Day 1

0740 Ass Sh. Fr
1015

Appendix D **Scenario Outline** **Form ES-D-1**

Facility: Vogtle Scenario No.: 6 Op-Test No.: 2012-301

Examiners: Mark, Mike, Phil Operators: Carl Smith, [redacted] OATC, BOP/SRO

Initial Conditions: The plant is at 100% power, BOL, steady state operations, control rods in automatic. (Base IC # 10, snapped to IC # 186 for HL17 NRC Exam)

Equipment OOS: Safety Injection Pump "A" is tagged out for motor repair.

Turnover: The plant is at 100% power, Containment mini-purge is in service for a Containment entry on the next shift.

Preloaded Malfunctions:

AC03B - ACCW Pump-2 Hand switch Auto Contact Failure

AF05A, B, C Failure of all AFW pumps to automatically start

ES01- Failure of Automatic Reactor Trip

ES02 - Failure of Manual Reactor Trip

TU18 - Auto Turbine Trip Failure

Overrides

Note to Simbooth: Place Containment Mini-Purge in service.

Event No.	Malf. No.	Event Type*	Event Description
T1	AC02A	C-UO C-SS	ACCW Pump # 1 locked rotor with failure of the standby ACCW pump to automatically start.
T2	RC08A @ 100%	I-OATC I-SS TS-SS	RCP Loop 1 HL NR RTD fails high resulting in inward rod motion. **LCO 3.3.1, Condition A, FU 6, 7 Condition E and LCO 3.3.2 Condition A, FU 5b Condition I**
T3	RM-006	TS-SS	Cnmt Bldg Oper Lev Rad – hi Range, RE-006 fails to 100%. **LCO 3.3.3 Condition A, FU 14, Condition B**

PS 19 SS & OATC Seal Flow perturbations

PS 33 OATC → SS Rods should be moving in now?

Event No.	Malf. No.	Event Type*	**Event Description**
T4	PR03A (56.5-0%) Ramp 600 sec	I-OATC I-SS TS-SS	Controlling PRZR level channel LT-459 fails low over 10 minutes resulting in FIC-0121 raising charging flow. **LCO 3.3.1 Condition A, FU 9, Condition M** **INFO LCO 3.3.3 FU 6** **LCO 3.3.4 Condition A, FU 8**
T5	FW14 @100% Ramp 60 Seconds	I-UO I-SS	FW pressure transmitter PT-508 fails slowly high resulting in MFPT speed reducing and lowering FW flows and SG levels.
6	N/A	R-OATC N-UO R-SS	Power reduction due to MFPT B high vibrations.
T7	EL06A	M-ALL	Loss of 13.8kV bus 1NAA resulting in loss of 2 RCPs and 2 Condensate Pumps, 1 circulating water pump - ATWT.
T8	RD07 with 69 sec delay	C-OATC C-SS **Critical**	ATWT – Auto rod motion fails after ~ 1 minute.
9	Preload	C-UO C-SS **Critical**	Turbine Auto Trip failure requiring Manual Trip.
10	Preload	C-UO C-SS **Critical**	MDAFW and TDAFW pumps fail to automatically start.
T11	MS06D @50%	CREW	Main Steam Safety for Loop # 4 fails 50% open requiring an eventual transition to E-2 to attempt to isolate the faulted SG # 4.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Event 1:

ACCW pump # 1 will trip due to a locked rotor and ACCW pump # 2 will fail to automatically start.

Verifiable Actions:

UO – Starts standby ACCW pump # 2.

Technical Specifications:

None

Event 7, 8, 9, 10:

A loss of 13.8 kV bus 1NAA occurs. This results in a loss of 2 RCPs, the two running condensate pumps, and trip of both MFPTs. An ATWT will occur with failure of manual or automatic trip. Main Steam Safety Valve for Loop # 4 will fail open requiring an eventual transition to 19020-C to attempt to isolate the faulted SG # 4.

Verifiable Actions:

OATC – Manually inserts control rods upon failure of automatic inward rod motion.

UO – Manually trips the turbine.

UO – Manually starts all AFW pumps.

CRITICAL TASKS:

1) Manually inserts control rods per IOAs of 19211-C to reduce reactor power during an ATWT with a coincident loss of heat sink to protect core integrity.

2) Manually trip the turbine no later than step 2 RNO of 19211-C to conserve SG levels for adequate heat removal. FRS-1

3) Starts MDAFW pumps and/or the TDAFW pump no later than step 3 RNO of 19211-C to Establish > 570 gpm AFE flow to maintain SG inventory for adequate heat removal.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 1

Event Description: ACCW Pump # 1 will trip with ACCW Pump # 2 failing to automatically start. The UO will manually start ACCW Pump # 2.

Time	Position	Applicant's Action or Behavior
	OATC	Diagnose the trip of ACCW Pump # 1 with ACCW Pump # 2 failing to automatically start. Symptoms / alarms: • ALB04-A02 ACCW KO HDR PRESS • ALB04-B02 ACCW RX COOLANT DRN TK HX LO FLOW • ALB04-C02 ACCW EXCESS LTDN HX LO FLOW • ALB04-D02 ACCW RTN HDR FROM RCP LO FLOW • ALB04-A03 ACCW RCP 1 CLR LO FLOW • ALB04-B03 ACCW RCP 2 CLR LO FLOW • ALB04-C03 ACCW RCP 3 CLR LO FLOW • ALB04-D03 ACCW RCP 4 CLR LO FLOW • ALB07-D03 LTDN HX OUT HI TEMP • ALB07-F04 LTDN HX HI TEMP DEMIN DIVERT • ALB36-A01 4160V SWGR 1AA02 TROUBLE Indications: • ACCW Pump # 1 green and amber light lit. • High temperature on any heat exchanger serviced by ACCW. • FV-129 Divert (amber light lit) bypassing CVCS demins.
	OATC	**NOTES:** • ACCW pumps are removed from the 4.16KV Class 1E buses following simultaneous loss of offsite power and safety injection. • ACCW flow to the Seal Water Heat Exchanger is not required if RCS temperature remains less than 135°F.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 1

Event Description: ACCW Pump # 1 will trip with ACCW Pump # 2 failing to automatically start. The UO will manually start ACCW Pump # 2.

