

HOPE CREEK GENERATING STATION

HC.OP-AR.ZZ-0012(Q) - Rev. 15

OVERHEAD ANNUNCIATOR WINDOW BOX C8

USE CATEGORY: II

-
- Biennial Review Performed: Yes No NA
 - Packages and Affected Document Numbers incorporated into this revision:
 CP No. _____ CP Rev. _____ AD No. _____ Rev No. _____ None
 - The following OTSCs were incorporated into this revision: None
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REVISION SUMMARY

Deletes all reference to CRIDS point D2422, D2423, D2476 and D2477 and in window E5. Reference to AB-HV-F067A-D has been deleted on window B2 and B3. This was evaluated in DCP 4EC-3513 and is editorial. (70103653-0010)

IMPLEMENTATION REQUIREMENTS

Effective Date 2/25/10

None

OVERHEAD ANNUNCIATOR WINDOW BOX C8

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ATTACHMENT A1

NSSSS MSIV

LOGIC A

INITIATED

Window Location C8-A1

OPERATOR ACTION:

1. **CHECK** TRIP LOGIC A MSIV TRIP LOGIC TRIPPED is ON (10C651C).
2. **DETERMINE** if CONTAINMENT ISOLATION MANUAL INITIATION Channel Tripped light is flashing or solid.
IF on solid, **PROCEED** in accordance with HC.OP-EO.ZZ-0101(Q).
IF flashing, a half isolation exists from NS4 or ECCS,
REFER to applicable overhead alarm response procedure.
3. **DETERMINE** which LOGIC A trip has initiated,
THEN REFER to applicable Overhead Alarm Response Procedure.
4. **ENSURE** compliance with Technical Specification 3/4.3.2 for Isolation Actuation Instrumentation.
5. IF a full NSSSS trip MSIV isolation has occurred,
PROCEED IAW HC.OP-AB.CONT-0002(Q), Primary Containment.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2483/C8-B1	MANUAL ISOLATION CH A	Any NSSSS MSIV isolation signal will cause a logic channel trip. Any MAIN STEAM LINE high flow or ST TNL TEMP high trip will cause a MSIV isolation.
D2487/C8-B2	MAIN CONDENSER VACUUM CH A	
D2491/C8-B3	MAIN STEAM LINE PRESS CH A	
	REACTOR LO WATER LVL 1 CH A	
N/A/C8-B4	MAIN STM LINE FLOW CH A	
N/A/C8-C4	STM TNL TEMP HI CH A	
D2623/C8-C3 NS	⁴ LVL 2 CH A	Contribution to PCIS only. Not an input to NS ⁴ MSIV Logic.
D2109/A7-D4 NS	⁴ HI D/W PRESS CH A	

REFERENCES: N1-B21-1090-62(8)-15
 E-6793-0, Sht. A

N1-B21-1090-62(11)-16
 J-108, Sht. 11

ATTACHMENT A2

NSSSS MSIV

LOGIC C

INITIATED

Window Location C8-A2

OPERATOR ACTION:

1. **CHECK** TRIP LOGIC C MSIV TRIP LOGIC TRIPPED is ON (10C651C).
2. **DETERMINE** if CONTAINMENT ISOLATION MANUAL INITIATION Channel Tripped light is flashing or solid.
IF on solid, **PROCEED** in accordance with HC.OP-EO.ZZ-0101(Q).
IF flashing, a half isolation exists from NS4 or ECCS,
REFER to applicable overhead alarm response procedure.
3. **DETERMINE** which LOGIC C trip has initiated,
THEN REFER to applicable Overhead Alarm Response Procedure.
4. **ENSURE** compliance with Technical Specification 3/4.3.2 for Isolation Actuation Instrumentation.
5. IF a full NSSSS trip MSIV isolation has occurred,
PROCEED IAW HC.OP-AB.CONT-0002(Q), Primary Containment.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2484/C8-B1	MANUAL ISOLATION CH C	Any NSSSS MSIV isolation signal will cause a logic channel trip. Any MAIN STEAM LINE high flow or STM TNL TEMP high trip will cause a MSIV isolation.
D2488/C8-B2	MAIN CONDENSER VACUUM CH C	
D2492/C8-B3	MAIN STEAM LINE PRESS CH C	
	REACTOR LO WATER LVL 1 CH C	
N/A/C8-B4	MAIN STM LINE FLOW CH C	
N/A/C8-B5	STM TNL TEMP HI CH C	
D2624/C8-C3 NS	⁴ LVL 2 CH C	Contribution to PCIS only. Not an input to NS ⁴ MSIV Logic.
D2110/A7-D4 NS	⁴ HI D/W PRESS CH C	

