1659	Open	
235 PSIG Aux Stm Hdr Press Xmtr Instrument	M-020 J-7	PT 1659	In Service	
235 PSIG Aux Stm Relief Valve Hdr Stm Trap	M-020 K-9	ST 12	In Service # *S/U Mode	
235 PSIG Relief Valve Header Drain	M-020 J-9	AS 377	Closed	
LEVEL 603' - SOUTH SIDE OF TURBINE BLDG				
Aux Stm Supply to Turb Seal Regulator Iso	M-022 J-1	AS 232	Open/ Closed#	
Domestic Water Htr Aux Stm Iso	M-020 C-3	AS 126	Open	

NOTE 1 - Valve is located overhead

\*See Steam Trap operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.



Sheet No. 4  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
4   Aux Steam to Lube Oil Clr Warm-Up Iso	M-020 C-4	AS 297	Closed	
235 PSIG Header Drn at the Steam Seal Supply	M-022 J-2	AS 417	Closed	
LEVEL 603' - EAST SIDE OF TURBINE BLDG				
4   Flash Tk 1-1 Vent to LP Htr 1-1-2 Iso	M-004A F-7	AS 261	Open	
Flash Tk 1-1 Vent to LP Htr 1-2-2 Iso	M-004A F-8	AS 262	Open	
Cnds Flash Tank 1-1 Vent to LP Htrs 1-1-2 and 1-2-2	M-004A D-8	AS 958	Closed	
LP Htr 1-1-2 Press Indicating Source	M-004A F-7	ES 306	Open	
LP Htr 1-2-2 Press Indicating Source	M-004A F-8	ES 329	Open	
4   Cnds Flash Tank to LP Htrs Stm Stop Vlv Outlet Steam Trap	M-004A F-8	ST 128	In Service # *S/U Mode	
LEVEL 603' - NORTH SIDE OF TURBINE BLDG				
235/50 PSIG Reducing Station Bypass Line Drain	M-020 E-3	AS 363	Closed	
50 PSIG Reducing Station Outlet Drain	M-020 F-4	AS 371	Closed	
ES 1654 Control Vlv Press Source	M-020 F-4	ES 1654A	Open	
235/50 PSIG Reducer Outlet Iso Seat Bypass	M-020 F-3	AS 366	Closed	
235/50 PSIG Reducer Inlet Iso Seat Bypass	M-020 G-3	AS 365	Closed	
235/50 PSIG Reducing Station Drain	M-020 F-4	AS 363	Closed	
4   50 PSIG Aux Stm Hdr Iso	M-020 E-4	NOTE 1 AS 222	Closed/ Open #	
235/50 PSIG Red Outlet Stm Trap	M-020 F-4	ST 31	In Service/# *S/U Mode	
235/50 PSIG Red Inlet Stm Trap	M-020 G-4	ST 89	In Service # *S/U Mode	
Aux Stm to Gen Stator Clrs	M-020 F-4	AS 304	Closed	

NOTE 1 - Valve is located overhead

\*See Steam Trap operation attachment for S/U Mode

4 | #Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

Sheet No. 5  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
FW Htr Extraction Stm Ctrl to Aux Stm Outlet Iso	M-020 F-4	ES 451	Closed/ Open #	
FW Htr Extraction Stm Ctrl Press Indic Instrument	M-020 F-4	PIC 1654	In Service	
235/50 PSIG Reducing Valve Bypass	M-020 F-3	AS 71	Closed	
235/50 PSIG Reducing Valve Inlet Iso	M-020 G-4	AS 70	Open/ Closed #	
235/50 PSIG Reducing Vlv	M-020 F-4	AS 1652	In Service	
235/50 PSIG Reducing Vlv Outlet Iso	M-020 F-4	AS 72	Open/ Closed #	
235/50 PSIG Reducing Vlv Press Sensing Source Valve	M-020 F-4	AS 1652A	Open	
235/50 PSIG Reducing Vlv Press Ctrl Indicating Instrument	M-020 F-4	PIC 1652	In Service	
50 PSIG Hdr Press Xmtr Source	M-020 E-4	AS 1644	Open	
50 PSIG Aux Stm Hdr Press Xmtr Instrument	M-020 E-4	PT 1644	In Service	
50 PSIG Aux Stm Hdr Press Relief	M-020 E-3	NOTE 1 AS 1653A	In Service	
50 PSIG Aux Stm Hdr Press Relief	M-020 E-2	NOTE 1 AS 1653B	In Service	
Sta Heating Water HX 1-1 Temp Ctrl Vlv Inlet Iso	M-020 E-2	AS 76	Open/ Closed #	
Sta Heating Water HX 1-1 Temp Ctrl Vlv Bypass	M-020 E-2	AS 77	Closed	
Sta Heating Water HX 1-2 Temp Ctrl Vlv Inlet Iso	M-020 E-3	AS 73	Closed	
Sta Heating Water HX 1-2 Temp Ctrl Vlv Bypass	M-020 E-3	AS 74	Closed	
Sta Htg Water HX 1-1 Inlet Stm Trap	M-020 F-2	ST 37	In Service/# *S/U Mode	
Sta Htg Water HX 1-2 Inlet Stm Trap	M-020 E-3	ST 38	In Service/# *S/U Mode	
Station Heating Heat & Changer 1-1 Stm Supply Drain	M-020 E-2	AS 387	Closed	
Station Heating Heat Exchanger 1-2 Steam Supply Drain	M-020 E-3	AS 388	Closed	

NOTE 1 - Valve is located overhead

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to  
allow for operation of systems that are in service.