Time	Position	Applicant's Action or Behavior
	UO	10. Check if ACCW is restored to service. a. Components cooled by ACCW – TEMPERATURES RETURNING TO NORMAL. **(YES)** b. Restore charging and letdown using 13006, CHEMICAL AND VOLUME CONTROL SYSTEM. **(N/A)** c. Return to procedure and step in effect.
		END OF EVENT 1, proceed to EVENT 2.

Train A Sys Status Panel Num Alert (Already in on T/o.?)

PTL on #1 ACCW Pump?

Is there a requirement to match flags?

Don't do it here

No 3 way for
I have checked alarm
they are consistent w
the failure
No Repeat Back
No 3 way

Op-Test No.: 2012-301 **Scenario No.:** 6 0759.15

Event No.: 2

Event Description: RCS NR Temperature Instrument TE-411A Fails High (Thot) on loop # 1. This will require the OATC to perform IOAs by placing rods in MANUAL.

The crew will then enter AOP-18001 section B "Failure of RCS Narrow Range Temperature Instrumentation" to complete the corrective actions for this failure.

Time	Position	Applicant's Action or Behavior
	OATC	Diagnose NR Temperature Instrument Failure: (Loop 1 T_{HOT} TE-41A fails high) Symptoms / alarms: ALB12-A03 RC LOOP Delta T/AUCT Delta T HI-LO DEV ALB12-A04 RC LOOP TAVG/AUCT TAVG HI-LO DEV ALB12-A05 TAVG TREF DEVIATION ALB12-A06 OVERTEMP ΔT ALERT ALB12-B04 AUCT TAVG HIGH ALB12-B06 OVERPOWER ΔT ALERT ALB06-F01 CSFST TROUBLE ALB10-C03 OVERPOWER ΔT ROD BLOCK AND RUNBACK ALERT ALB10-E03 OVERTEMP ΔT ROD BLOCK AND RUNBACK ALERT Indications: • Loop 1 Tavg / ΔT indications deviating from other loops. • 1FIC-0121 Charging Flow Controller raising to maximum demand. • Rapid inward Control Rod motion.
	OATC SS	*18001-C Section B* **IMMEDIATE OPERATOR ACTION** B1. Place ROD BANK SELECTOR SWITCH in MAN position. Verifies immediate operator action step B1 with OATC.
	SS	Enters AOP 18001-C, Section B.
	OATC	**Subsequent Actions** B2. Restore TAVG to program band. 583.5' 1° Cold 0802.15 Pulled 2.5" steps 0804 Pulled 3 steps
	OATC 0806.52	B3. Select affected loop on TS-412T TAVG DEFEAT SEL. ***Defeats 412*** S-) OATC Swap will affect PZR lvl and [illegible] flow.

0806.30 Place chg flow in man.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 2

Event Description: RCS NR Temperature Instrument TE-411A Fails High (Thot) on loop # 1. This will require the OATC to perform IOAs by placing rods in MANUAL.

The crew will then enter AOP-18001 section B "Failure of RCS Narrow Range Temperature Instrumentation" to complete the corrective actions for this failure.

Time	Position	Applicant's Action or Behavior
		Cue to Simbooth: IF asked, the Shift Manager has given permission to place the charging flow controller in auto. B4. Select affected loop on TS-411F DELTA T DEFEAT SEL. **Defeats *411***
	OATC	B5. Place ROD BANK SELECTOR SWITCH in AUTO position, if desired.
	SS 0809	B6. Notify I & C to initiate repairs. Calls SS to perform the following: • Notify Operations Duty of AOP entry • Write a Condition Report • Notify Maintenance of the failure
	SS	B7. Bypass the affected instrument channel using 13509-C, BYPASS TEST INSTRUMENTATION (BTI) PANEL OPERATION, if desired. ***NOTE: Expect the SS will NOT bypass the channel.***
	SS	B8. Trip the affected channel bistables and place the associated MASTER TEST switches in TEST position per TABLE B1 within 72 hours. (TS 3.3.1 & 3.3.2) ***NOTE: The SS is expected to leave bistables untripped during the allowed out of service time to facilitate I&C trouble shooting of the failed channel.***

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 2

Event Description: RCS NR Temperature Instrument TE-411A Fails High (Thot) on loop # 1. This will require the OATC to perform IOAs by placing rods in MANUAL.

The crew will then enter AOP-18001 section B "Failure of RCS Narrow Range Temperature Instrumentation" to complete the corrective actions for this failure.

<table>
<tr><th>Time</th><th>Position</th><th>Applicant's Action or Behavior</th></tr>
<tr><td></td><td>SS</td><td>B9. Initiate the applicable actions of:
• TS 3.3.1
• TS 3.3.2</td></tr>
<tr><td></td><td>SS</td><td>LCO 3.3.1 Function 6, 7 Condition E OTΔT Trip, OPΔT
<table>
<tr><th>CONDITION</th><th>REQUIRED ACTION</th><th>COMPLETION TIME</th></tr>
<tr><td>A. One or more Functions with one or more channels inoperable.</td><td>A.1 Enter the Condition referenced in Table 3.3.1-1 for the channel(s).</td><td>Immediately</td></tr>
<tr><td>E. One channel Inoperable.</td><td>E.1 Place channel in trip.
OR
E.2 Be in MODE 3.</td><td>72 hours

78 hours</td></tr>
</table></td></tr>
<tr><td></td><td>SS</td><td>LCO 3.3.2 Function 5b. Condition I FWI
<table>
<tr><th>CONDITION</th><th>REQUIRED ACTION</th><th>COMPLETION TIME</th></tr>
<tr><td>A. One or more Functions with one or more required channels inoperable.</td><td>A.1 Enter the Condition referenced in Table 3.3.2-1 for the channel(s) or train(s).</td><td>Immediately</td></tr>
<tr><td>I. One channel Inoperable.</td><td>I.1 Place channel in trip.
OR
I.2 Be in MODE 3.</td><td>72 hours

78 hours</td></tr>
</table></td></tr>
<tr><td></td><td>OATC / UO</td><td>B10. Initiate the Continuous Actions Page.</td></tr>
</table>

Did not mention on brief!