REFERENCES: N1-B21-1090-62(8)-15
 E-6793-0, Sht. A

N1-B21-1090-62(11)-16
 J-108, Sht. 11

ATTACHMENT A3

NSSSS MSIV

LOGIC B

INITIATED

Window Location C8-A3

OPERATOR ACTION:

1. **CHECK** TRIP LOGIC B MSIV TRIP LOGIC TRIPPED is ON (10C651C).
2. **DETERMINE** if CONTAINMENT ISOLATION MANUAL INITIATION Channel Tripped light is flashing or solid.
IF on solid, **PROCEED** in accordance with HC.OP-EO.ZZ-0101(Q).
IF flashing, a half isolation exists from NS4 or ECCS,
REFER to applicable overhead alarm response procedure.
3. **DETERMINE** which LOGIC B trip has initiated,
THEN REFER to applicable Overhead Alarm Response Procedure.
4. **ENSURE** compliance with Technical Specification 3/4.3.2 for Isolation Actuation Instrumentation.
5. IF a full NSSSS trip MSIV isolation has occurred,
PROCEED IAW HC.OP-AB.CONT-0002(Q), Primary Containment.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2485/C8-B1	MANUAL ISOLATION CH B	Any NSSSS MSIV isolation signal will cause a logic channel trip. Any MAIN STEAM LINE high flow or STM TNL TEMP high trip will cause a MSIV isolation.
D2489/C8-B2	MAIN CONDENSER VACUUM CH B	
D2493/C8-B3	MAIN STEAM LINE PRESS CH B	
	REACTOR LO WATER LVL 1 CH B	
N/A/C8-B4	MAIN STM LINE FLOW CH B	
N/A/C8-B5	STM TNL TEMP HI CH B	
D2627/C8-C3 NS	⁴ LVL 2 CH B	Contribution to PCIS only. Not an input to NS ⁴ MSIV Logic.
D2111/A7-D4 NS	⁴ HI D/W PRESS CH B	

REFERENCES: N1-B21-1090-62(8)-15
E-6793-0, Sht. A

N1-B21-1090-62(11)-16
J-108, Sht. 11

ATTACHMENT A4

NSSSS MSIV

LOGIC D

INITIATED

Window Location C8-A4

OPERATOR ACTION:

1. **CHECK** TRIP LOGIC D MSIV TRIP LOGIC TRIPPED is ON (10C651C).
2. **DETERMINE** if CONTAINMENT ISOLATION MANUAL INITIATION Channel Tripped light is flashing or solid.
IF on solid, **PROCEED** in accordance with HC.OP-EO.ZZ-0101(Q).
IF flashing, a half isolation exist from NS4 or ECCS,
REFER to applicable overhead alarm response procedure.
3. **DETERMINE** which LOGIC D trip has initiated,
THEN REFER to applicable Overhead Alarm Response Procedure.
4. **ENSURE** compliance with Technical Specification 3/4.3.2 for Isolation Actuation Instrumentation.
5. IF a full NSSSS trip MSIV isolation has occurred,
PROCEED IAW HC.OP-AB.CONT-0002(Q), Primary Containment.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2486/C8-B1 D2490/C8-B2	MANUAL ISOLATION CH D MAIN CONDENSER VACUUM CH D	Any NSSSS MSIV isolation signal will cause a logic channel trip. Any MAIN STEAM LINE high flow OR STM TNL TEMP high trip will cause a MSIV isolation.
D2494/C8-B3	MAIN STEAM LINE PRESS CH D	
	REACTOR LO WATER LVL 1 CH D	
N/A/C8-B4	MAIN STM LINE FLOW CH D	
N/A/C8-B5	STM TNL TEMP HI CH D	
D2628/C8-C3 NS	⁴ LVL 2 CH D	Contribution to PCIS only. Not an input to NS ⁴ MSIV Logic.
D2112/A7-D4 NS	⁴ HI D/W PRESS CH D	