Sheet No. 6  
 of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
15 PSIG Aux Steam Hdr Crossconnect	M-020 F-6	AS 52	Open	
15 PSIG Aux Stm Hdr Press Relief	M-020 F-6	AS 2085	In Service	
15 PSIG Aux Stm Hdr Press Indicating Source	M-020 F-6	AS 1671	Open	
15 PSIG Aux Stm Hdr Press Indicating Instr	M-020 F-6	PI 1671	In Service	
235/15 PSIG Aux Stm Press Ctrl Vlv Outlet Iso	M-020 F-6	AS 50	Open/ Closed #	
235/15 PSIG Aux Stm Press Ctrl Vlv Bypass	M-020 G-6	AS 51	Open/ Closed #	
235/15 PSIG Aux Stm Reducing Valve	M-020 G-5	AS 1670	In Service	
235/15 PSIG Aux Stm Press Ctrl Vlv Inlet Iso	M-020 G-5	AS 49	Open/ Closed #	
235/15 PSIG Reducer Bypass Drain	M-020 F-6	AS 68	Closed	
235/15 PSIG Red Sta Stm Trap	M-020 F-6	ST 123	In Service/# *S/U Mode	
15/5 PSIG Aux Stm Reducing Vlv Inlet Iso	M-020 C-6	AS 53	Open/ Closed #	
15/5 PSIG Aux Stm Reducing Vlv Bypass	M-020 C-6	AS 54	Closed	
15/5 PSIG Aux Stm Reducing Valve	M-020 C-6	AS 2068	In Service	
15/5 PSIG Aux Stm Reducing Vlv Outlet Iso	M-020 C-6	AS 55	Open/ Closed #	
Aux Blr Room Unit Htr E74-2 Inlet Iso	M-020 C-5	AS 446	Open/ Closed #	
Aux Blr Room Unit Htr E74-1 Inlet Iso	M-020 C-5	AS 57	Open/ Closed #	
Aux Blr Room Unit Htr E74-1 Hdr Iso	M-020 D-5	AS 444	Closed/ Open #	
Aux Blr Room Unit Htr E74-2 Hdr Iso	M-020 D-5	AS 445	Open	
Aux Blr Room Htrs Inlet Drain	M-020 D-5	AS 443	Closed	
15/5 PSIG Aux Stm Reducer Inlet Drain	M-020 C-6	AS 69	Closed	

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

Sheet No. 7  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Flash Tank 1-1 Vent to 5 PSIG Hdr Iso	M-020 D-8	AS 3748	Open	
235/15 PSIG Reducer Outlet Drain	M-020 F-5	AS 356	Closed	
Aux Boiler Non-Return	M-020 H-3	AS 40	Closed/ Open #	
15 PSIG Aux Stm Hdr Press Relief	M-020 D-11	NOTE 1 AS 1656	In Service	
LEVEL 585' NORTH SIDE OF TURBINE BLDG				
SJAE 1-1 Aux Stm Supply Stop Valve	M-014 E-4	AS 280	Open/ Closed #	
SJAE 1-1 Aux Stm Supply Press Indicating Src	M-014 E-4	AS 1000	Open	
SJAE 1-1 Aux Stm Supply Press Indic Instr	M-014 E-4	PI 1000	In Service	
SJAE 1-1 Inlet Stm Trap	M-014 E-3	ST 30	In Service/# *S/U Mode	
SJAE Inlet Strainer Drain	M-014 E-4	AS 279	Closed	
SJAE Inlet Drain	M-014 E-3	AS 228	Closed	
Flash Tk Pump 1-1 Discharge Press Ind Source	M-020 E-9	AS 1496	Open	
Flash Tk Pump 1-1 Discharge Press Indicator	M-020 E-9	PI 1496	In Service	
Flash Tk Pump 1-1 Differential Press Indicator	M-020 E-9	PDI 4847	In Service	
Flash Tk Pump 1-2 Discharge Press Ind Source	M-020 E-9	AS 1498	Open	
Flash Tk Pump 1-2 PDI Source Valve	M-020 E-9	AS 4848	Open	
Flash Tk Pump 1-2 Discharge Press Indicator	M-020 E-10	PI 1498	In Service	
Flash Tk Pump 1-2 Differential Press Indicator	M-020 E-9	PDI 4848	In Service	
Flash Tk Pump 1-1 PDI Source Valve	M-020 E-9	AS 4847	Open	
Flash Tk 1-1 Pump 1-1 Suction Iso	M-020 E-9	AS 204	Open	