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 2

Event Description: RCS NR Temperature Instrument TE-411A Fails High (Thot) on loop # 1. This will require the OATC to perform IOAs by placing rods in MANUAL.

The crew will then enter AOP-18001 section B "Failure of RCS Narrow Range Temperature Instrumentation" to complete the corrective actions for this failure.

Time	Position	Applicant's Action or Behavior
	SS	*B11. Check repairs and surveillances – COMPLETE. ***(NO)***
		RNO
		*B11. Perform the following:
		a. WHEN repairs and surveillances are complete, THEN perform Step B12.
		b. Return to procedure and step in effect.
		END OF EVENT 2.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 3

Event Description: Containment Rad Monitor RE-006 Fails High.

Time	Position	Applicant's Action or Behavior
	OATC UO SS	Alarm/Indications ALB05-B03 INTMD RADIATION ALARM ALB05-C03 HIGH RADIATION ALARM Safety Related Display Consol (SRDC)-RE-006, Intermediate & High Alarm IPC RE-006 Step Change to High Rad
	UO OATC	**17005-1 B03 INTMD RADIATION ALARM** PROBABLE CAUSE An alert condition on one or more of the Radiation Monitor Channels. AUTOMATIC ACTIONS NONE INITIAL OPERATOR ACTIONS NONE SUBSEQUENT OPERATOR ACTIONS 1. Check the Safety Related Display Console (QRM2), the RMS Communications Console (QRM1) and the Plant Computer to determine the monitor in alarm and Go To 17100-1, "Annunciator Response Procedure For The Process And Effluent Radiation Monitor System (RMS)" or 17102-1, "Annunciator Response Procedure For The Safety Related Display Control QRM2" as appropriate. **Note to examiner:** The Communications Console (COMS) QRM1 is NOT modeled in the Vogtle simulator.
	OATC UO	**17005-1 C03 HIGH RADIATION ALARM** PROBABLE CAUSE A high alarm on one or more of the Radiation Monitor Channels. AUTOMATIC ACTIONS None for RE-006.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 3

Event Description: Containment Rad Monitor RE-006 Fails High.

Time	Position	Applicant's Action or Behavior
		INITIAL OPERATOR ACTIONS NONE SUBSEQUENT OPERATOR ACTIONS 1. Check the Safety Related Display Console (QRM2), the RMS Communications Console (QRM1) and the Plant Computer to determine the monitor in alarm and Go To 17100-1, "Annunciator Response Procedure For The Process And Effluent Radiation Monitor System (RMS)" or 17102-1, "Annunciator Response Procedure For The Safety Related Display Console QRM2" as appropriate **Note to examiner:** The Communications Console (COMS) QRM1 is NOT modeled in the Vogtle simulator.
	UO	17102-1 RE-0006 (RED LAMP LIT) (HIGH) ← How did you get here?
	UO SS 0423	PROBABLE CAUSE High radiation in Containment. AUTOMATIC ACTIONS NONE INITIAL OPERATOR ACTIONS 1. Initiate evacuation of Containment IF the alarm is due to unexpected or unexplained radiation increases, OR IF appropriate HP controls are NOT in place for the radiological conditions indicated. 2. IF the alarm is due to expected radiation increases from preplanned evolutions AND appropriate HP controls are in place, THEN request HP and Chemistry to investigate the cause of alarm and sample Containment atmosphere. if required, initiate evacuation of Containment.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 3

Event Description: Containment Rad Monitor RE-006 Fails High.

Time	Position	Applicant's Action or Behavior
		SUBSEQUENT OPERATOR ACTIONS 1. If required, verify that the Containment has been evacuated and all personnel accounted for. 2. Refer to ~~NMP-EP-110~~ 9001-C "Emergency Classification and Implementing Instructions." Procedure error? 3. Notify Chemistry to independently determine radiation level on the operating deck in the Containment. 4. IF sampling and analysis determine that channel has malfunctioned: a. Comply with Technical Specifications LCO 3.3.3. b. Request Chemistry to deactivate the channel. COMPENSATORY OPERATOR ACTIONS NONE
	SS	Initiate the applicable actions of: • TS: 3.3.3 Post Accident Monitoring (PAM) Instrumentation Condition B One required channel inoperable.
	SS	**LCO 3.3.3 PAMS FU 14 CONDITION B**
	SS	CONDITION / REQUIRED ACTION / COMPLETION TIME B. One required Channel inoperable. / B.1 Restore the channel To OPERABLE status. / 30 days
		End of Event 3.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 4

Event Description: PRZR level channel LT-459 will slowly fail low over ~ 10 minutes. The OATC will take manual control of FIC-0121 to stabilize charging flow and PRZR level, swap control channels, return charging flow to automatic.

Time	Position	Applicant's Action or Behavior
	OATC	Diagnose PRZR LT-459 is slowly failing low affecting charging flow: Symptoms / alarms: ALB11-D01 PRZR LO LEVEL DEVIATION ALB08-F06 RCP SEAL WATER INJ LO FLOW (may come in after swapping controlling PRZR LT channels) Indications: • PRZR LT-459 drifting low over time. • Charging flow FIC-0121 rising to maximum as indicated PRZR program level is high relative to LT-459. • PRZR level on other 2 channels rising.
S→Update 0831	SS	Enters AOP 18001-C, Section D, FAILURE OF PRZR LEVEL INSTRUMENTATION.
	OATC UO	D1. Initiate the Continuous Actions Page.

0831 0→5 Pzr LI ↓
LI→R 459 Failing ↓

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 4

Event Description: PRZR level channel LT-459 will slowly fail low over ~ 10 minutes. The OATC will take manual control of FIC-0121 to stabilize charging flow and PRZR level, swap control channels, return charging flow to automatic.