REFERENCES: N1-B21-1090-62(8)-15
E-6793-0, Sht. A

N1-B21-1090-62(11)-16
J-108, Sht. 11

ATTACHMENT A5

NSSSS INBD

ISLN SYS

OUT OF SVCE

Window Location **C8-A5**

OPERATOR ACTION:

1. **ENSURE** compliance with Technical Specification 3/4.3.2.
2. Is HIC testing cause of alarm?
CHECK back panels for location of alarm.

INPUTS

Digital Point/ Indication	Nomenclature/Condition	Automatic	Action
D2633	MSIV INBD SYS OUT OF SVCE CH A	Alarm only	
D2636	NON-MSIV INBD SYS OUT-SVCE CH A		
D2641	MSIV INBD SYS OUT OF SVCE CH B		
D2649	NON-MSIV INBD SYS OUT-SVCE CH B		

REFERENCES: N1-B21-1090-62(8)-15
 N1-B21-1090-62(12)-14
 E-6793-0, Sht. A

ATTACHMENT B1

<p>NSSSS ISLN</p> <p>SIG - MANUAL</p> <p>ISOLATION</p>

Window Location C8-B1

OPERATOR ACTION:

1. **ENSURE** all NSSSS valves listed in HC.OP-SO.SM-0001(Q) isolate.
IF all isolations have not occurred, manually **PERFORM** required isolations.
2. IF a full NSSSS manual initiation was performed,
PROCEED IAW HC.OP-AB.CONT-0002(Q), Primary Containment.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2483	MANUAL ISOLATION CH A	Pressing CH A causes inboard isolation of selected RHR <u>AND</u> RWCU valves, <u>AND</u> initiates TIP withdrawal command. Pressing CH D causes outboard isolation of selected RHR and RWCU valves. Pressing CH A, B, C and D will initiate a complete MSIV and MSL drain isolation, and a complete RHR <u>AND</u> RWCU isolation.
D2484	MANUAL ISOLATION CH C	
D2485	MANUAL ISOLATION CH B	
D2486	MANUAL ISOLATION CH D	

REFERENCES: N1-B21-1090-62(7)-9
 E-6793-0, Sht. A

ATTACHMENT B2

NSSSS ISLN	Window	Location C8-B2
SIG - CNDSR	SETPOINT	21.5"HgA
VACUUM LO	ORIGIN	B21-N075 A-D

OPERATOR ACTION:

1. **CHECK** NSSSS MSIV LOGIC A/B/C/D INITIATED overhead windows **AND** NUCLEAR STEAM SUPPLY SHUTOFF SYSTEM MSIV TRIP LOGIC TRIPPED status lights for an isolation signal in both channels.
2. IF a full isolation signal exists,
PROCEED in accordance with HC.OP-AB.CONT-0002(Q), Primary Containment.
3. IF a full isolation signal does not exist,
PROCEED in accordance with associated digital points.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2487	MAIN CONDENSER VACUUM CH A	<u>WHEN</u> Main Condenser vacuum decreases to 21.5"HgA, <u>WITH</u> Turb Stop Valves > 90% open <u>AND</u> CONDENSER LOW VACUUM BYPASS Switches S25A, S25B, S25C OR S25D are not in BYPASS, <u>THEN</u> a MSL isolation occurs. All MSIV's, HV-F016 and HV-F019, isolate
D2488	MAIN CONDENSER VACUUM CH C	
D2489	MAIN CONDENSER VACUUM CH B	
D2490	MAIN CONDENSER VACUUM CH D	