NOTE 1 - Valve is located in overhead

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

Sheet No. 8  
of 19

17

SP 1106.25.4

VALVE VERIFICATION LIST A

Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Flash Tk 1-1 Pump 1-2 Suction Iso	M-020 E-9	AS 205	Open	
Flash Tk 1-1 Pump 1-1 Disch Iso	M-020 E-10	AS 208	Open	
Flash Tk 1-1 Pump 1-2 Discharge Iso	M-020 E-10	AS 209	Open	
Flash Tk 1-1 Pump 1-1 Press Indicating Instr	M-020 E-9	PI 1496	In Service	
Flash Tk 1-1 Pump 1-2 Press Indicating Instr	M-020 E-10	PI 1498	In Service	
Flash Tk Pump 1-1 Minimum Recirc Globe Valve	M-020 E-9	AS 402	Open	
Flash Tk Pump 1-2 Minimum Recirc Globe Valve	M-020 E-9	AS 403	Open	
5 PSIG Cnds Tk 1-1 Lvl Gauge Source Top	M-020 E-4	AS 2587B	Open	
5 PSIG Cnds Tk 1-1 Lvl Switch Src Bottom	M-020 E-5	AS 2077A	Open	
5 PSIG Cnds Tk 1-1 Lvl Switch Src Top Iso	M-020 E-5	AS 2077B	Open	
5 PSIG Cnds Tk 1-1 Lvl Switch Low Instrument	M-020 E-5	LSL 2077	In Service	
5 PSIG Cnds Tk 1-1 Lvl Switch High Instrument	M-020 E-5	LSH 2077	In Service	
5 PSIG Cnds Tk 1-1 Lvl Switch High High Instr	M-020 E-5	LSHH2077	In Service	
5 PSIG Cnds Tk 1-1 Drain	M-020 E-4	AS 186	Closed	
Service Water Ctrl to Stm Vent Mixing Cond	M-020 D-5	SW 2890	In Service	
5 PSIG Cnds Tk 1-1 Pump 1-1 Suction Iso	M-020 E-5	AS 187	Open	
5 PSIG Cnds Tk 1-1 Pump 1-2 Suction Iso	M-020 F-5	AS 188	Open	
5 PSIG Cnds Tk 1-1 Pump 1-1 Discharge Iso	M-020 E-6	AS 191	Open	
5 PSIG Cnds Tk 1-1 Pump 1-2 Discharge Iso	M-020 E-6	AS 192	Open	
Sta Htg HX Drn Tk Bypass	M-020 G-4	NOTE 1 AS 441	Closed	
Sta Htg HX Drn Tk Inlet Iso Valve	M-020 G-4	NOTE 1 AS 442	Open	

NOTE 1 - Valve is located in overhead



Sheet No. 9  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Sta H <sub>1</sub> HX Drain Tk Xconnect to 5 PSIG Cond Re:	M-020 K-3	AS 422	Open	
Sta Htg HX Drain Tk Pump Hdr Drain	M-020 F-5	NOTE 1 AS 233	Closed	
5 PSIG Cnds Tk 1-1 Lvl Gauge Source Bottom	M-020 E-4	AS 2587A	Open	
Sta Htg Hx Drain Tk Vent Valve	M-020 J-4	AS 421	Closed	
4 Sta Htg HXC Drn Tk Pump 1-1 Disch Iso	M-020 K-5	AS 427	Open	
Sta Htg HXC Drn Tk Pump 1-2 Disch Iso	M-020 K-5	AS 428	Open	
LEVEL 585' AUXILIARY BOILER ROOM LOWER LEVEL				
4 Aux Blr Stm Stop Valve Outlet Stm Trap	M-020 G-4	ST 129	In Service/# *S/U Mode	
235 PSIG Hdr Drn After Aux Boiler Stop Valve	M-020 G-3	AS 429	Closed	
4 Aux Blr Room Unit Htrs Inlet Stm Trap	M-020 D-5	ST 87	In Service/# *S/U Mode	
Aux Boiler Blowdown Tank Vent	M-020 E-3	AS 34	Closed	
LEVEL 565' - AUXILIARY FEED PUMP ROOM				
4 235 PSIG Aux Stm Hdr to AFPT's Stm Trap	M-003 G-2	ST 4	In Service/# *S/U Mode	
LEVEL 585' - SOUTH SIDE OF TURBINE BLDG				
4 Mn Stm/Aux Stm Reducing Station Supply Iso	M-003 B-6	NOTE 1 MS 708	Open/ Closed #	
Aux Stm Supply to 5 PSIG Cnds Tk 1-1 Ctrl Valve Inlet Iso	M-022 K-2	AS 230	Open/ Closed #	
Aux Stm Supply to 5 PSIG Cnds Tk 1-1 Ctrl Valve Outlet Iso	M-022 K-3	AS 231	Open/ Closed #	
Aux Stm Supply to 5 PSIG Cnds Tk 1-1 Ctrl Valve	M-022 K-2	AS 1934	In Service	
Turb Stm Seal Reg Inlet Stm Trap	M-022 K-2	ST 91	In Service/# *S/U Mode	
LEVEL 585' - EAST SIDE OF TURBINE BLDG				

NOTE 1 - Valve is located in overhead

\*See Steam Trap Operation attachment for S/U Mode

4 #Valve(s) may be positioned as required per Shift Supervisors direction to  
allow for operation of systems that are in service.

Sheet No. 10  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
4   50 PSIG Aux Stm Hdr to Dom Water Htr 1-1 Steam Trap	M-011 B-3	ST 10	In Service/# *S/U Mode	
Cnds Flash Tk to LP Htrs Hdr Stm Trap	M-004A F-8	ST 127	In Service/# *S/U Mode	
LEVEL 565' - WEST SIDE OF TURBINE BLDG				
4   Stm Hogger 1-1 Inlet Stm Trap	M-014 J-10	ST 75	In Service/# *S/U Mode	
235 PSIG Header Drn at Steam Hogger Supply	M-014 J-10	AS 282	Closed	
Stm Supply Stop Valve to Stm Hogger	M-014 J-10	AS 281	Closed	
Stm Hogger Aux Stm Inlet Ctrl Valve	M-014 J-10	AS 1933	Closed	
Stm Hogger Aux Stm Supply Press Indicating Source	M-014 J-10	AS 1214	Open	
Stm Hogger Aux Stm Supply Press Indicating Instrument	M-014 J-10	PI 1214	In Service	
235 PSIG Header Drn at the MFPT Supply	M-003 D-10	MS 42	Closed	
UNDER MAIN CONDENSER CROSSOVER PIPING				
4   Mn Cond 1-1 Hotwell Htg Line Stm Trap	M-006A F-2	ST 1	In Service/# *S/U Mode	
Mn Cnds 1-1 Hotwell Htg Ctrl Vlv Inlet Iso	M-006A F-2	AS 7	Closed	
Mn Cnds 1-1 Hotwell Htg Line Drain	M-006A F-2	AS 200	Closed	
Mn Cnds 1-1 Hotwell Htg Line Drain	M-006A F-2	AS 201	Closed	
Mn Cnds 1-1 Hotwell Htg Temp Ctrl	M-006A F-2	AS 418	In Service	
Mn Cnds 1-1 Hotwell Htg Ctrl Vlv Outlet Iso	M-006A F-2	AS 8	Closed	
4   Mn Cnds 1-2 Hotwell Htg Line Stm Trap	M-006A F-8	ST 2	In Service/# *S/U Mode	
Mn Cnds 1-2 Hotwell Htg Ctrl Valve Inlet Iso	M-006A F-8	AS 1	Closed	
Mn Cnds 1-2 Hotwell Htg Line Drain	M-006A F-7	AS 202	Closed	