Time	Position	Applicant's Action or Behavior
	OATC	D2. Check PRZR level – TRENDING TO PROGRAM LEVEL. (NO) RNO D2. IF PRZR level instrument fails high, THEN perform the following as necessary: __ Adjust charging to prevent letdown from flashing. -OR- __ Isolate letdown. IF PRZR level instrument fails low, THEN maintain charging flow approximately 10 gpm greater than total seal injection flow. **Note to examiner**: If the crew blindly follows the step for maintaining charging flow ~ 10 gpm greater than total seal injection flow, they will probably flash letdown. The crew will need to manually control charging flow to control PRZR level.
	OATC	D3. Maintain Seal Injection flow to all RCPs – 8 TO 13 GPM.
	OATC	D4. Select an unaffected channel on LS-459D PRZR LVL CNTL SELECT. **(selects 461 / 460)**
	OATC	D5. Select same channel on LS-459E PRZR LVL REC SEL as selected on LS-459D. **(selects 461)**

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 4

Event Description: PRZR level channel LT-459 will slowly fail low over ~ 10 minutes. The OATC will take manual control of FIC-0121 to stabilize charging flow and PRZR level, swap control channels, return charging flow to automatic.

Time	Position	Applicant's Action or Behavior
	OATC 0838	D6. Restore letdown flow by initiating 13006, CHEMICAL AND VOLUME CONTROL SYSTEM, if required. **(N/A)**
	OATC	D7. Check if PRZR heaters should be restored to service. (NO) PRZR level controlling channel – FAILED LOW. RNO D7. Go to Step D9. **Note to examiner:** The channel fails low over 10 minutes, the crew will have plenty of time to adjust charging and defeat the failed channel prior to letdown isolation. Swapping channels in time will prevent the letdown isolation.
	OATC 0841	D9. Return PRZR level control to AUTO. **Cue to Simbooth:** IF asked, the Shift Manager has given permission to place the PRZR level control system in auto.
	OATC	D10. Check PRZR level is maintained at program by auto control. RNO D10. Maintain PRZR level at program using manual control.
	SS	D11. Notify I & C to initiate repairs.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 4

Event Description: PRZR level channel LT-459 will slowly fail low over ~ 10 minutes. The OATC will take manual control of FIC-0121 to stabilize charging flow and PRZR level, swap control channels, return charging flow to automatic.

Time	Position	Applicant's Action or Behavior
	SS	D12. Bypass the affected instrument channel using 13509-C, BYPASS TEST INSTRUMENTATION (BTI) PANEL OPERATION, if desired. **Note to examiner:** The SS will **not** BTI the channel at this time. I & C will request to leave the channel in the normal state until they have an opportunity to troubleshoot.
	OATC	D13. Trip affected channel bistable and place associated MASTER TEST switch in TEST position per TABLE D1 within 72 hours. (TS 3.3.1)
	UO	TABLE D1 **CAUTIONS** • Only one channel should be tripped. • The bistable input is placed in the tripped state by positioning the selector switch on the specified test card to TEST. • The bistable input identified by the switch number should agree with the location specified by CAB, CARD, and B/S before tripping a bistable input. If a discrepancy exists, CAB-CARD-B/S should be used, not switch number. • Bypassing another channel for Surveillance Testing with a channel inoperable is permitted provided the inoperable channel is in the tripped condition and the channel being tested is not bypassed for more than 12 hours.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 4

Event Description: PRZR level channel LT-459 will slowly fail low over ~ 10 minutes. The OATC will take manual control of FIC-0121 to stabilize charging flow and PRZR level, swap control channels, return charging flow to automatic.

Time	Position	Applicant's Action or Behavior
	UO	(see table below) END OF TABLE D1
	SS	D14. Initiate the applicable actions of Technical Specification 3.3.1. 0846 Crew Brief
	SS	Tech Spec 3.3.1 (see tables below)

SSPS INPUT	CAB	FRAME /CARD	B/S	SWITCH
LT-459 Failure (Channel 1) High Level Reactor Trip MASTER TEST SWITCH	1	8/47 8/73	1	LS-459A 7

END OF TABLE D1

Tech Spec 3.3.1

FUNCTION	APPLICALBE MODES	REQUIRED CHANNELS	CONDITIONS
9. Pressurizer Water Level - High	1(f)	3	M

(f) Above the P-7 (Low Power Reactor Trips Block) interlock.

Table 3.3.4-1 (Page 1 of 1)
Remote Shutdown System Instrumentation and Controls

Tech Spec 3.3.4 Marked 3.3.3 Funct. 6

Red Bezel ?

FUNCTION / INSTRUMENT OR CONTROL PARAMETER	REQUIRED NUMBER OF CHANNELS
MONITORING INSTRUMENATION	
8. Pressurizer Level	2

UO?S Noted about 52% Lvl during brief
Then looked @ T.S. & Marked 3.3.4 Function 8

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Function inoperable.	A.1 Restore required Function to OPERABLE status.	30 days. → INFO ONLY?
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3 AND B.2 Be in MODE 4	6 hours 12 hours

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 4

Event Description: PRZR level channel LT-459 will slowly fail low over ~ 10 minutes. The OATC will take manual control of FIC-0121 to stabilize charging flow and PRZR level, swap control channels, return charging flow to automatic.

<table>
<tr><th>Time</th><th>Position</th><th>Applicant's Action or Behavior</th></tr>
<tr><td></td><td>SS</td><td>Table 3.3.3-1 (page 1 of 1)
Post Accident Monitoring Instrumentation
Tech Spec 3.3.3
<table><tr><th>FUNCTION</th><th>REQUIRED CHANNELS</th><th>CONDITIONS</th></tr><tr><td>6. Pressurizer Level</td><td>2</td><td>B, G, H, J</td></tr></table>
Note to examiner: Tech Spec 3.3.3 Function 6 is an INFO LCO.</td></tr>
<tr><td></td><td>SS</td><td>D15. Check repairs and surveillances – COMPLETE.

RNO

D15. Perform the following:

a. WHEN repairs and surveillances are complete, THEN perform step D16.

b. Return to procedure and step in effect.</td></tr>
<tr><td></td><td></td><td>END OF EVENT 4, proceed to EVENT 5.</td></tr>
</table>

Op-Test No.: 2012-301 **Scenario No.: 6**

Event No.: 5

Event Description: FW flow transmitter FT-508 fails slowly high over time. This will result in MFPT speed lowering and FW flow less than steam flow. The UO will have to take manual control of MFPT Master Speed controller to control FW flow.