REFERENCES: N1-B21-1090-62(7)-9
 N1-B21-1090-62(11)-16
 E-6793-0, Sht. A

ATTACHMENT B3

NSSSS ISLN SIG - MN STM PRESSURE LO	Window Location	<u>C8-B3</u>
	SETPOINT	<u>756 psig</u>
	ORIGIN	<u>B21-N076A-D</u>

OPERATOR ACTION:

1. **CHECK** NSSSS MSIV LOGIC A/B/C/D INITIATED overhead windows **AND** NUCLEAR STEAM SUPPLY SHUTOFF SYSTEM MSIV TRIP LOGIC TRIPPED status lights for an isolation signal in both channels.
2. IF a full isolation signal exists,
PROCEED in accordance with HC.OP-AB.CONT-0002(Q), Primary Containment.
3. IF a full isolation signal does not exist,
PROCEED in accordance with associated digital points.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2491	MAIN STEAM LINE PRESS CH A	WHEN MSL pressure decreases to 756 psig, AND Reactor Mode Switch is in RUN, MSL isolation occurs. All MSIVs, HV-F016 and HV-F019, isolate.
D2492	MAIN STEAM LINE PRESS CH C	
D2493	MAIN STEAM LINE PRESS CH B	
D2494	MAIN STEAM LINE PRESS CH D	

REFERENCES: N1-B21-1090-62(7)-9
 N1-B21-1090-62(11)-16
 E-6793-0, Sht. A

ATTACHMENT B4

NSSSS ISLN
 SIG - MN STM
 FLOW HI

Window Location C8-B4

OPERATOR ACTION:

1. **CHECK** NSSSS MSIV LOGIC A INITIATED overhead windows
AND NUCLEAR STEAM SUPPLY SHUTOFF SYSTEM MSIV TRIP LOGIC TRIPPED
 status lights for an isolation signal in both channels.
2. IF a full isolation signal exists,
PROCEED in accordance with HC.OP-AB.CONT-0002(Q), Primary Containment.
3. IF a full isolation signal does not exist,
PROCEED in accordance with associated digital points.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2081	MAIN STEAM LINE A FLOW	1. MSIV/MSL Drains isolation 2. Reactor scram (only in RUN)
D2082	MAIN STEAM LINE B FLOW	
D2083	MAIN STEAM LINE C FLOW	
D2084	MAIN STEAM LINE D FLOW	

REFERENCES: N1-B21-1090-62(7)-9
 E-6793-0, Sht. A

ATTACHMENT B5

**NSSSS OUTBD
ISLN SYS
OUT OF SVCE**

Window Location **C8-B5**

OPERATOR ACTION:

1. **ENSURE** compliance with Technical Specification 3/4.3.2.
2. Is HIC testing cause of alarm?
 CHECK back panel out-of-service switches.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2562	NSSSS OUTBD SYS OUT OF SERVICE	Alarm only
D2663	MSIV OUTBOARD SYS OUT OF SVCE CH C	
D2664	NON-MSIV OTBD SYS OUT-SVCE CH C	
D2665	MSIV OUTBOARD SYS OUT-SVCE CH D	
D2666	NON-MSIV OTBD SYS OUT- SVCE CH D	

REFERENCES: N1-B21-1090-62(8)-15
 N1-B21-1090-62(12)-14
 E-6793-0, Sht. A

ATTACHMENT C1

<p>NSSSS</p> <p>MANUAL ISLN</p> <p>SW ARMED</p>
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Window Location C8-C1

OPERATOR ACTION:

IE a manual isolation is not required,
ROTATE arming collar to the DISARMED position.