\*See Steam Trap Operation attachment for S/U Mode

4 | #Valve(s) may be positioned as required per Shift Supervisors direction to  
allow for operation of systems that are in service.

Sheet No. 11  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Mn Cnds 1-2 Hotwell Htg Line Drain	M-006A F-7	AS 203	Closed	
Mn Cnds 1-2 Hotwell Htg Ctrl Vlv Outlet Iso	M-006A F-7	AL 2	Closed	
Mn Cnds 1-2 Hotwell Htg Temp Ctrl	M-006A F-7	AS 419	In Service	
LEVEL 565' - CONDENSATE POLISHING DEMIN HOLDUP TANK ROOM				
50 PSIG Header Drain Before Pipe Tunnel	M-020 C-2	AS 354	Closed	
50 PSIG Header Isolation Before Pipe Tunnel	M-020 C-2	AS 416	Closed/ Open #	
50 PSIG Header Steam Trap Before Pipe Tunnel	M-020 C-2	ST 53	In Service/# *S/U Mode	
LEVEL 623' - WEST SIDE OF TURBINE DECK				
Aux Blr Combustion Air Htg Coil E92 Inlet Iso	M-020 D-3	AS 58	Closed/ Open #	
Aux Blr Combustion Air Htg Coil E92 Inlet Iso	M-020 D-2	AS 59	Closed/ Open #	
Aux Blr Combustion Air Htg Coil E92 Inlet Iso	M-020 D-3	AS 60	Closed/ Open #	
Aux Blr Combustion Air Htg Coil E92 Inlet Iso	M-020 D-2	AS 61	Closed/ Open #	
Iso Valve .35 PSIG Aux Stm Hdr for Dear Pegging Steam	M-020 J-7	AS 179	Closed/ Open #	
Aux Stm Non-Return Vlv to MSR 1-1 Blanketing	M-003 E-8	AS 196A	Open/ Closed #	
Aux Stm Non-Return Vlv to MSR 1-1 Blanketing	M-003 E-8	AS 196B	Open/ Closed #	
EAST SIDE OF TURBINE DECK				
Aux Stm Non-Return Vlv to MSR 1-2 Blanketing	M-003 K-5	AS 198A	Open/ Closed #	
Aux Stm Non-Return Vlv to MSR 1-2 Blanketing	M-003 K-6	AS 198B	Open/ Closed #	
LP Htr 1-1-2 Press Xmtr Instrument	M-004A F-7	PT 306	In Service	
LP Htr 1-2-2 Press Xmtr Instrument	M-004A F-8	PT 329	In Service	

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

VALVE VERIFICATION LIST A

Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
LEVEL 643' - HEATER BAY				
Dear Htr 1-1-3 Lvl Ctrl High-High Instrument	M-006A D-9	LSHH 407	In Service	
Dear Htr 1-2-3 Lvl Ctrl High-High Instrument	M-006A C-13	LSHH 405	In Service	
Cnds Flash Tk to Main Deaerators Hdr Drn	M-006A E-10	AS 89	Closed	
LEVEL 657' - HEATER BAY				
Cnds Flash Tk to Main Deaerator 1-1-3 Iso	M-006A E-10	AS 9	Open/ Closed #	
Cnds Flash Tk to Main Deaerator 1-1-3 Ctrl Vlv	M-006A D-10	AS 2076	Open/ Closed #	
Cnds Flash Tk to Main Deaerator 1-2-3 Iso	M-006A D-11	AS 10	Open/ Closed #	
Cnds Flash Tk to Main Deaerator 1-2-3 Ctrl Vlv	M-006A D-11	AS 2597	Open/ Closed #	
Aux Stm Supply Press Cntrlr to Dear Htr 1-1-3	M-004A B-5	AS 295	Open/ Closed #	
Aux Stm Supply Press Cntrlr to Dear Htr 1-1-3 Disch Iso	M-004A B-5	AS 252	Closed/ Open #	
Aux Stm Supply to Dear Htr 1-1-3 Line Stm Trap Iso	M-004A B-5	AS 254	Open	
Aux Stm Supply to Dear Htr 1-1-3 Line Stm Trap Iso Bypass	M-004A B-5	AS 256	Open	
235 PSIG Hdr Drn at Dear Htr 1-1-3 Pegging Supply	M-004A B-5	AS 287	Closed	
Aux Stm to Dear Htr 1-1-3 Control Valve Outlet Stm Trap	M-004A B-5	ST 6	In Service/# *S/U Mode	
Aux Stm Supply Press Cntrlr to Dear Htr 1-2-3	M-004A B-10	AS 320	Open/ Closed #	
Aux Stm Supply Press Cntrlr to Dear Htr 1-2-3 Disch Iso	M-004A B-11	AS 253	Closed/ Open #	
Aux Stm Supply to Dear Htr 1-2-3 Line Stm Trap Iso	M-004A B-11	AS 255	Open	
Aux Stm Supply to Dear Htr 1-2-3 Line Stm Trap Iso Bypass	M-004A B-11	AS 257	Open	
235 PSIG Header Drain at Deaerator Htr 1-2-3 Pegging	M-004A B-10	AS 286	Closed	