Time	Position	Applicant's Action or Behavior
	UO	Diagnose PT-508 failing high: Symptoms / alarms: ALB13-A06 STM GEN 1 HI/LO LVL DEVIATION ALB13-B06 STM GEN 2 HI/LO LVL DEVIATION ALB13-C06 STM GEN 3 HI/LO LVL DEVIATION ALB13-D06 STM GEN 4 HI/LO LVL DEVIATION ALB06-F01 CSFST TROUBLE Indications: • PT-508 pressure slowly rising. • MFPT speeds slowly lowering. • Steam flow / feed flow mismatches on all SGs.
	OATC	**IMMEDIATE OPERATOR ACTIONS** E1. Check steam and feed flows – MATCHED ON ALL SGs. **(NO)** RNO E1. Take manual control of the following as necessary to restore NR level between 60% and 70%. • SG feed flow valves. **(Note: Not expected to use valves)** • MFP(s) speed. **(Note: Expected to raise MFPT speed)**
	SS 0857	Enters 18016-C CONDENSATE AND FEEDWATER MALFUNCTION Section E, FAILURE OF MFP SPEED CONTROL.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 5

Event Description: FW flow transmitter FT-508 fails slowly high over time. This will result in MFPT speed lowering and FW flow less than steam flow. The UO will have to take manual control of MFPT Master Speed controller to control FW flow.

Time	Position	Applicant's Action or Behavior
0958	UO OATC	E2. Initiate the Continuous Actions Page.
	UO	E3. Maintain SG NR levels – GREATER THAN 41% and LESS THAN 79%. **(YES)**
	UO 0901	E4. Check SIC-509A, B, and C MFPT SPEED CONTROL – OPERATING PROPERLY. • ALB15-C05 MFPT LOSS OF FW SIGNAL – EXTINGUISHED. • Controller(s) maintaining stable MFPT speed. **(NO)** • Controller(s) maintaining MFP discharge pressure/SG pressure differential – BETWEEN 100 AND 225 PSI. **(NO)** RNO Ans as Yes ⇒ RNO was NA

Did not interpret correctly & go to RNO

Op-Test No.: 2012-301 **Scenario No.: 6**

Event No.: 5

Event Description: FW flow transmitter FT-508 fails slowly high over time. This will result in MFPT speed lowering and FW flow less than steam flow. The UO will have to take manual control of MFPT Master Speed controller to control FW flow.

Time	Position	Applicant's Action or Behavior
	UO	E4 RNO continued. E4. Perform one of the following: __ Adjust MFPT speed as necessary to maintain MFP discharge pressure/SG pressure differential between 100 and 225 psi. -OR- Transfer control to the GE Pot by performing the following: __a. Adjust SC-3151(3152) MFPT A(B) SPEED CHANGER to obtain zero deviation on SI-3153 (3154). __ b. Transfer control by placing MFPT-A(B) MOTOR SPEED CHANGER HS-3151 (3152) in MANUAL. __c. Adjust SC-3151(3152) to maintain MFP discharge pressure /SG pressure differential between 100 and 225 psig.
	UO	E5. Check PT-507 – OPERATING PROPERLY. **(YES)**
	UO	E6. Notify I & C to initiate repairs.
	UO	E7. Return feed flow controls to AUTO as necessary. **(NO)**

Did not perform correctly

0507 Brief @ on PT-508 Failure

Op-Test No.: 2012-301 **Scenario No.: 6**

Event No.: 5

Event Description: FW flow transmitter FT-508 fails slowly high over time. This will result in MFPT speed lowering and FW flow less than steam flow. The UO will have to take manual control of MFPT Master Speed controller to control FW flow.

Time	Position	Applicant's Action or Behavior
	SS	E8. Check repairs and surveillances – COMPLETE. **(NO)** RNO E8. Perform the following: a. WHEN repairs and surveillances are complete, THEN perform Step E9. b. Return to procedure and step in effect.
		END OF EVENT 5, proceed to EVENT 6.

Op-Test No.: 2012-301 **Scenario No.: 6** 0909

Event No.: 6, actions per ARP 17015-05

Event Description: MFPT B turbine vibration will rise to > 6 mils requiring entry into 18013-C Rapid Power Reduction and trip of MFPT B.

Time	Position	Applicant's Action or Behavior
	UO	Diagnose vibration problems with MFPT B. Symptoms / alarms: 0925 ✓ • ALB15-D05 MFPT B HI VIB Indications: • MFPT B Turbine and pump vibrations rising on IPC points.
	CREW	ALB15-D05 NOTE 0911(3) Turbine and pump vibration may be monitored at the Bentley Nevada cabinet near MFP B or on the following Plant Computer points.

	IPC	Bentley Nevada
1B MFPT H.P. Bearing Vibration:	"X". X0221 "Y". X0251	"X". 1XIS-5310X "Y". 1XIS-5310Y
1B MFPT L.P. Bearing Vibration:	"X". X0222 "Y". X0252	"X". 1XIS-5311X "Y". 1XIS-5311Y
1B MFP INBD Bearing Vibration:	"X". X0259 "Y". X0262	"X". 1XIS-4922X "Y". 1XIS-4922Y
1B MFP OUTBD Bearing Vibration:	"X". X0261 "Y" X0262	"X". 1XIS-4923X "Y". 1XIS-4923Y

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 6, actions per ARP 17015-05

Event Description: MFPT B turbine vibration will rise to > 6 mils requiring entry into 18013-C Rapid Power Reduction and trip of MFPT B.

Time	Position	Applicant's Action or Behavior
	UO	**4.0 SUBSEQUENT OPERATOR ACTIONS (continued)** NOTES: • Operational experience shows that pumps usually run with less vibration at higher seal water temperatures. • Optimal seal water temperatures are between 140°F and 160°F with Inboard/Outboard temperature difference less than 5°F. • Maintenance I & C support may be required for adjustment of MFP seal water temperature controls. c. Adjust the MFP B seal water controls to reduce vibrations as follows: (1) Establish constant communications with Control Room. (2) Select the setpoint display screen on 1-TIC-5237A and 1-TIC-5237B. **CAUTION:** Setpoint changes should be made in increments no greater than 0.4 degrees. (3) Use the up and down arrows to select the required temperature setpoint. (4) Press setpoint key on 1-TIC-5237A and 1-TIC-5237B WHEN temperature adjustment is completed. (5) Monitor SGFP Turbine and Pump vibrations.