INPUTS

Digital Point/ Indication	Nomenclature/Condition	Automatic Action
D2564	MANUAL ISLN SWITCH ARMED CH A	Alarm only
D2565	MANUAL ISLN SWITCH ARMED CH C	
D2566	MANUAL ISLN SWITCH ARMED CH B	
D2567	MANUAL ISLN SWITCH ARMED CH D	

REFERENCES: N1-B21-1090-62, (7)-9
 E-6793-0, Sht. A
 J-108-0, Sht. 11

ATTACHMENT C2

NSSSS CNDSR

LO VACUUM

SIG BYPASS

Window Location C8-C2

OPERATOR ACTION:

CHECK S25A, S25B, S25C or S25D CONDENSER LOW VACUUM BYPASS Switches in BYP (10C609 and 10C611).

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2619	MN CNDSR LO VACUUM BYPASS CH A	Bypasses MSL isolation signal due to low condenser vacuum <u>WHEN</u> Turbine Stop Valves < 90% open <u>AND</u> CONDENSER LOW VACUUM BYPASS Switch in BYPASS.
D2620	MN CNDSR LO VACUUM BYPASS CH C	
D2621	MN CNDSR LO VACUUM BYPASS CH B	
D2622	MN CNDSR LO VACUUM BYPASS CH D	

REFERENCES: N1-B21-1090-62(11)-16
E-6793-0, Sht. A

ATTACHMENT C3

<p>NSSSS ISLN</p> <p>SIG - RPV</p> <p>LEVEL LO</p>

Window Location C8-C3

OPERATOR ACTION:

1. **CHECK** NSSSS MSIV LOGIC INITIATED overhead windows
AND NUCLEAR STEAM SUPPLY SHUTOFF SYSTEM MSIV TRIP LOGIC TRIPPED status lights for an isolation signal in both channels.
2. **CHECK** CNTMT ISLN MAN INITIATION Channel A - D Tripped lights.
IF Solid, an isolation signal from both NS⁴ **AND** Core Spray logic exists.
IF flashing, a half isolation signal exists from NS⁴
OR Core Spray logic.
3. **IF**__ a full isolation signal exists,
PROCEED in accordance with HC.OP-AB.CONT-0002(Q), Primary Containment.
4. **IF**__ a full isolation signal does not exist,
PROCEED in accordance with associated digital points.

INPUTS

Digital Point/ Indication	Nomenclature/Condition	Automatic	Action
D2623	REACTOR LO WATER LVL 2 CH A		1A. Level 2 Primary Containment isolation.
D2624	REACTOR LO WATER LVL 2 CH C		1B. Filtration, Recirculation, and Ventilation System (GU) initiates.
D2627	REACTOR LO WATER LVL 2 CH B		1C. TIP withdrawal signal
D2628	REACTOR LOW WATER LVL 2 CH D		

REFERENCES:

J-108-0 Sht. 11 N1-B21-1090-62(7)-9
 E-6793-0, Sht. A N1-B21-1090-62(11)-16
 N1-B21-1090-62(14)-14

ATTACHMENT C4

NSSSS ISLN

SIG - STM TNL

TEMP HI

Window Location C8-C4

OPERATOR ACTION:

1. **CHECK** NSSSS MSIV LOGIC A INITIATED overhead windows AND NUCLEAR STEAM SUPPLY SHUTOFF SYSTEM MSIV TRIP LOGIC TRIPPED status lights for an isolation signal in both channels.
2. IF a full isolation signal exists,
PROCEED in accordance with HC.OP-AB.CONT-0002(Q), Primary Containment.
3. IF a full isolation signal does not exist,
PROCEED in accordance with associated indication.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2085	MN STM LINE A LEAK DETECTION NUMAC MONITOR 10C609-Z1(1SKXR-11497)	1. MSIV/MSL Drains isolation 2. Reactor scram (only in RUN)
D2086	MN STM LINE B LEAK DETECTION NUMAC MONITOR 10C611-Z3(1SKXR-11500)	
D2087	MN STM LINE C LEAK DETECTION NUMAC MONITOR 10C609-Z2(1SKXR-11498)	
D2088	MN STM LINE D LEAK DETECTION NUMAC MONITOR 10C611-Z4(1SKXR-11499)	

