

Facility: Seabrook Scenario No.: 1r2 Op Test No.: 1
 Examiners: _____ Candidates: Palmieri - US
 _____ Crosby - PSO

Initial Conditions: Unit at 100% power.

Turnover: Maintain 400 MVARs lagging. Load Control needs the higher MVARs for a system test.

Entered TSASs for CS-P-2B being tagged out of service for planned maintenance 2 hours ago. Return to service expected within 6 hours.

Critical Tasks:

1. MANUALLY trip the reactor from the control room when SSPS fails to automatically trip the reactor. [E-0, A]
2. MANUALLY trip the main turbine before a severe (Orange Path) challenge develops to either the Subcriticality or the Integrity CSF, or before transition to ECA-2.1, whichever happens first. [E-0 – Q]
3. MANUALLY start at least one ESW pump (SW pump or CT pump) for an operating safeguards train before transition out of E-0. [E-0 – L]

Event No.	Malf. No.	Event Type*	Event Description
1	Scenario Exam #19 RCS Pressure	I (Both)	Pressurizer (PZR) pressure channel fails. Transient causes failure of one PZR spray valve resulting in abnormal PZR pressure control.
2	N/A	R (RO) N (US)	The Load Dispatcher contacts the control room to order a power reduction to $\leq 90\%$ power due to pending grid limitations.
3	bkED1UAT	M (Both)	Loss 13.8kV Bus 1 results in reactor trip demand due to loss of A & B RCPs as well as A & C CW pumps. Automatic trip of the reactor and main turbine does not occur. Operators are required to manually trip the reactor (CT) and turbine (CT).
4		C (Both)	
5	Trigger Exam 19 power loss	M (Both) N/A	Combination of abnormal PZR pressure control and failure of the main turbine to automatically trip will cause a Safety Injection to occur.
6	mISW001	C (Both)	When SI occurs SW-P-41A trips and the standby pump fails to automatically start. The crew must manually start the standby pump (CT).

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: **Seabrook** Scenario No.: **2r1** Op Test No.: **1**

Examiners: _____ Candidates: **Palmieri - US**
 _____ **Crosby - BOP**

Initial Conditions: Unit at 75% power.

Turnover: Maintain current power level until cleared for power increase by system load control.
 Entered TSASs for CS-P-2B being tagged out of service for planned maintenance 2 hours ago. Return to service expected within 6 hours.

Critical Tasks: 1. Control the EFW flow rate to not less than 25 GPM per SG in order to minimize the RCS cooldown rate before a severe (orange path) challenge develops to the integrity CSF. [ECA-2.1 A]

Event No.	Malf. No.	Event Type*	Event Description
1	NA	N (RO) <i>BOP/US</i>	Power increase.
2	LtFWLT529	I (Both)	Steam Generator narrow range level channel L529 will fail low. As it is the controlling channel, the feedwater control system will respond to increase feed flow to the B SG. Operator action will be required to restore feed flow to normal and return B SG narrow range level to within programmed band.
3	IOR on Turbine Trip pushbutton	M (Both) C (Both)	An inadvertent turbine trip causes a catastrophic rupture of the main steam bottle (down stream of MSIVs). (All four MSIVs will fail to close when the MSI signal is actuated.
4	?		Manual actuation of MSI in the control room will not cause the MSIVs to close. Procedure progression will be E-0 ⇒ E-2 ⇒ ECA-2.1 where the crew will be directed to reduce feed flow to all SGs to 25 gpm (CT) to avoid severe challenge to the Integrity CSF.
4 5	mvFWFV4214A	C (Both)	The motor operator overloads for EFW flow control valve FW-FV-4214A will trip as soon as the valve motion is demanded. The operator will be required to utilize FW-FV-4214B to control EFW flow to A SG.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility:	Seabrook	Scenario No.:	3	Op Test No.:	1
Examiners:	_____	Candidates:	Palmieri - US		
	_____		Crosby – PSO / BOP		
	_____		_____		
<u>Initial Conditions:</u>	Unit at 100% power.				
<u>Turnover:</u>	Entered TSASs for CS-P-2B being tagged out of service for planned maintenance 2 hours ago. Return to service expected within 6 hours.				
<u>Critical Tasks:</u>	<ol style="list-style-type: none"> MANUALLY trip the reactor from the control room when SSPS fails to automatically trip the reactor. [E-0, A] Establish feed flow into at least one SG before RCS bleed and feed is required [FR-H.1, A] 				
Event No.	Malf. No.	Event Type*	Event Description		
1	ttRCTT411	I (Both)	RCS Loop 1 NR cold leg RTD fails high. Loop 1 Tav _g increases and Loop1 ΔT decreases. Loop1 becomes the auctioneered high channel and NSSS control systems respond. <i>Used if the RO candidate is on the primary side of the MCB.</i>		
2	NA	N (RO)	The Load Dispatcher contacts the control room to order a power reduction to ≤ 90% power due to pending grid limitations.		
3	ctMSPK3001	C (Both)	Main steam pressure controller MS-PK-3001 has an internal failure causing the setpoint to fail LOW. MS-PK-3001 controls the ASDV for SG A. The ASDV is driven full open when the setpoint fails LOW. <i>Used if the RO candidate is on the secondary side of the MCB.</i>		
4	mfED025	C (Both)	Vital 120 VAC power panel 1-EDE-PP-1A loses power when the inverter supplying the power panel malfunctions. CHANNEL I RPS / SSPS is affected. Control systems using CHANNEL I inputs are affected.		

5	mfED005	M (Both) C (Both)	<p>The normal UAT feeder to 4.16kV Bus 3 inadvertently trips open. The breaker for the alternate feeder to Bus 3 (RAT) fails to close and Bus 3 de-energizes. The immediate impact is loss of power to condensate pumps CO-P-30A and 30C (STBY) as well as heater drain pump HD-P-31A. Flow to the MFPs is significantly reduced and MFP suction pressure drops rapidly. The MFPs will sequentially trip on LOW suction pressure. When the first MFP trips, a Turbine Setback will be actuated. SG levels will decrease to the SG LO-LO level reactor trip setpoint. The reactor will fail to trip automatically. The operators will be forced to trip the reactor MANUALLY (CT). When the reactor trips the Main Turbine will fail to automatically trip and will not trip manually. The operators will be required to actuate MSI. As soon as the TDEFW pump steam supply valve begins to open, the TDEFW pump will trip on overspeed. After running for a short time the shaft of the MDEFW pump will shear, resulting in loss of all feed to the SGs. If the crew attempts to restore feed using the SUFP, the Bus 5 breaker will fail to close. The crew will be able to restore feed to the SGs by resetting the TDEFW (CT). The procedure progression will be from E-0 ⇒ FR-H.1 ⇒ E-0 ⇒ ES-1.1.</p>
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