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service

VALVE VERIFICATION LIST A

Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Aux Stm to Dear Htr 1-2-3 Control Valve	M-004A		In Service/#	
Outlet Stm Trap	B-11	ST 29	*S/U Mode	
RACA - LEVEL 545' COND COLLECTION TANK AND PUMPS ROOM				
10 PSIG Cnds Tk 1-1 Sight Glass Bottom Iso	M-020 G-11	AS 2588A	Open	
10 PSIG Cnds Tk 1-1 Sight Glass Top Iso	M-020 F-11	AS 2588B	Open	
10 PSIG Cnds Tk 1-1 Vent	M-020 F-11	AS 112	Closed	
10 PSIG Cnds Tk 1-1 Equalizing Line	M-020 G-11	AS 113	Open	
10 PSIG Cnds Tk 1-1 Press Relief	M-020 F-11	AS 1695	In Service	
10 PSIG Cnds Tk 1-1 Vent to Flash Tk Iso	M-020 F-10	AS 114	Open	
10 PSIG Cnds Tk 1-1 Pump 1-1 Suction Iso	M-020 G-10	AS 115	Open	
10 PSIG Cnds Tk 1-1 Pump 1-2 Suction Iso	M-020 G-10	AS 116	Open	
10 PSIG Cnds Tk 1-1 Lvl Ctrl Bottom Iso	M-020 G-11	AS 1687A	Open	
10 PSIG Cnds Tk 1-1 Lvl Ctrl Top Iso	M-020 F-11	AS 1687B	Open	
10 PSIG Cnds Tk 1-1 Lvl Ctrl Low Instru- ment	M-020 G-10	LSL 1687	In Service	
10 PSIG Cnds Tk 1-1 Lvl Ctrl High Instru- ment	M-020 F-10	LSH 1687	In Service	
10 PSIG Cnds Tk 1-1 Lvl Ctrl High High High Instru	M-020 F-10	LSHH1687	In Service	
10 PSIG Cnds Tk 1-1 Pump 1-1 Discharge Iso	M-020 G-10	AS 119	Open	
10 PSIG Cnds Tk 1-1 Pump 1-2 Discharge Iso	M-020 G-10	AS 120	Open	
10 PSIG Cnds Tk 1-1 Pump 1-1 Press Indicating	M-020 G-10	PI 1092	In Service	
10 PSIG Cnds Tk 1-1 Pump 1-2 Press Indicating	M-020 G-10	PI 1094	In Service	
MISC WASTE EVAP ROOM				

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.



VALVE VERIFICATION LIST A

Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Waste Evap Package 1-1 Stm Ctrl Inlet Iso	M-020 D-13	AS 97	Closed	
Waste Evap Package 1-1 Stm Ctrl Bypass	M-020 D-13	AS 98	Closed	
LEVEL 568' - CORRIDOR TO #1 MECH PENETRA- TION ROOM				
15 PSIG Aux Stm Hdr Press Indicating Source	M-020 E-11	AS 1607	Open	
15 PSIG Aux Stm Hdr Press Indic Instrument	M-020 E-11	PI 1607	In Service	
BWST HX 1-1 Stm Ctrl Inlet Iso	M-020 E-11	AS 84	Closed	
BWST FX 1-1 Stm Ctrl Bypass	M-020 E-11	AS 85	Closed	
BWST HX 1-1 Inlet Line Stm Trap	M-020 D-11	ST 126	In Service/# *S/U Mode	
LEVEL 585' - #4 MECH PENETRATION ROOM				
BA Evap Package 1-1 Stm Ctrl Inlet Iso	M-020 C-12	AS 91	Closed	
BA Evap Package 1-1 Stm Ctrl Bypass	M-020 D-11	AS 92	Closed	
BA Evap Package 1-2 Stm Ctrl Inlet Iso	M-020 D-13	AS 94	Closed	
BA Evap Package 1-2 Stm Ctrl Bypass	M-020 D-13	AS 95	Closed	
Boric Acid Evap Package 1-1 Inlet Stm Trap	M-020 D-12	ST 49	In Service/# *S/U Mode	
Boric Acid Evap Package 1-2 Inlet Stm Trap	M-020 D-13	ST 50	In Service/# *S/U Mode	
50/15 PSIG Aux Stm Reducing Vlv Inlet Iso	M-020 D-11	AS 81	Closed	
50/15 PSIG Aux Stm Reducing Vlv Bypass	M-020 D-11	AS 82	Closed	
50/15 PSIG Aux Stm Reducing Vlv	M-020 D-11	AS 1655	In Service	
50/15 PSIG Red Outlet Drain	M-020 D-11	AS 372	Closed	
50/15 PSIG Aux Stm Reducing Vlv Outlet Iso	M-020 D-11	AS 83	Closed	

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to  
allow for operation of systems that are in service.