REFERENCES: N1-B21-1090-62 Sh.7, 11, 13.
E-6793-0, Sht. A

ATTACHMENT C5

<p>NSSSS</p> <p>TRIP UNIT</p> <p>TROUBLE</p>

Window Location C8-C5

OPERATOR ACTION:

ENSURE compliance with Technical Specification 3/4.3.2.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2629	NSSS TRIP UNIT TROUBLE CH A	OUT OF FILE trip unit may initiate a logic trip; POWER FAILURE will initiate a logic trip.
D2630	NSSS TRIP UNIT TROUBLE CH C	
D2631	NSSS TRIP UNIT TROUBLE CH B	
D2632	NSSS TRIP UNIT TROUBLE CH D	

REFERENCES: N1-B21-1090-62(7)-9
 N1-B21-1090-62(12)-14
 E-6793-0, Sht. A

ATTACHMENT E5

MAIN STEAM
STP/DRN
VALVE O/PF

Window Location C8-E5

OPERATOR ACTION:

IE any of these Digital Points are in alarm, a Primary Containment isolation valve is affected. **ENSURE** compliance with Technical Specification 3/4.6.3.

D2285 D2422 D2423 D2476 D2477 D5160

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D2258	MSL A STOP VLV HV-3631A OPF	Alarm only
D2260	MSL B STOP VLV HV-3631B OPF	
D2262	MSL C STOP VLV HV-3631C OPF	
D2271	MSL D STOP VLV HV-3631D OPF	
D2273	MS HDR DWNSTRM DRN HV-F071 OPF	
D2285	MS DR OUTBD ISO V HV-F019 OPF	
D5160	MS DRN INBD ISV HV-F016 OPF	

NOTE

A bus power failure will not cause this alarm; however, it will cause the OVLD/PWR FAIL amber bezel light to be ON continuously (no flashing). The OVLD/PWR FAIL light will go OFF WHEN the CAUSE is corrected.

REFERENCES: J-41-0, Sht. 3, Sht. 5, Sht. 14

ATTACHMENT F1

SUPPR
POOL TEMP
HIGH

Window Location C8-F1

OPERATOR ACTION:

1. **DETERMINE** if OPERATE failure condition for 1SBTI3881A(B) is cause of alarm.
IF cause of 1SP-TI3881A(B) alarm is OPERATE failure,
THEN PERFORM the following:
 - a. **DISPATCH** Operator to 1A(B)-C 693 for 1SP-TI3881A(B) (AB 102' or 124' respectively)
 - b. **RECORD** status of HIGH, ALERT, and OPER LED indications on the RM80
AND status of 'Scanning' and 'Power On' lights in the cabinet.
 - c. **DOCUMENT** the status of these indications in the NOTF for the channel failure.
2. IF alarm temperature reached,
START Suppression Pool Cooling
AND MONITOR the Suppression Pool temperature.
3. **REFER** to Technical Specification 3.6.2.1.
4. **ENTER OR ADVISE** SM/CRS to enter HC.OP-EO.ZZ-0102(Q).