Op-Test No.: 2012-301 **Scenario No.: 6**

Event No.: 6, actions per ARP 17015-05

Event Description: MFPT B turbine vibration will rise to > 6 mils requiring entry into 18013-C Rapid Power Reduction and trip of MFPT B.

Time	Position	Applicant's Action or Behavior
	UO	**4.0 SUBSEQUENT OPERATOR ACTIONS (continued)** NOTE Turbine and pump vibration may be monitored at the Bentley Nevada cabinet near MFP B or on the following Plant Computer points. 1B MFPT H.P. Bearing Vibration: "X". X0221, "Y". X0251 (IPC); "X". 1XIS-5310X, "Y". 1XIS-5310Y (Bentley Nevada) 1B MFPT L.P. Bearing Vibration: "X". X0222, "Y". X0252 (IPC); "X". 1XIS-5311X, "Y". 1XIS-5311Y (Bentley Nevada) 1B MFP INBD Bearing Vibration: "X". X0259, "Y". X0262 (IPC); "X". 1XIS-4922X, "Y". 1XIS-4922Y (Bentley Nevada) 1B MFP OUTBD Bearing Vibration: "X". X0261, "Y" X0262 (IPC); "X". 1XIS-4923X, "Y". 1XIS-4923Y (Bentley Nevada)
	UO	(6) IF further temperature adjustment is required to reduce vibration, repeat steps 2 through 5. (7) WHEN temperature adjustment is no longer required, ensure 1-T-V5237A and 1`-TV-5237B are controlling as required. d. Adjust the MFPT B Seal Water Supply Bypass 1-1305-U4-628 and 1-1305-U4-629 IF required. (1) Install caution tags on valves stating the following or equivalent: **"MFP seal water bypass valves throttled to reduce vibration on MFP B"** Did not Add as PA

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 6

Event Description: MFPT B turbine vibration will rise to > 5 mils requiring entry into 18013-C Rapid Power Reduction and trip of MFPT B.

Time	Position	Applicant's Action or Behavior
	OATC	7. Maintain Tavg within 6oF of Tref:
		a. Monitor Tavg/Tref deviation (UT-0495).
0978		b. Verify rods inserting as required.
		c. Energize Pressurizer back-up heaters as necessary.
	OATC	8. Maintain reactor power and turbine power – MATCHED.
		a. Balance reactor power with secondary power reduction using boration and control rods.
0982		b. Check rate of power reduction – ADEQUATE FOR PLANT CONDITIONS.
		c. Check RCS Tavg – GREATER THAN 551°F (TS 3.4.2).
		d. Check RCS Tavg – WITHIN 6oF OF TREF.
0984	OATC	9. Maintain PRZR Pressure – AT 2235 PSIG.
	OATC	10. Maintain PRZR Level at – PROGRAM.
	OATC	11. Maintain SG Level – BETWEEN 60% AND 70%.
	OATC	12. Notify the System Operator that a load reduction is in progress.

0976 100 MW load reduction commenced

0978 100 MW load ↓

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 6

Event Description: MFPT B turbine vibration will rise to > 5 mils requiring entry into 18013-C Rapid Power Reduction and trip of MFPT B.

Time	Position	Applicant's Action or Behavior
	SS	1. Notify SM to make the following notifications as appropriate:
		__Plant Management Notifications using 10000-C, CONDUCT OF OPERATIONS.
		__NMP-EP-110, EMERGENCY CLASSIFICATION DETERMINATION AND INITIAL ACTION. → Previous step had part of this is correct
		__00152, FEDERAL AND STATE REPORTING REQUIREMENTS.
		__Chemistry Technical Specification sampling for load reductions greater than 15% using 35110-C, CHEMISTRY CONTROL OF THE REACTOR COOLANT SYSTEM.
		__QC to perform a NOPT inspection using 84008, RPV ALLOY 600 MATERIAL INSPECTIONS AND REPORTS for reactor shutdowns.
	UO	NOTE Attempts should be made to keep steam dumps closed if power reduction is required for Condenser problem.
	UO	14. Check Steam Dumps – CLOSED.
0938	UO	15. Check Turb/Gen to remain online. **(YES)**

0925 started TMD'd Load path

Op-Test No.: **2012-301** **Scenario No.: 6**

Event No.: 6

Event Description: MFPT B turbine vibration will rise to > 5 mils requiring entry into 18013-C Rapid Power Reduction and trip of MFPT B.

Time	Position	Applicant's Action or Behavior
	SS	16. Check desired plant conditions achieved. Adequate load reduction. -OR- Plant conditions no longer required shutdown. RNO 16. WHEN desired plant conditions are achieved, THEN Go to Step 17.
	UO	17. Perform the following: a. Stabilize power level. b. Place rods in MANUAL and match Tavg with Tref. c. Maintain stable plant conditions. d. Go to 12004-C, POWER OPERATION (MODE 1) Section 4.2 and perform actions from the starting power level to ending power level.
	UO	**IF NOT ENDED PREVIOUSLY, END OF EVENT 6, proceed to EVENT 7, the main event.**

0940 U→O 2°F Hot Turb Stable

S→O Flagged CR's O→S Recommend leave rods in AUTO

Rods inserting as req'd (stepping in)

0944 U→ Update 100 MW Chungland 900 hr

0946 850 MWe

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 6 Rapid Power Reduction boration steps.

Event Description: Rapid Power Reduction boration steps from 13009.

Time	Position	Applicant's Action or Behavior
	OATC	4.2 BORATION 4.2.1 Determine the existing RCS boron concentration from Boron Meter 1-AI-40134 OR by sample analysis. 4.2.2 To determine the number of gallons of boric acid required to borate the RCS, perform the following. IF borating to required boron for a xenon free cool down, obtain the maximum boron concentration for the cool down range from the PTDB Tab 1.3.4-T1 and T2. OR IF borating to a desired boron concentration, determine the desired change in boron concentration by subtracting the existing concentration from the desired concentration. THEN Determine the amount of boric acid necessary to accomplish the desired change in boron concentration using PTDB Tab 2.3 and correct the obtained value using PTDB Tab 2.1. **Note to examiner:** The OATC may also use a Beacon Book calculation to obtain a boron addition target for the Rapid Power Reduction. For a power reduction to 70%, this will be a boron addition of 230 gallons at 30 gpm.
	OATC	4.2.3 Place VCT MAKEUP CONTROL 1-HS-40001B in STOP.
	OATC	4.2.4 Place VCT MAKEUP MODE SELECT 1-HS-40001A in BOR.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 6 Rapid Power Reduction boration steps.