Sheet No. 15  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
50/15 PSIG Aux Stm Reducing Vlv Press Ctrl Source	M-020 D-11	AS 1655A	Open	
50/15 PSIG Aux Stm Red Vlv Press Ctrl Indic Inst	M-020 D-11	PIC 1655	In Service	
15 PSIG Aux Stm Hdr Press Xmtr Instrument	M-020 D-11	PT 1645	In Service	
Boric Acid Evap Pkge 1-2 Stm Cont Vlv Inlet Drain	M-020 C-13	AS 400	Closed	
Boric Acid Evap Pkge 1-1 Stm Cont Vlv Inlet Drain	M-020 C-11	AS 319	Closed	
50/15 PSIG Red Inlet Stm Trap	M-020 C-11	ST 124	In Service/# *S/U Mode	
50/15 PSIG Red Outlet Stm Trap	M-020 E-11	ST 52	In Service/# *S/U Mode	
Pri Wtr Strg Tk HX 1-1 Stm Ctrl Inlet Iso	M-020 C-10	AS 210	Open/ Closed #	
Pri Wtr Strg Tk HX 1-1 Stm Ctrl Bypass	M-020 C-10	AS 211	Closed	
SPENT FUEL POOL PUMP ROOM				
Degasifier Package 1-1 Stm Ctrl Inlet Iso	M-020 C-14	AS 103	Closed	
Degasifier Package 1-1 Stm Ctrl Bypass	M-020 D-14	AS 104	Closed	
WATER TREATMENT BUILDING-LEVEL 565' WEST SIDE OF BUILDING				
Station Htg Cnds Tk 1-2 Sight Glass Bottom Iso	M-020 C-12	AS 2590A	Open	
Station Htg Cnds Tk 1-2 Sight Glass Top Iso	M-020 B-12	AS 2590B	Open	
Station Htg Cnds Tk 1-2 Vent	M-020 B-12	AS 162	Closed	
Station Htg Cnds Tk 1-2 Drain	M-020 C-12	AS 163	Closed	
Station Htg Cnds Tk 1-2 Level Ctrl Bottom Iso	M-020 C-13	AS 2038A	Open	
Station Htg Cnds Tk 1-2 Lvl Ctrl Top Iso	M-020 B-13	AS 2038B	Open	
Station Htg Cnds Tk 1-2 Lvl Ctrl Low Instru	M-020 C-13	LSL 2038	In Service	

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

Sheet No. 16  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Station Htg Cnds Tk 1-2 Lvl Ctrl High Instru	M-020 B-13	LSH 2038	In Service	
Station Htg Cnds Tk 1-2 Ivl Ctrl Hi Hi Instr	M-020 B-13	LSHH2038	In Service	
Station Htg Cnds Tk 1-2 Pump 1-2 Suction Iso	M-020 B-13	AS 164	Open	
Station Htg Cnds Tk 1-2 Pump 1-1 Suction Iso	M-020 B-13	AS 165	Open	
Station Htg Cnds Tk 1-2 Pump 1-2 Disch Iso	M-020 B-14	AS 168	Open	
Station Htg Cnds Tk 1-2 Pump 1-1 Disch Iso	M-020 B-14	AS 169	Open	
4   50 PSIG Aux Stm Hdr to Wtr Tk HX's Stm Trap	M-020 B-8	ST 5	In Service/# *S/U Mode	
NORTH SIDE OF BUILDING - LEVEL 565'				
4   Neutralizing Tk HX 1-1 Stm Ctrl Vlv Inlet Iso	M-020 A-8	AS 150	Open/ Closed #	
Neutralizing Tk HX 1-1 Stm Ctrl Vlv Bypass	M-020 A-8	AS 291	Closed	
4   50 PSIG Aux Stm Hdr to Neut Tk HX 1-1 Stm Trap	M-020 B-9	ST 11	In Service/# *S/U Mode	
Fire Str Strg Tk HX 1-1 Stm Ctrl Vlv Inlet Iso	M-020 A-9	AS 151	Open/ Closed #	
Fire Wtr Strg Tk HX 1-1 Stm Ctrl Vlv Bypass	M-020 A-9	AS 292	Closed	
4   Fire Wtr Strg Tk HX Inlet Stm Trap	M-020 B-9	ST 86	In Service/# *S/U Mode	
Demin Wtr Strg Tk HX 1-1 Stm Ctrl Vlv Inlet Iso	M-020 A-10	AS 153	Open/ Closed #	
Demin Wtr Strg Tk HX 1-1 Stm Ctrl Vlv Bypass	M-020 A-10	AS 296	Closed	
4   Demin Wtr Strg Tk HX Inlet Stm Trap	M-020 B-10	ST 85	In Service/# *S/U Mode	
50 PSIG Aux Stm Hdr to Caustic Dil Wtr HX 1-1 Iso	M-020 A-12	AS 155	Open/ Closed #	
Caustic Dltm Wtr HX 1-1 Stm Ctrl Vlv Inlet Iso	M-202 A-12	AS 156	Open/ Closed #	
Caustic Dltm Wtr HX 1-1 Stm Ctrl Vlv Bypass	M-020 A-12	AS 157	Closed	