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D5366	SPTMOS A GREATER THAN 95 DEG F	Alarm only
D5367	SPTMOS A GREATER THAN 105 DEG F	
D5368	SPTMOS A GREATER THAN 110 DEG F	
D5369	SPTMOS A GREATER THAN 120°F/OPERATE FAILURE	
D5370	SPTMOS B GREATER THAN 95 DEG F	
D5371	SPTMOS B GREATER THAN 105 DEG F	
D5372	SPTMOS B GREATER THAN 110 DEG F	
D5373	SPTMOS B GREATER THAN 120 DEG F/OPERATE FAILURE	

REFERENCES: J-41-0, Sht. 17 E-6765-0, Sht. A

ATTACHMENT F3

TURBINE GEN

LUBE OIL

SYS TROUBLE

Window Location C8-F3

OPERATOR ACTION:

ENSURE Main Turbine Bearing Oil Header pressure is > 25 psig at front standard (45-55 psig on Computer Point A3051)

IF Main Turbine is operating.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D5545	LIFT PUMP AP110 TROUBLE	Low suction pressure supply to a Lift Pump of 1 psig will trip affected Lift Pump.
D5546	LIFT PUMP BP110 TROUBLE	
D5547	LIFT PUMP CP110 TROUBLE	
D5548	LIFT PUMP FP110 TROUBLE	
D5549	LIFT PUMP DP110 TROUBLE	
D5550	LIFT PUMP GP110 TROUBLE	
D5551	LIFT PUMP HP110 TROUBLE	
D5552	LIFT PUMP EP110 TROUBLE	
D5553	LIFT PUMP JP110 TROUBLE	
D5554	EBOP P112 TROUBLE	

Continued next page

REFERENCES: J-0100 Sht. 16

ATTACHMENT F3

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D5573 TURNING	GEAR OIL PUMP TROUBLE	Turning Gear Oil Pump auto start may have occurred. Loss of discharge pressure signal from TGOP causes Lift Pumps and Turning Gear to trip.
D5574	MOTOR SUCTION PUMP TROUBLE	Motor Suction Pump auto starts on low Main Shaft Oil Pump suction pressure.
D5585	LUBE OIL RESERVOIR LEVEL	Alarm only
D5586	LUBE OIL RESERVOIR LEVEL	Alarm only

REFERENCES: J-0100 Sht. 16

ATTACHMENT F4

<p>TURBINE</p> <p>SEALING SYS</p> <p>TROUBLE</p>

Window Location C8-F4

OPERATOR ACTION:

1. **CHECK** PI-1998 STEAM SEAL FEED PRESS indicates approximately 4 psig.
2. IF Steam Seal Header Pressure is < 4 psig,
 - PERFORM:**
 - a. IF Main Steam is available,
 - ENSURE** 1-CA-HV-1991 is OPEN
 - AND THROTTLE OPEN** HV-2001 SEALING STM SUPPLY S/U SHUT OFF VLV BYP until Steam Seal Header Pressure is normal.
 - b. **ENSURE** HV-2037 SEALING STM SUPPLY AUX STM SHUT OFF is open.
 - c. IF Steam Seal header pressure cannot be maintained,
 - REDUCE** Reactor power
 - AND REFER** to HC.OP-AB.BOP-0006(Q), Main Condenser Vacuum.

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D3281	SSE DRAIN TK HIGH WATER LEVEL	Alarm only
D3282	SSE DRAIN TK LOW WATER LEVEL	Alarm only
	SPE CONDENSER HIGH WATER LEVEL	Alarm only
D3284	SPE CONDENSER HIGH DRAIN FLOW	Alarm only

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REFERENCES: J-29-0, Sht. 7

ATTACHMENT F4

INPUTS

Digital Point/ Indication	Nomenclature/Condition Automatic	Action
D3288	SPE FAN AK103 OVERHEATING	Alarm only
D3289	SPE FAN BK103 OVERHEATING	Alarm only
D3630	STEAM SEAL HEADER PRESSURE LOW	Alarm only
D3631	SPE CONDENSER HIGH PRESSURE	Alarm only
D3632	SSE LEVEL HI HI	HV-2013 - STM SEAL EVAP FEED WTR VLV closes
D5764	SSE SHELL WTR LEVEL HI	Alarm only
D5765	SSE SHELL WTR LEVEL LO	Alarm only