Event Description: Rapid Power Reduction boration steps from 13009.

Time	Position	Applicant's Action or Behavior
		NOTE If necessary, boric acid flow may be adjusted using 1-FIC-0110 with SS concurrence. Changes to pot setting should be logged in the Control Room Log and restored at completion of activity.
	OATC	4.2.5 Adjust potentiometer on Boric Acid Blender Flow Controller 1-FIC-0110 as desired and verify in AUTO.
		CAUTION Digital counter setting on BORIC ACID TO BLENDER integrator 1-FQI-0110 reads in tenth-gallon increments.
	OATC	4.2.6 Set BORIC ACID TO BLENDER integrator 1-FQI-0110 to the desired amount of Boric Acid.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7 Loss of B.8 KV bus 1NAA

Event Description: **ATWT with failure of auto rod motion, Turbine auto trip, auto start of all AFW pumps, and faulted Steam Generator(s) as Safeties lift and fail to reseat when the Turbine trips.**

Time	Position	Applicant's Action or Behavior
0947	CREW	Recognizes ATWT condition by various first outs, electrical board and other QMCB annunciators. (too various to list)
	OATC	**IMMEDIATE OPERATOR ACTIONS** 1. Check Reactor Trip. **(NO)** • Rod Bottom Lights – LIT **(NO)** • Reactor Trip and Bypass Breakers – OPEN. **(NO)** • Neutron Flux – LOWERING. **(NO)** RNO 1. Trip Reactor using both Reactor trip handswitches. IF Reactor NOT tripped, THEN go to 19211-C, FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION / ATWT.
0948	SS	Transitions to 19211-C, FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION / ATWT.
		NOTE This Functional Restoration Procedure should NOT be implemented if both 4160V AC emergency buses are de-energized, 19100-C should be entered. **CAUTION** RCPs should not be tripped with Reactor power greater than 5%.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7

Event Description: ATWT with failure of auto rod motion, Turbine auto trip, auto start of all AFW pumps, and faulted Steam Generator(s) as Safeties lift and fail to reseat when the Turbine trips.

Time	Position	Applicant's Action or Behavior
	OATC ***Critical***	**IMMEDIATE OPERATOR ACTIONS** 1. Verify Reactor trip: • Rod Bottom Lights – LIT. **(NO)** • Reactor Trip and Bypass Breakers – OPEN. **(NO)** • Neutron Flux – LOWERING. **(NO)** RNO 1. Trip Reactor using both Reactor trip handswithes. IF Reactor NOT tripped, **THEN insert Control Rods.** **Note to examiner:** Control rods will initiate inserting at 72 step per minute when the UO trips the Main Turbine, however, after ~ 1 minute, auto rod motion will fail and the OATC will have to insert rods manually at 48 steps per minute. **Manual insertion of Control rods is CRITICAL.**
	UO ***Critical*** 0945	**IMMEDIATE OPERATOR ACTIONS** **2. Verify Turbine trip:** **a. All Turbine Stop Valves – CLOSED.** **Note to examiner**: The Turbine will not automatically trip, it will only trip when performed manually by the UO.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7

Event Description: ATWT with failure of auto rod motion, Turbine auto trip, auto start of all AFW pumps, and faulted Steam Generator(s) as Safeties lift and fail to reseat when the Turbine trips.

Time	Position	Applicant's Action or Behavior
	UO	3. Check AFW Pumps – RUNNING: **(NO)** • MDAFW pumps **(NO)** • TDAFW Pump, if required. **(NO)** RNO
	Critical	**Start Pumps.**
	Critical	**Open Steam Supply valve HV-5106.**
		Note to examiner: The TDAFW pump is required to be started as at least 2 SG levels will be < 10% NR.
	UO	4. Emergency borate the RCS: a. Start at least one Boric Acid Transfer Pump. b. Verify a Charging Pump is running. c. Open EMERGENCY BORATE valve HV-8104. **Note to examiner**: The UO will be asked to perform this step.

When do you start TDAFW?

38% 2 of 4 should have auto started

Had > 5% spm w/ MDAFW

0950.24 A→S SI Reached
.35 S→U Start AFW

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7

Event Description: ATWT with failure of auto rod motion, Turbine auto trip, auto start of all AFW pumps, and faulted Steam Generator(s) as Safeties lift and fail to reseat when the Turbine trips.

Time	Position	Applicant's Action or Behavior
	UO	Step 4 continued. d. Verify charging flow – GREATER THAN 42 GPM. **(may not)** e. Verify boric acid flow – GREATER THAN 30 GPM. **Note to examiner:** Due to high RCS pressure during the ATWT, it may be necessary to take control of FIC-0121 to raise charging flow to > 42 gpm. f. Check RCS pressure – LESS THAN 2335 PSIG. **(YES)** RNO **(just in case)** f. Check PRZR PORVs and Block Valves open. IF valves NOT open, THEN reduce RCS pressure to less than 2135 psig by performing the following: 1) Arm COPS. 2) Open PRZR PORVs and Block Valves as necessary.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7

Event Description: ATWT with failure of auto rod motion, Turbine auto trip, auto start of all AFW pumps, and faulted Steam Generator(s) as Safeties lift and fail to reseat when the Turbine trips.

Time	Position	Applicant's Action or Behavior
0552	OATC	5. Check Containment Ventilation Isolation: a. Dampers and Valves – CLOSED. • CVI MLB indication. (may be)
	UO	RNO **(just in case)** a. Perform the following: 1) Close Dampers and Valves. 2) Start Piping Pen Units. **Note to examiner**: If SI has occurred, the RNO will be unnecessary, if SI has NOT occurred, the UO will perform the RNO steps at the HVAC panel. **CVI dampers / valves are listed on page # 54 & 55.**
	OATC UO	6. Initiate the following: • Continuous Action Page. • NMP-EP-110, EMERGENCY CLASSIFICATION DETERMINATION AND INTIAL ACTION.
0553:55	OATC	7. Check for SI: a. SI signal EXISTS OR ACTUATED. **(NO)** **b.** Initiate ATTACHMENT A. **(If, YES)** **Note to examiner:** ATTACHMENT A included at end of this event, in the event an SI has actuated.