NOTE 1 - Valve is located in overhead

\*See Steam Trap Operation attachment for S/U Mode

4 | #Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

Sheet No. 17  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
4   Caustic Dil Wtr HX Inlet Stm Trap	M-020 B-13	ST 104	In Service/# *S/U Mode	
SOUTH SIDE OF BUILDING - LEVEL 565'				
4   Wtr Treatment Bldg Unit Htr E51-2 Inlet Iso	M-020 A-4	NOTE 1 AS 142	Open/ Closed #	
LEVEL 585' - VICINITY OF STATION HTG COND TANK 1-1				
Station Htg Cnds Tk 1-1 Press Relief	M-020 B-11	AS 2126	In Service	
Station Htg Cnds Tk 1-1 Vent	M-020 B-11	AS 159	Closed	
Station Htg Cnds Tk 1-1 Sight Glass Bottom Iso	M-020 B-11	AS 2589A	Open	
Station Htg Cnds Tk 1-1 Sight Glass Top Iso	M-020 B-11	AS 2589B	Open	
Station Htg Cnds Tk 1-1 Drain	M-020 B-11	AS 160	Closed	
Station Htg Cnds Tk 1-1 Lvl Cont Source Bottom	M-020 B-11	AS 1661A	Open	
Station Htg Cnds Tk 1-1 Lvl Cont Source Top	M-020 B-11	AS 1661B	Open	
Station Htg Cnds Tk 1-1 Lvl Cont Instrument	M-020 B-12	LC 1661	In Service	
Station Htg Cnds Tk 1-1 Lvl Cont Inlet Iso	M-020 B-12	AS 161	In Service	
Station Htg Cnds Tk 1-1 Lvl Cont Valve	M-020 B-12	AS 1661	In Service	
4   Wtr Treatment Bldg Unit Htr E51-4 Inlet Iso	M-020 A-6	AS 144	Open/ Closed #	
LEVEL 585' - SOUTH SIDE OF BLDG				
4   Wtr Treatment Bldg Unit Htr E51-1 Inlet Iso	M-020 A-5	AS 141	Open/ Closed #	
LEVEL 607' - EAST SIDE OF BLDG				
4   Wtr Treatment Bldg Htg Coil S30 Inlet Iso	M-020 A-6	AS 137	Open/ Closed #	
LEVEL 607' - WEST SIDE OF BLDG				

4 | NOTE 1 - Valve is located in overhead

\*See Steam Trap Operation attachment for S/U Mode

#Valve(s) may be positioned as required per Shift Supervisors direction to  
allow for operation of systems that are in service.

VALVE VERIFICATION LIST A

Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Wtr Treatment Bldg Htg Coil S31 Inlet Iso	M-020 A-6	AS 135	Open/ Closed #	
Wtr Treatment Bldg Unit Htr E104-2 Inlet Iso	M-020 A-7	AS 146	Open/ Closed #	
Wtr Treatment Bldg Unit Htr E104-1 Inlet Iso	M-020 A-7	AS 145	Open/ Closed #	
Wtr Treatment Bldg Unit Htr E51-3 Inlet Iso	M-020 A-8	AS 143	Open/ Closed #	
INTAKE STRUCTURE - LEVEL 565' - WEST SIDE OF BLDG				
50/5 PSIG Reducing Vlv Inlet Iso	M-020 B-1	AS 128	Open/ Closed #	
50/5 PSIG Reducing Vlv Bypass	M-020 B-1	AS 129	Closed	
50/5 PSIG Reducing Vlv Outlet Iso	M-020 B-1	AS 130	Open/ Closed #	
50/5 PSIG Aux Steam Reducing Vlv	M-020 B-1	AS 2033	In Service	
5 PSIG Aux St Hdr Press Ind Source Vlv	M-020 A-1	AS 1554	Open	
5 PSIG Aux St Hdr Press Ind Instrument	M-020 A-2	PI 1554	In Service	
50 PSIG Aux Stm Hdr to HX Iso	M-020 B-1	AS 127	Closed/ Open #	
50/5 PSIG Red Vlv Press Sensing Source	M-020 B-2	AS 2033A	Open	
50/5 PSIG Red Outlet	M-020 B-2	ST 80	In Service/# *S/U Mode	
Intake Structure 50/5 PSIG Red Inlet Stm Trap	M-020 C-1	ST 84	In Service/# *S/U Mode	
Intake Structure 50# Drain	M-020 C-1	AS 384	Closed	
LEVEL 585' - SCREEN ROOM				
Intake Structure Unit Htr E50-1 Inlet Iso	M-020 A-4	AS 131	Open/ Closed #	
Intake Structure Unit Htr E50-2 Inlet Iso	M-020 A-3	AS 132	Open/ Closed #	
Intake Structure Unit Htr E50-3 Inlet Iso	M-020 A-3	AS 133	Open/ Closed #	



Sheet No. 19  
of 19

## VALVE VERIFICATION LIST A

## Auxiliary Steam

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Intake Structure Unit Htr E50-4 Inlet Iso	M-020 A-2	AS 134	Open/ Closed #	

Reviewed by \_\_\_\_\_ Date \_\_\_\_\_  
Shift Supervisor or Assistant Shift Supervisor

- 4 | #Valve(s) may be positioned as required per Shift Supervisors direction to allow for operation of systems that are in service.

Sheet No. 1  
of 3

## VALVE VERIFICATION LIST B

## Flash Tank - Startup Lineup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
LEVEL 603' - VICINITY OF FLASH TANK 1-1				
Trap Hdr to Flash Tank Isol Vlv	M-020 D-7	AS 2067	Closed	
Flash Tank Level Gauge Source Bottom	M-020 E-8	AS 2712A	Open	
Flash Tank Level Gauge Source Top	M-020 D-8	AS 2712B	Open	
Flash Tank 1-1 Vent	M-020 D-8	AS 195	Closed	
Flash Tank 1-1 Vent to FW Heater 1-2 & 2-2	M-020 C-8	AS 194	Open	
Flash Tank 1-1 Press Relief	M-020 D-8	AS 2081	In Service	
Flash Tank 1-1 Press Relief Drain	M-020 D-8	AS 243	Closed	
Flash Tank 1-1 Lvl SW Source (Bottom Valve)	M-020 F-8	AS 2082A	Open	
Flash Tank 1-1 Lvl SW Source (Top Valve)	M-020 D-8	AS 2082B	Open	
Flash Tank 1-1 Level Low Instr	M-020 D-9	LSL 2082	In Service	
Flash Tank 1-1 Level High Instr	M-020 D-9	LSH 2082	In Service	
Flash Tank 1-1 Level Hi Hi Instr	M-020 D-9	LSHH2082	In Service	
Flash Tank Pump 1-1 Min Recirc Isol	M-020 E-8	AS 404	Open	
Flash Tank Pump 1-2 Min Recirc Isol	M-020 E-7	AS 408	Open	
Flash Tank Pump Header Throttle Valve	M-020 E-10	AS 268	Throttled	
Flash Tank Pump Hdr to Trap Hdr Throttle	M-020 E-8	AS 229	Throttled	
Flash Tank Pump Hdr to Blwd Mixing Cond	M-020 F-9	AS 108	Closed	
Flash Tank Pump Recirc Control Valve	M-020 F-8	AS 2080	In Serv. Closed	
Flash Tank Pump Header Drain	M-020 F-8	AS 244	Closed	
10 PSI Tank to Vent to 5 PSI Tank T112	M-020 D-4	AS 183	Closed	
Aux Blr Dear Vent to 5 PSI Tank	M-020 D-7	AS 184	Closed	

Sheet No. 2  
of 3

## VALVE VERIFICATION LIST B

## Flash Tank - Startup Lineup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Aux Blr Deaer Press Control to Flash Tk Isol	M-020 E-7	AS 196	Open	
Aux Blr Deaer Vent to Flash Tank	M-020 D-8	AS 234	Closed	
10 PSI Tank Vent to Flash Tank	M-020 D-9	AS 138	Open	
Aux Blr Deaer Vent to Flash Tank Bypass	M-020 E-7	AS 14	Closed	
Flash Tank 1-1 Drain	M-020 F-9	AS 197	Closed	
LEVEL 585' - VICINITY OF FLASH TK PUMPS				
Flash Tank Pump 1-1 Suct Iso	M-020 F-9	AS 204	Open	
Flash Tank Pump 1-2 Suct Iso	M-020 F-9	AS 205	Open	
Flash Tank Pump 1-1 Disch Iso	M-020 E-10	AS 208	Open	
Flash Tank Pump 1-2 Disch Iso	M-020 F-9	AS 209	Open	
Flash Tank Pump 1-1 Press Ind Source	M-020 F-9	AS 1496	Open	
Flash Tank Pump 1-1 Press Ind	M-020 F-9	PI 1496	In Service	
Flash Tank Pump 1-1 PDI Source	M-020 E-9	AS 4847	Open	
Flash Tank Pump 1-1 PDI	M-020 F-9	PDI 4847	In Service	
Flash Tank Pump 1-1 Min Recirc	M-020 F-9	AS 402	Open	
Flash Tank Pump 1-2 Press Ind	M-020 E-9	PI 1498	In Service	
Flash Tank Pump 1-2 PDI Source	M-020 E-9	AS 4848	Open	
Flash Tank Pump 1-2 PDI	M-020 E-9	PDI 4848	In Service	
Flash Tank Pump 1-2 Min Recirc	M-020 E-9	AS 403	Open	
Flash Tank Pump 1-2 Press Ind Source	M-020 E-10	AS 1498	Open	
LEVEL 603' - EAST SIDE OF TURBINE BUILDING				
Flash Tank Vent to #2 LP Htrs Drain	M-004A D-8	AS 185	Closed	

Sheet No. 3  
of 3

## VALVE VERIFICATION LIST B

## Flash Tank - Startup Lineup

Verification List Only - Consult Shift Supervisor Prior to Repositioning Valve

VALVE DESCRIPTION	P&ID No. Coord.	VALVE NUMBER	VALVE POSITION	VERIFY BY
Flash Tank Vent to #2 LP Heaters Drain	M-004A F-8	AS 9*	Closed	
Flash Tank Vent to LP Heater 1-1-2	M-004A F-7	AS 261	Open	
Flash Tank Vent to LP Heater 1-2-2	M-004A F-8	AS 262	Open	
Flash Tank Vent to LP Heater Trap	M-004A F-8	ST 128	In Service	
Flash Tank Vent to #2 LP Heaters Stm Stop Vlv	M-004A D-8	AS 958	In Service	
LEVEL 585' - EAST SIDE OF TURBINE BLDG				
Flash Tank Vent to LP Heater Trap	M-004A F-8	ST 127	In Service	
LEVEL 657' - HEATER BAY				
Flash Tank to Deaer Hdr Drain	M-006A E-10	AS 89	Closed	
Flash Tank to Deaer 1-1 CV	M-006A D-10	AS 2076	In Serv. Open	
Flash Tank to Deaer 1-1 Isolation	M-006A E-10	AS 9*	Open	
Flash Tank to Deaer 1-2 CV	M-006A D-11	AS 2597	In Serv. Open	
Flash Tank to Deaer 1-2 Isolation	M-006A F-11	AS 10	Open	
LOCATION - 606' LEVEL, UPPER AUX BOILER ROOM				
Aux Blr Deaer Vent to Atmos	M-020 E-7	AS 13	Closed	
Flash Tank Vent to 5 PSI Hdr	M-020 D-8	AS 3748	In Service	

\*Two valves are numbered as AS 9, verify proper valve before operating

Reviewed by \_\_\_\_\_ Date \_\_\_\_\_  
Shift Supervisor or Assistant Shift Supervisor

END