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7

Event Description: ATWT with failure of auto rod motion, Turbine auto trip, auto start of all AFW pumps, and faulted Steam Generator(s) as Safeties lift and fail to reseat when the Turbine trips.

Time	Position	Applicant's Action or Behavior
	OATC UO 0955.10	8. Check the following trips have occurred: a. Reactor trip. **(NO)** RNO a. Locally trip the Reactor trip and Bypass breakers. IF the trip breakers will NOT open, THEN tri the Control Rod Drive MG Set output breakers at the Reactor Trip Switchgear. **Note to examiner:** The crew is expected to call someone to perform this action: The Simbooth Operator will open the trip breakers two minutes after receiving the request. b. Turbine Trip. **(YES)**
	OATC	9. Check Reactor power: a. LESS THAN 5%. **(NO)** JE-2 b. IR SUR – LESS THAN 0 DPM. **(NO)** Yes, while decreasing rapidly c. Go to Step 24. **Note to examiner:** This step is a continuous action, when the trip breakers open, the crew should go to step 24 to exit this procedure.
	UO	10. Check Main Generator Output Breakers – OPEN. **(YES)**

0957 Rods Tripped locally

0957:42 U->S Att. A Completed

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7 Faulted SG (Code Safety Open on SG # 4)

Event Description: During the ATWT, SG Safeties will lift on all SG(s), however, safety valve Loop # 4 will fail to reseat. These are the actions for E-0.

Time	Position	Applicant's Action or Behavior
	OATC	4. Check if SI is actuated. **(YES)** • Any SI annunciators – LIT • SI ACTUATED BPLP window – LIT
	SS	Go to Step 6.
	SS CREW	6. Initiate the Foldout Page.
	SS OATC UO	7. Perform the following: • OATC Initial Actions Page • UO Initial Actions Page **NOTE:** SS initiates step 8 after OATC/UO Initial Actions completed.

OPS SAC lost NA lost RCP 1&3 Trip RCP 1&3 to match per loss

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7 Faulted SG (Code Safety Open on SG # 4)

Event Description: During the ATWT, SG Safeties will lift on all SG(s), however, safety valve Loop # 4 will fail to reseat. These are the actions for E-0.

Time	Position	Applicant's Action or Behavior
	UO	**UO INITIAL ACTIONS** 4. Verify FW Isolation Valves closed: **(YES)** • MFIVs • BFIVs • MFRVs • BFRVs
	UO	5. Verify SG Blowdown isolated. **(YES)** • Place SG Blowdown isolation Valve handswitches HS-7603A, B, C, and D in the CLOSE position. **Note to examiner:** The UO will place the HS-7603A valves in the hard closed position. • SG Sample Isolation Valves – CLOSED. **(YES)**
	UO	6. Verify Diesel Generators – RUNNING. **(YES)**
1001	UO	7. Throttle total AFW flow as necessary to maintain SG NR levels between 10% (32% ADVERSE) and 65%.

UO Did close these

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7 Faulted SG (Code Safety Open on SG # 4)

Event Description: During the ATWT, SG Safeties will lift on all SG(s), however, safety valve Loop # 4 will fail to reseat. These are the actions for E-0.

Time	Position	Applicant's Action or Behavior
	UO	8. Verify both MFPs – TRIPPED. **(YES)**
	UO	9. Check Main Generator Output Breakers – OPEN. **(YES)** **END OF UO INITIAL ACTIONS, return to step 8 of E-0.**

Op-Test No.: 2012-301 **Scenario No.:** 6

Event No.: 7 Faulted SG (Code Safety Open on SG # 4)

Event Description: During the ATWT, SG Safeties will lift on all SG(s), however, safety valve Loop # 4 will fail to reseat. These are the actions for E-0.

Time	Position	Applicant's Action or Behavior
	OATC UO 100%	**19000-C, E-0 actions beginning with step 8.** 8. Initiate the Continuous Actions Page.
	OATC	9. Check RCS temperature stable at or trending to 557°F. **(NO)** RNO 9. IF temperature is less than 557oF and lowering, **(it is)** THEN perform the following as necessary: a. Stop dumping steam. b. Perform the following as appropriate: IF at least one SG NR level greater than 10% (32% ADVERSE), THEN lower total feed flow. -OR- If all SG NR levels less than 10% (32% ADVERSE), THEN lower total feed flow to NOT less than 570 gpm. c. If cooldown continues, THEN close MSIVs and BSIVs. d. If temperature greater than 557oF and rising, THEN dump steam.

100% U→A S/G #4 Stm Flw Abnormal
100% U→S Recovered Sec FW to S/G #4
S→U Sec Feed to #1 & #3 S/G (Only Feeding #2 S/G)

Op-Test No.: 2012-301 **Scenario No.: 6**

Event No.: 7 (E-2 Actions)

Event Description: 19020-C E-2 actions for Faulted Steam Generator.

Time	Position	Applicant's Action or Behavior
1012	CREW	1. Initiate critical safety function status trees per 19200-C, F-O CRITICAL SAFETY FUNCTION STATUS TREE. ADS Yellow path Heat Sink
	SS	2. Initiate NMP-EP-110, EMERGENCY CLASSIFICATION DETERMINATION AND INITIAL ACTION. **Note to examiner:** The SS will call the Simbooth to have the Shift Manager implement NMP-EP-110.
	OATC	**CAUTION**: At least one SG should be available for RCS cooldown.
1014	UO	3. Verify Main Steamline Isolation and Bypass Valves – CLOSED. **(YES)**
	UO	4. Check SGs secondary pressure boundaries: **a.** Identify intact SG(s): **(# 1, 2, and 3 are intact)** • SG pressures – ANY STABLE OR RISING **(YES)** b. Identify faulted SG(s) ANY SG PRESSURE LOWERING IN AN UNCONTROLLED MANNER. **(YES, SG # 4)** -OR- ANY SG COMPLETELY DEPRESSURIZED. **(maybe by now, SG # 4)**